Department of Architecture and Built Environment

Architecture, place and identity: An exploration through an interpretive pattern language tool

A case study of Khartoum's City Centre (KCC) - Sudan

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Abstract

This research commenced from a broader background in postcolonial architectural studies with a special interest in Khartoum the capital city of Sudan as a postcolonial city. However, this was restrained by the scarcity of the architectural research that comprehensively portrays its architecture. Consequently, this has determined the exploratory nature of the research which started with photographic documentation and series of observations coupled with reviewing the existing, but limited, research on Khartoum's architecture. This has resulted in classifying the architecture of Khartoum into architectural paradigms denoting the architectural styles that appeared in the different historical periods. Yet, to narrow down this exploration, Khartoum's city centre (KCC) has been selected as the research's case study. Nevertheless, the uniqueness of this case study, expressed by the interplay of its urban formation as a place, the Juxtaposition of its different historical architectural layers including colonial architecture, modern architecture and its current contemporary architecture and its identity as a postcolonial place, acted as the research's main angles to be explored.

Accordingly, and in an attempt to facilitate this exploratory approach, an inductive methodological path was adopted. Therefore, principles of grounded theory methods were introduced to allow for an inductive sequential design of the research process where the findings from each phase are to determine the design of the subsequent one. This commenced with intensive interviewing with architects with key roles in Khartoum's architecture. The findings highlighted the main factors that are shaping it and the considerable gap in realising the *role that the architecture can play in concretising and improving* its place. The latter, thus, has resulted in an uncertain contemporary architectural identity in KCC. However, the need to explore and investigate this role of the architecture in its place and its identity, more theoretically, has emerged.

Consequently, a theoretical anchor of theories that link architecture with place was introduced. Within this, the two theories of the *Genius loci* by (Norberg-Schulz, 1980) and the Pattern Language by (Alexander et al., 1977) were synthesised to form *an interpretive pattern language tool* – as a theoretical tool to inform and guide the exploration and inevitably marking the main contribution of the thesis.

Subsequently, an empirical application of this tool on the place and its architecture through focus groups' discussions with the place's users has resulted in extracting *the local pattern language* of KCC. This was followed by a participatory evaluation and interpretation of this local pattern language which was found as expressive of the three angles of the research in a new, but, objective way. Hence, findings of these focus groups resulted in identifying *the genius loci* of Khartoum and the possibility to define its place and architectural identity more objectively *in patterns*. Moreover, three main theoretical domains of architectural distinctiveness were identified as: Visual and physiological appeal, Response to the environmental conditions and Vibrancy and integration with the surrounding urban context.

Interestingly, these domains disregarded the existing cultural debate on Sudanese architectural identity and prioritised patterns that achieve those qualities. Finally, an architecture with architectural patterns that *concretise the place and the time* could be considered as the main overarching finding that should be implemented as a guideline to inform architects in their future designs for institutional architecture in Khartoum. Through this, an architecture that is international, distinctive and equivalently tailored to the place can be obtained.

The thesis concludes by providing a further theoretical discussion; on the applicability of the tool in existing places and discusses ways to advance the theoretical interpretation of places using this tool and the possibilities for its improvement in future research. Hence, wider contributions to theories that explore the link between architecture, place and identity can be obtained.

Publications and presentations

Hamid, M., Hanks, L., Wang, Qi, 2019. **Is it possible to define architectural identity more objectively?,** in *Proceedings of the 3rd international conference on Cities Identities through Architecture and Art,* Pisa, Italy. Springer. September 2019.

Hamid, M., Hanks, L., Wang, Qi, 2018. **Emerging architectural patterns and contemporary architectural identity: the case of Khartoum city centre - Sudan,** in *Proceedings of* Space International Conference on Architectural culture and society*,* pp. 21-29, London, UK. September 2018.

Hamid, M., 2017. **Shaping Khartoum's contemporary architectural identity,** Presentation at the 13th international conference on Design Principles and Practices, Toronto, Canada. March 2017.

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Acronyms

- **KCC:** Khartoum city centre
- **NA:** Network Analysis
- **PWD:** Public Works Department
- Names of buildings:
    - **FIB:** Faisal Islamic Bank
    - **SIB:** Sudanese Islamic Bank:
    - **AUSP:** Ahfad University School of Psychology.

Chapter 1: Introduction

1.1. Introduction

This chapter provides the introduction to the thesis, describing the background and research context, the rationale behind the study, the research aims and objectives and the significance of the research. The structure of the thesis is also outlined.

1.2. Background and rationale for the research

In any city arising from multiple periods of colonisations, the issue of identity is often contested. The debate is whether there is a rich architectural history to depend on and start from, or whether the task is totally new (Ricoeur, 1965, p.). In the latter case, the situation is more complex, as the city might be affected more by forces of globalisation, immigration, government ideologies, economic situations, and rapid urbanisation leading to great diversities within the same city. Additionally, forces such as multiple or even contested national identities might also arise.

This is the situation in Khartoum, the capital city of Sudan, which is a relatively new city. Since 1821 the colonisers: the 'Turko-Egyptian' (1821–1885) and later the 'Anglo-Egyptian' (1898–1956) recognised its unique *'genius-loci'* (Babiker, 2003). Therefore, they chose it as the centre of their newly colonised land, and only then, did the city start to emerge as an urban centre. Consequently, the architecture that they had built came to reflect, besides their colonial intentions, the uniqueness of that location. Today, the buildings they have built stand as witnesses to that period:

> *Since its inception in 1821 -Khartoum has born witness to major dramatic events that shaped its destiny as well as that of Sudan. These events with all their turmoil were stamped on its face and to this day they remain evident in its form, buildings, streets and architecture* (Babiker, 2014).

This city is now the centre of metropolitan Khartoum.

After independence in 1956, the national administrations witnessed the problems of rapid urbanisation and immigration, resulting in enormous horizontal expansion of the city. Later administrations, on the other hand, fell under undefined forces of globalisation and modernisation [1] of architecture which were not indigenous to Khartoum. In this regard, Osman (2000, p.2) described the postcolonial Khartoum adding that: *"the capital seems to be stagnant in all fields of development, yet, there appears to be a thriving building industry".* This thriving architecture –as this research proves- is disregarding the peculiarities of the place Khartoum and is blindly following the internationalisation forces. This concurs with Norberg-Schulz's description of postcolonial Khartoum in the late 1970s, when he stated that: *"the impact of the forces of 'modern life' starts to make itself felt.… without slightest understanding of the genius loci"* (Norberg-Schulz 1980, 137).

However, this was restrained by the scarcity of data on the architecture of Khartoum, Bashier (2012, p.84) emphasised: *"apart from a few scattered works, architecture in Khartoum is far from being fully documented".* Moreover, (Osman, 2002, p.13) emphasised that while one can sense that in the 1960s and 70s there was a lot of thought, a unique visual dialogue that was in effect, yet, *"it is unfortunate that nothing was written about these buildings, as very little is being written about buildings in Sudan".* Thereafter, this research commenced with a series of observations on the amalgamation of its different historical architectural layers including colonial architecture, modern architecture and its current contemporary architecture. One can note the disjoint between contemporary architecture and both colonial and modern architecture in addition to its neglect to the surrounding place. Hence, the research aim was to fill that gap by understanding how this amalgamation has shaped the visual image and identity of the place.

Moreover, the uniqueness of the location and its dramatic natural characteristics manifested by the Blue and the White Niles and their confluence to form the River Nile (see Figure 2.1), and the unique colonial architecture urged for documenting part of its un-portrayed architecture as a starting point for the research. To achieve this, the research commenced directly from the field undertaking an exploratory approach of research. Nevertheless, it could be argued that this lack of documentation has a positive impact in that it had provided the opportunity for

[1] Modernisation here refers to: *"The process of adapting something to modern needs or habits"* (Oxford dictionary).

uniqueness in the approach adopted to explore the architectural and urban context of Khartoum (see Chapter 2).

Consequently, from this review of the historical background of Khartoum with the various colonial administrations and gaining its independence in 1956, Khartoum now could be classified as a postcolonial city. Yet, the word 'postcolonial' itself simply means 'after independence' and deals with the effect of colonisation on cultures and societies (King, 2003). Hence, studying the architecture of Khartoum lies within the realm of postcolonial studies. However, there appears to be a decline in research on such cities and a shift towards analyses brought from the national and international level focusing on explaining the role of third-world countries in the world economy (*ibid*). Nonetheless, one of the main effects of colonisation is its hybrid architecture, where certain types of architecture and urban forms emerge as different but unique architecture (AlSayyad, 2014). This colonial architecture certainly has its imprint on the architectural scene of the city in the newly emerging independent nations and shapes part of its urban morphology and consequently its architectural identity. While studying the colonial legacies is important, the role of the contemporary architecture in postcolonial cities and how it should reflect the nation's identity in relation to the colonial past should be one of the main research concerns in such contexts. King (2003, p.48) emphasises that such studies will provide insights into the various symbolic and representational practices, architectural identity, material forms and spaces. Inevitably, this is where the study of postcolonial urbanisation and architecture has a valuable contribution to make (Simon, 1989).

Nonetheless, King et al. (1995) stressed that those postcolonial studies mostly come from a western point of view in order to disseminate their own culture, and hence it would be better to be conducted from representatives of the colonised cities themselves – its 'insiders'. However, those insiders should avoid subjectivity that might arise from a preoccupation with colonialism and its legacies with an exaggerated view of the hold of the past over contemporary realities (Dirlik, 2002). Therefore, King et al. (1995) call for a positionality that does not fall under the nostalgic reminiscence of the colonial and pre-colonial past, but one that is analogous to the present-day situation.

1.2.1. Architecture in postcolonial and newly developing cities

Notably, one of the main problems that appear in the architecture of newly-developing postcolonial cities is the need to establish a new national identity after

their independence (Ricoeur, 1965). They tend to fall under various paths in trying to define their identity; whether to relate to their traditional past or to follow the internationalisation and globalisation influences (*ibid*). Within this, Dirlik (2002, p.429) asserts that: while past colonialism might represent signs of oppression, it provides the foundation for the contemporary cultural and political identities and self-identification.

Ricoeur (1965, p.277) thus probed the new emerging identity and its relation to the traditional architecture as well as the international modernisation, questioning: *"in order to get onto the road towards modernization, is it necessary to jettison the old cultural past which has been the raison d'être of a nation?".* Moreover, the problem of identity that comes with colonialism is strongly linked to struggles that are not only incited by the economic exploitation but more fundamentally by the substitution of personality that the colonial era had given rise to. Hence, it is necessary for the new rising countries to unearth their profound personality and to replant it in its present to nurture national re-vindication (*ibid*).

Furthermore, Ricoeur (1965) argues: while all traditional cultures undergo the pressure and erosive influence of this globalisation, not all of them have the same capacity for resistance and the capacity of absorption. He argues that only cultures that are capable of assimilating scientific rationality will be able to survive and revive with a faith which values time and change and puts man in a central position. Otherwise, its loyalty to the past will be nothing more than simple *"folkloric ornamentation"* (*ibid*, p.282). The problem is not simply to repeat the past, but rather to take root in it to continuously invent (*ibid*).

However, the terms "colonialism" and "postcolonialism" often became obstacles in understanding and confronting modern restructurations which usually find expression in the concept of globalisation (Ricoeur, 1965). Therefore, the vocabulary of colonialism appears distant, if not foreign. Hence, to deal with the consequences of colonialism in the present, it should be historicised (*ibid*.) with the current architecture at the centre of the contemporary postcolonial architectural studies.

Therefore, this discourse has provoked the present research to fill a gap within the neglected postcolonial studies generally, but this time from an insider's point of view and taking Khartoum's urban fabric as a case study. While it will not totally ignore the role of colonialism in Khartoum by considering the impact of colonial architecture on its urban fabric, it will focus on its contemporary emerging architecture. The research will explore the role of the latter on the postcolonial place including the

juxtaposition with the existing colonial architecture and the emerging architectural identity, and how that relates to the place.

However, before diving into the identity that the architecture reflects it was worth understanding the socio-cultural structure of Sudan generally and Khartoum specifically as an attempt to pave the way for the exploration of the issue of identity of the postcolonial Khartoum in this research.

1.2.2. Socio-cultural structure of Khartoum:

With Sudan being located at the fringes of both the Arab world and Africa, it gained the ethnic and cultural characteristics of these two worlds (Osman, 2004). The result is thus a culturally diverse population with a total of 596 tribes speaking 115 languages (Osman, 2000). Around %70 of the population is of Arabic origin with Islam as the dominant religion (Haywood, 1985). Moreover, Osman (2005, p.53) describes:

> *The present-day inhabitants of Sudan are a unique race in several aspects, some claim to be Arabs, some call themselves Nubians and some are pure Nilotic Negroes. None of these claims is without roots …. The Nile Valley and its hinterlands attracted an influx of invaders who mostly came to stay. Thus, the country developed into a melting pot for races, cultures and religions.*

El-Hassan (2009, p.5) argues that *"the complex socio-cultural reality in the Sudan is the product of the interrelationship between place (geography, physical environment), time (history) and humans".* He moreover, adds that *"Islam and Arabic are the most widespread cultural aspects in the Sudan, however, Christianity and traditional religious and tribal, ethnic and linguistic groups have a considerable presence among Sudanese in the North, East, West and South".* The problem of this diversity is that although there might be some sort of overlap between these issues, *"there is no complete congruence between them" (ibid, p.6).* Consequently, this has influenced some scholars to divide Sudan into seven cultural regions as an attempt to define its composite identities.

However, with Khartoum being the capital and at the centre of Sudan it became the central point that is inhabited by a mixture of different ethnic groups that come from all parts of Sudan. This diverse population, when migrated to Khartoum, brought along their provincial cultures (Bashier, 2012, p.83) and thus it turned into a hub for

diverse social and cultural traditions and practices (El-Hassan, 2009). Therefore, Khartoum's urban fabric unquestionably reflected that.

Moreover, other social changes have taken place in Khartoum as a result of massive internal displacement due to wars and famines in other parts of Sudan (Wanni, 2005) Inevitably, these changes brought newcomers from a wide range of ethnic and religious backgrounds. Khartoum has thus transformed into a geographical and psychological laboratory, in which diverse Sudanese cultural elements have intermeshed to produce a complex and vibrant mosaic (*ibid*). Consequently, Wanni (2005, p.312) describes Khartoum's urban fabric one that is *"characterized by ambiguity, layers of contradictory meaning, unpredictability and a use of spaces for activities that they were not originally designated to accommodate. The city is often chaotic, assaulting our senses with its sights, sounds and smells".*

1.3. Importance of the study:

The interest of this research has thus emerged as an exploration, critique and interpretation of Khartoum's architectural and urban context in consideration to the impact of both the cultural plurality and the previous colonial history on its architecture. Nevertheless, Osman (2004, p.8) explained that Sudan as a whole has been a relatively neglected area of research *"due to the overwhelming culture of Egypt, but also due to the unfortunate legacies of long periods of foreign rule, inherited poverty and socio-political instability"*. Consequently, the exploration of the architecture of Khartoum in this research started directly from the field, which necessitated the study of the place itself as an important part of the interpretation. Consequently, the development of the place in parallel to different historical events have had their impact on the architecture which resulted in what this research calls as architectural paradigms. These paradigms could be categorised as; the Traditional Paradigm, the Colonial Paradigm, the Modern Paradigm and the Contemporary Paradigm (see Section 2.3).

Moreover, this open exploration approach has resulted in interesting findings on the links between the architecture and its place. These links between the two significantly manifest in several issues such as place identity, spirit of place, urban design, architectural identity and architectural character. However, in order to stay within the scale of the research, it was important to choose a specific place in Khartoum and focus on one or two of these issues. Thus, Khartoum city centre –KCC- was

selected because it has the richest architectural context in Khartoum that represents the juxtaposition between the Colonial, Modern and Contemporary Paradigms which collectively narrate the history of the place (see Section 2.5).

Consequently, this exploration has influenced studying the identity that this architecture reflects today. This is because of two reasons: firstly, Khartoum being the postcolonial city where the debate on the new identity manifests; and secondly, KCC being the administrative centre of Khartoum where its representative image and identity is important for the international recognition of Khartoum among other cities in the world. Thus, it could be concluded that the issue of identity appeared as a consequent issue that is specific to the place Khartoum and is likely to emerge with similar postcolonial contexts to Khartoum. In short, the research exploration could be assimilated with a triangle with three angles: the place, its architecture and identity.

Thereafter, a theoretical anchor was introduced to advance this exploration. Within this, the two theories of Norberg-Schulz's *genius loci* of Place and Alexander's Pattern Language will be synthesised together to form an analytical tool; named as the *interpretive pattern language tool*. This tool has helped in exploring such a link between the place and the architecture in the context of KCC more theoretically. Moreover, it has contributed to both theories in highlighting their gaps and discussed how their synthesis enriches each of them separately.

In summary, this study has thus resulted in findings that contribute in twofold: one to the empirical context – KCC- and the other to the theoretical context of theories that consider the link between the place and its architecture through the synthesis of the two theories and the creation of the new interpretive pattern language tool.

1.4. Research Methodology

Yin (2009) agrees that when the existing knowledge on the case study is poor and the available literature is not sufficient to provide a conceptual framework or hypotheses of note, the case study research is more likely to assume the characteristics of an "exploratory study". However, in order to guide the exploration, principles of grounded theory research method proved to be suitable. This is because grounded theory is a flexible method that provides the research with the flexibility and fluidity it needs. Additionally, it is a method that helps to *"direct, manage, and streamline your data collection and, moreover, construct an original analysis of your*

data" (Charmaz, 2014, p.3). Thus, the resulting method is a *case study within principles of grounded theory.*

Nonetheless, as a method, grounded theory mostly depends on interviews as the main data collection technique because as a technique, it can pave the way to form a theory. Therefore, interviews were conducted with architects and experts, coupled with a series of observations and photographic documentation, which all formed the initial phase of data collection. This was followed by the second phase which comprised a theoretical review that helped in providing more targeted exploration and eventually resulted in the emergence of an interpretive analytical tool. Thereafter, Phase three came as an empirical utilisation of this tool through participatory focus groups and the consequent analysis of the data. Thus, it could be highlighted that the determination of each consecutive phase/technique needed was based on the findings from the previous phase/technique. This interconnected sequential inductive approach is a characteristic of grounded theory research which results in not framing the research into the standard required formats that presuppose a traditional logico-deductive organisation (Charmaz, 2014). Charmaz then emphasises this and adds: *"we need to rethink the format and adapt it to our needs and goals rather than pour our work into standard categories" (ibid,* p.290). This highlights the flexibility of the research including the literature review which emerges as the research develops (see Figure 1.1).

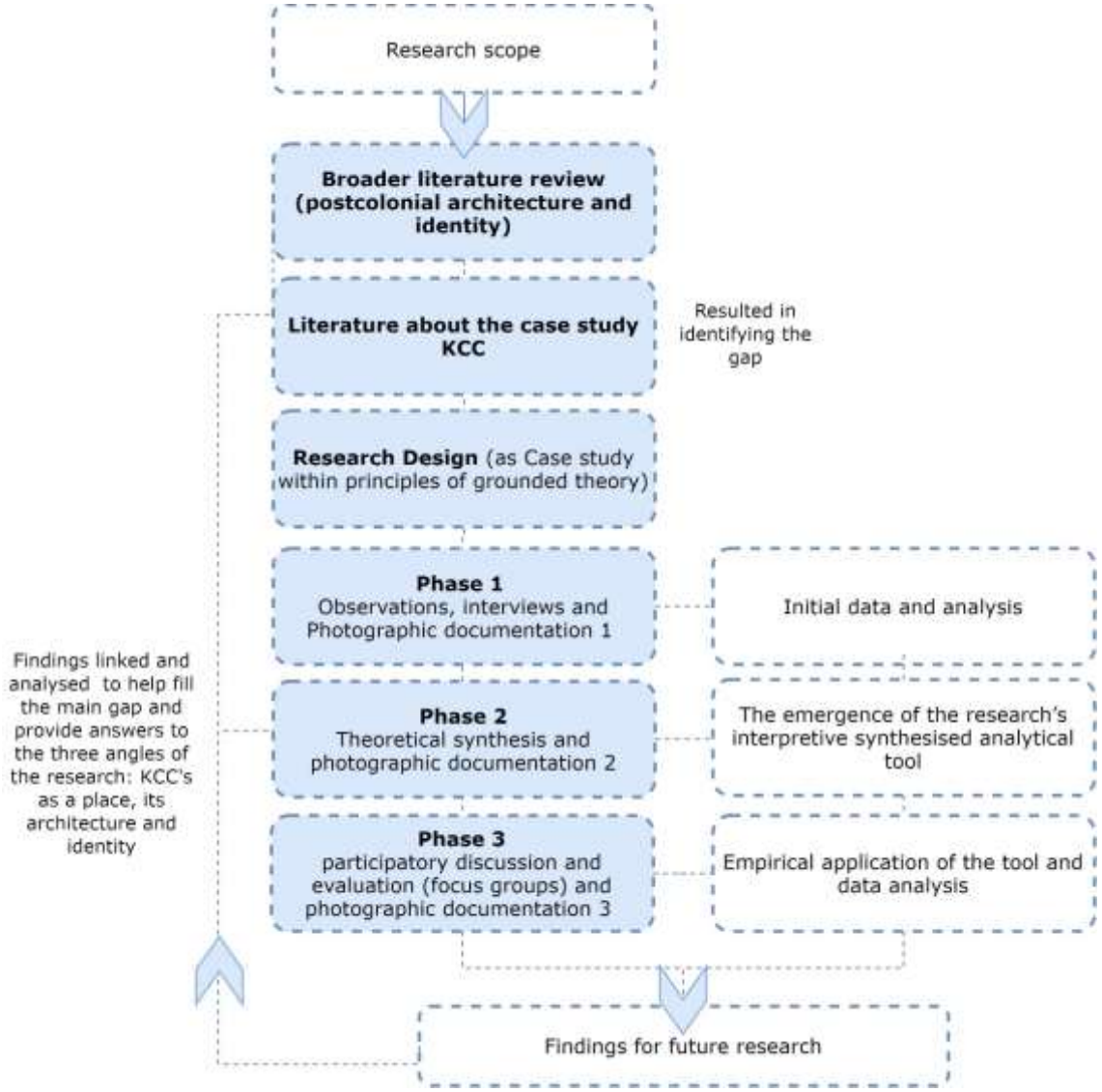


Figure 1.1: Scope of the study and the sequential research stages. Source: the Author

1.5. Aims and Objectives

Given the exploratory nature of the research, the broad aims of the thesis emerged:

- Investigating and categorising Khartoum's architecture to fill part of the considerable gap within the research of Sudanese architecture.
- Exploration of the shaping of Khartoum's current contemporary architecture with the focus on KCC as the case study and how its identity unfolds.

Thereafter, the aims with introducing the theoretical anchor are as follows:

- The establishment of an interpretive analytical tool that would advance the exploration of existing places, their architecture and identity, in a more objective way.
- Filling a gap in theories that consider the role of the architecture in its place and how that influence identity.
- Extracting the local pattern language of the place KCC and consequently its *genius loci* through the experience of users of the place.
- Provide a participatory evaluation of the place's local pattern language as perceived and interpreted by its users.
- Identify the qualities of distinctiveness in KCC's current local pattern language.
- Informing architects, planners and the lay-people in their future design decisions through being more conscious about their local pattern language.

In parallel, the research questions were posed as follows:

- ***How Khartoum's contemporary architecture is being shaped?***

This exploratory research question has highlighted the current situation of Khartoum's contemporary architecture. However, more targeted boundaries for the research exploration was required and thus the necessity to provide a theoretical anchor to the research has emerged. Consequently, the theoretical synthesis of both Norberg-Schulz's (1980) theory of *Genius loci* and his experiential interpretation and Alexander et al. (1977) theory of Pattern Language was introduced to form the *interpretive pattern language tool*. The aim of this tool is thus to provide more defined objectives that will advance and enrich the existing knowledge on theories of exploration of places and their architecture. The research question for this phase is:

- ***What is the role of the emerging local pattern language in interpreting the place KCC, its architecture and identity?***

However, it is important to highlight that the contribution of the research does not end at Khartoum. Khartoum only acted as the medium in which this research was conducted. Thus, this tool could be utilised in a similar research context in which places and their architecture need to be investigated. Therefore, a general more theoretical research question emerged:

- ***How can the interpretive analytical tool advance the theoretical exploration of places, their architecture and identity?***

Through this question, the research's findings will have larger contributions in *establishing an interpretive analytical tool* to interpret places and explore their architecture in a *more objective way.*

1.6. Thesis structure

The thesis structure follows the exploratory nature of the research and so it has been designed in a sequential order where each step is based on the findings of the previous step. Hence, the outline narrates the sequences and steps of the exploration as follows.

Chapter 1: Gives the relevant background about Khartoum being a postcolonial city and the motivation and rationale behind the research, the importance of the study, aims and objectives, research questions, methodology and structure.

Chapter 2: Reviews the existing knowledge and previous documentation about Khartoum's architecture, with a focus on KCC, which sets the context of the research. This chapter is thus a key step in this research as it documents and categorises the architecture of Khartoum in Architectural Paradigms. Moreover, it indicates the necessity for the research's exploratory nature to explore the three angles of the research: place, architecture and identity directly from the field.

Chapter 3: Explains that the chosen research method for this research – i.e. *case study within principles of grounded theory* is to facilitate the research's exploratory nature. It also reviews the different techniques used to collect and analyse the data. Notably, the utilisation of principles of grounded theory as an inductive method has influenced the literature review to come later in the thesis (Chapter 5) and to be blended within the discussion and analysis (Chapters 6 and 7), unlike the conventional ways of the deductive research methods.

Chapters 4,5,6,7: are the central chapters of the thesis. As for **chapter 4** it comprises the research's first exploration of the architecture of KCC. It reviews and discusses the general factors that shape the current contemporary architecture of Khartoum. It details the immediate observations from the raw data –from interviews- on the different design approaches to express architectural identity in the place Khartoum. This chapter is thus intended to set the scene and for reference in the discussion of findings in the subsequent chapters.

Consequently, **chapter 5** comprises the theoretical synthesis between the two theories of the Genius loci by (Norberg-Schulz, 1980) and the Pattern Language by (Alexander et al., 1977); to form an interpretive tool to be used to interpret KCC's architecture from an experience of place point of view and more generally, to advance the exploration of places and their architecture in a more objective way.

With **chapter 5**, forming the theoretical basis for the tool, **chapter 6** comes as the empirical application of the tool through the experience of the place KCC by its users. It identifies the *genius loci* according to participants and provides illustrations for the extracted patterns in KCC that form KCC's *local pattern language*. Moreover, it comprehensively triangulates the experience of the place from the outsider's point of view (Norberg-Schulz) with the insiders' (researcher and participants) point of view to provide more validity to the interpretation of KCC.

Similarly, **chapter 7** provides another exploration of the place KCC to reveal the positive qualities manifested in the existing architectural patterns. Moreover, it explores the role of the emerging local pattern language in interpreting the place and its architecture; including the issue of architectural identity. Both chapters 6 and 7 draw together the key themes from the data and present a series of discussions about the patterns based on the main findings from the data. These thematic findings are discussed in relation to the existing literature providing conclusions that are distilled in chapter 8.

Chapter 8: Is the concluding chapter of the thesis which sums up its main findings. Moreover, it provides a further theoretical discussion on the applicability of the tool in existing places as well as the overall limitations of the research (see Figure 1.2).

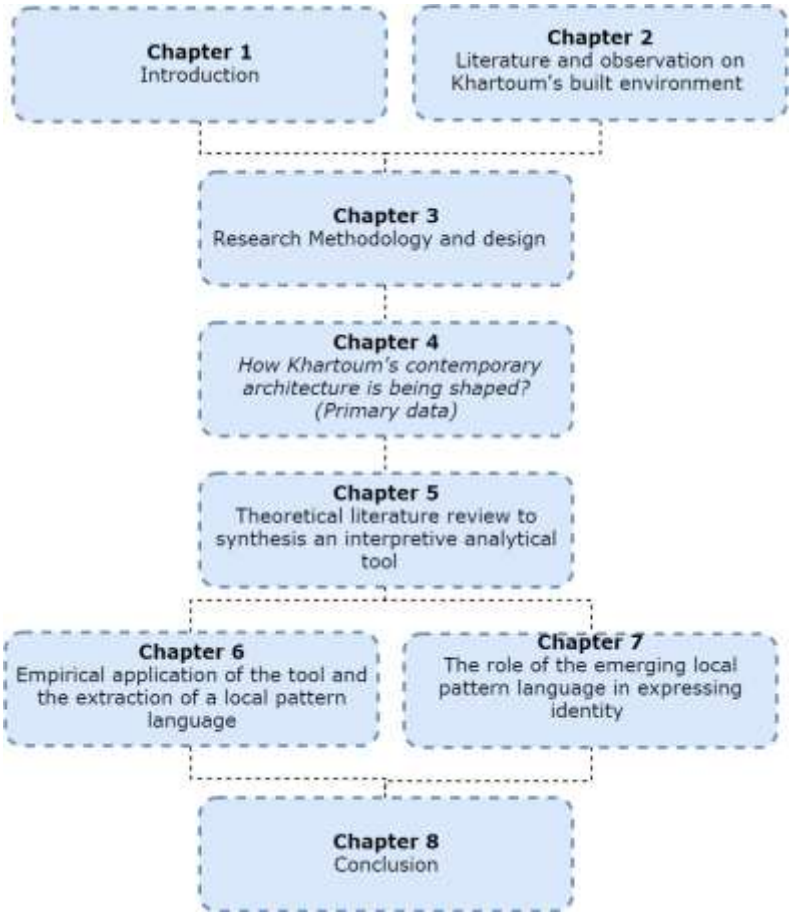


Figure 1.2: Structure of the thesis's chapters. Source: the Author

Chapter 2: Khartoum's Built Environment

2.1. Introduction

This chapter reviews the morphological development of Khartoum as a city through the different historical events that the city has witnessed. Thereafter, it reviews the existing limited research on the architecture of Khartoum and accordingly it classifies it into four distinct architectural paradigms. However, the scarcity of comprehensive architectural documentation and research highlighted the necessity to narrow down this review to a specific case study. Hence, Khartoum city centre was selected as a case study, which sets the context for a more targeted exploration within the research scale and time frame.

2.2. Khartoum the city

Khartoum, the capital city of Sudan comprises, besides Tuti Island, three towns: Khartoum, Khartoum North and Omdurman. They are determined by geography and landscape along the two distinct rivers: The White Nile and The Blue Nile. Its most significant physical feature, therefore, is the confluence of those two Niles where they form the great River Nile (El-Agraa et al., 1985). Khartoum is situated on the left bank and Khartoum North on the right bank of the Blue Nile, while Omdurman is located on the left bank of the main Nile (see Figure 2.1).

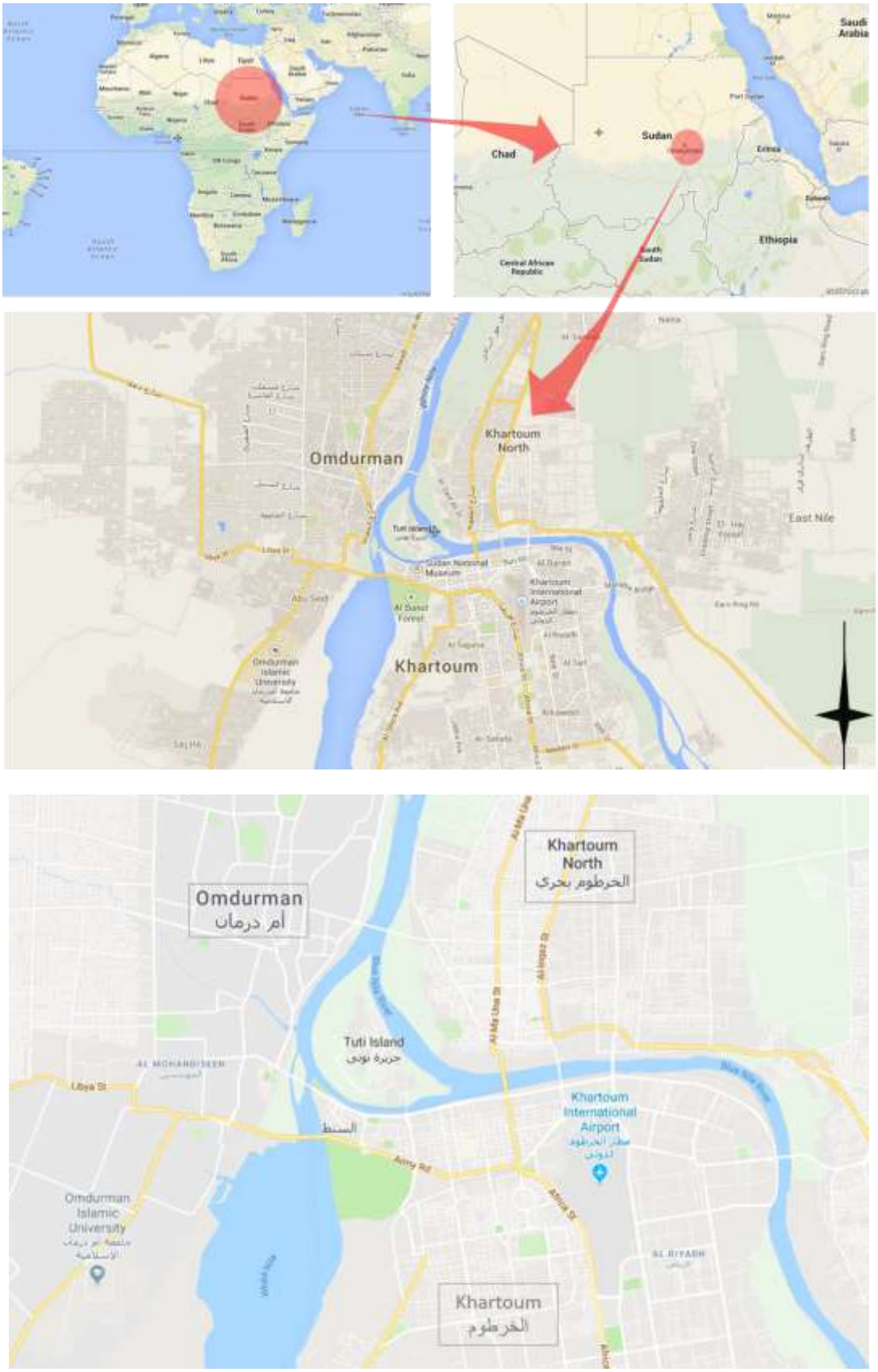


Figure 2.1 Khartoum with its three towns, Source: http//www.googlemaps.com

This could be considered as the geographical composition of the city. However, in terms of its development as capital through history, these three towns can be traced back to the 16th century as small villages along the Niles (see Figure 2.2). Their history as important settlements only started as the late 19th century after the Turko-Egyptian occupation of 1821 (Ahmad, 2000). That was the period which marked the first realisation of the role of Khartoum as a capital (Norberg-Schulz, 1980, Babiker, 2003) (see Figure 2.3 and Figure 2.4).



Figure 2.2: Khartoum in 1888 as small villages along the Nile. Source: www.thereaderwiki.com\Khartoum

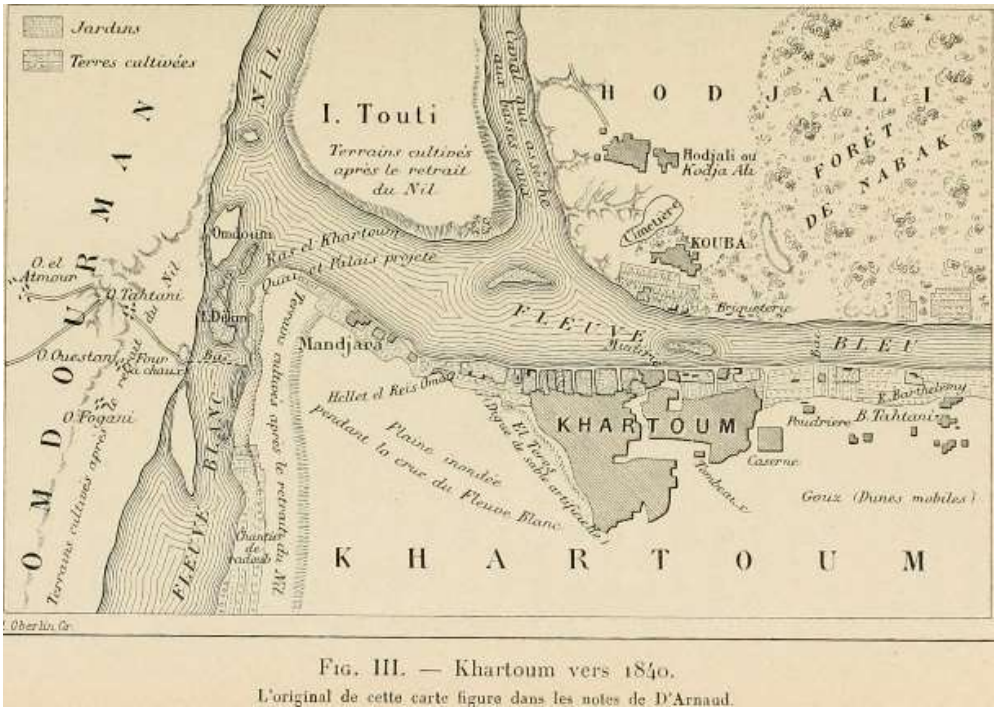


Figure 2.3: Khartoum during the Turko-Egyptian rule (map 1). Source: D'Arnaud's archive.

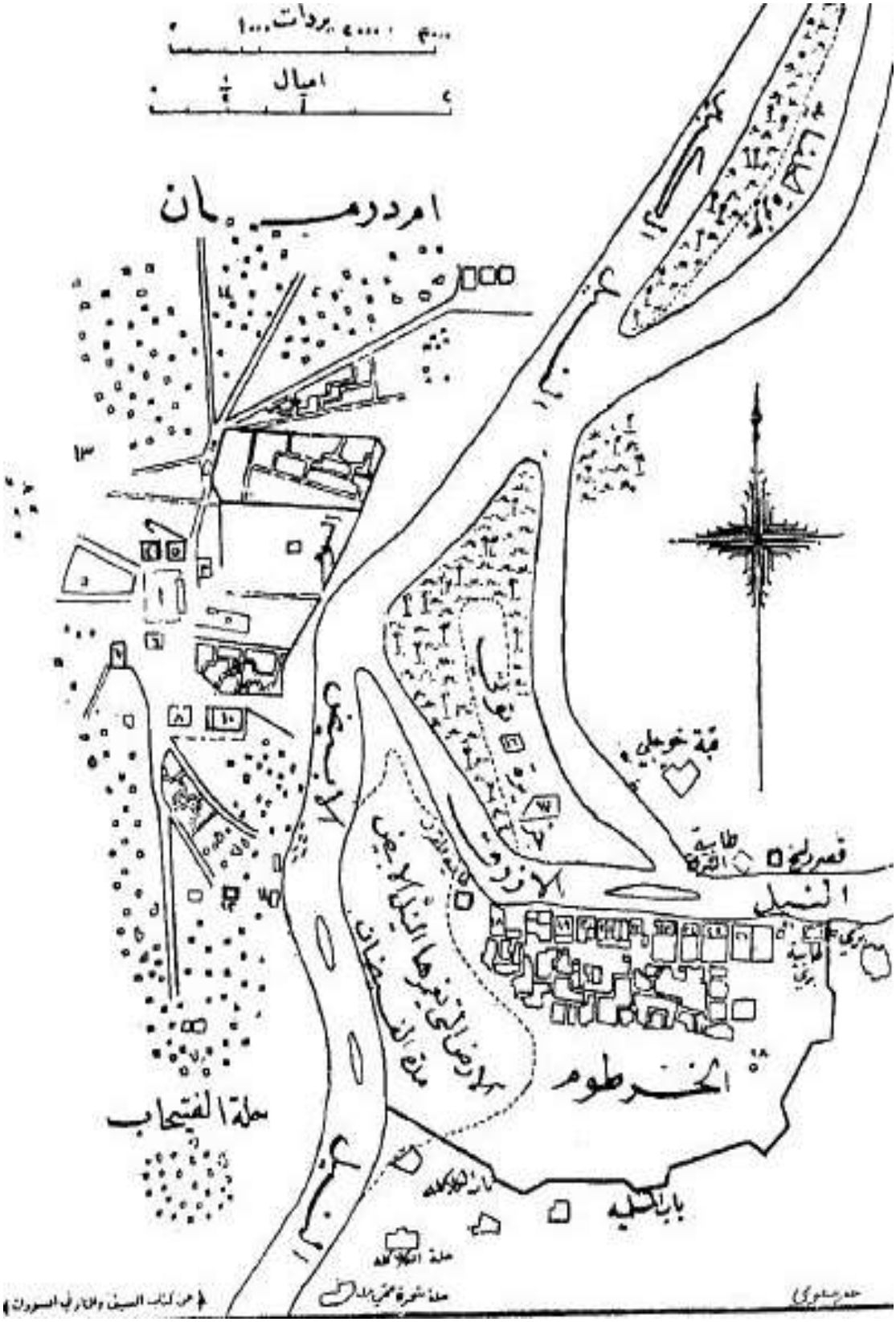


Figure 2.4: Khartoum during the Turko-Egyptian rule (map 2). Source: (Salateen-Basha, 1930)

Khartoum continued as such until the revolution of Mohamed Ahmed Al-Mahdi,[2] who in 1885 defeated the occupiers, recaptured Khartoum and then shifted the capital to Omdurman. Although Omdurman grew as a military camp for the Mahdiist forces, it was later re-planned into an identifiable town with few wide streets, a mosque, a central marketplace, headquarters for the leader and his aids and discrete neighbourhoods. These neighbourhoods, however, developed in the traditional informal way as intimate organic patterns (Ahmad, 2000) (see Figure 2.5 & Figure 2.6) Interestingly, Omdurman remained more like Muslim towns in the west and central Africa in appearance with predominantly low mud and brick dwellings (*ibid*). The Mahdiist era lasted until 1898 when the Anglo-Egyptian Colonisation took over Sudan, and Khartoum Town which had been abandoned and ruined throughout the Mahdiist years was re-established as capital (*ibid*).

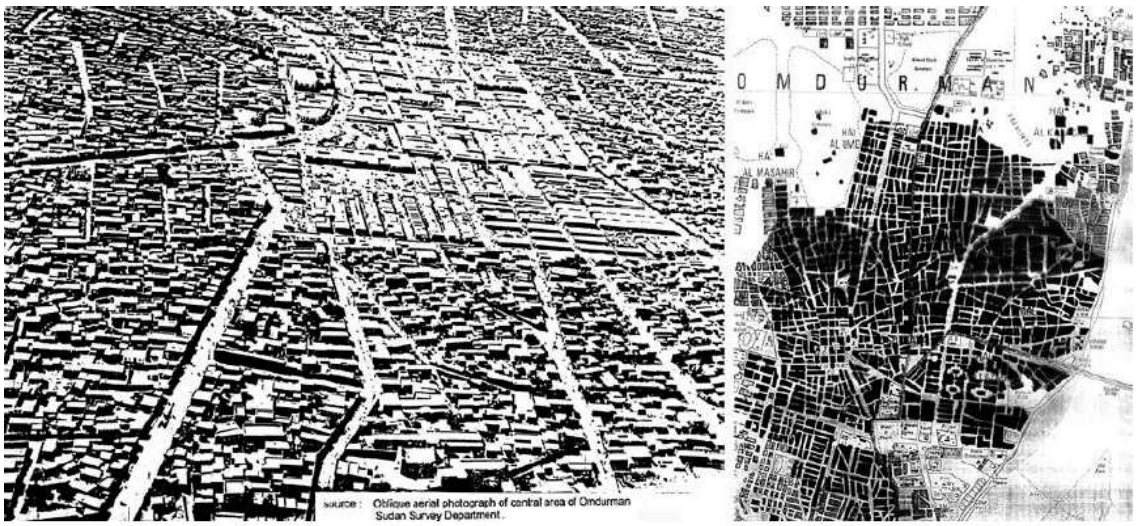


Figure 2.5: Omdurman's organic informal urban structure, an aerial view and a layout. Source: (ElKheir, n.d.).

[2] Is the leader of the Mahdia which is a Sudanese revivalist Islamic regime that started in rural areas and took over Khartoum in 1885 to suppress the 'Turko-Egyptian' colonisation. Their architecture represents the traditional architecture in Omdurman and embodies deep religious and social meanings.

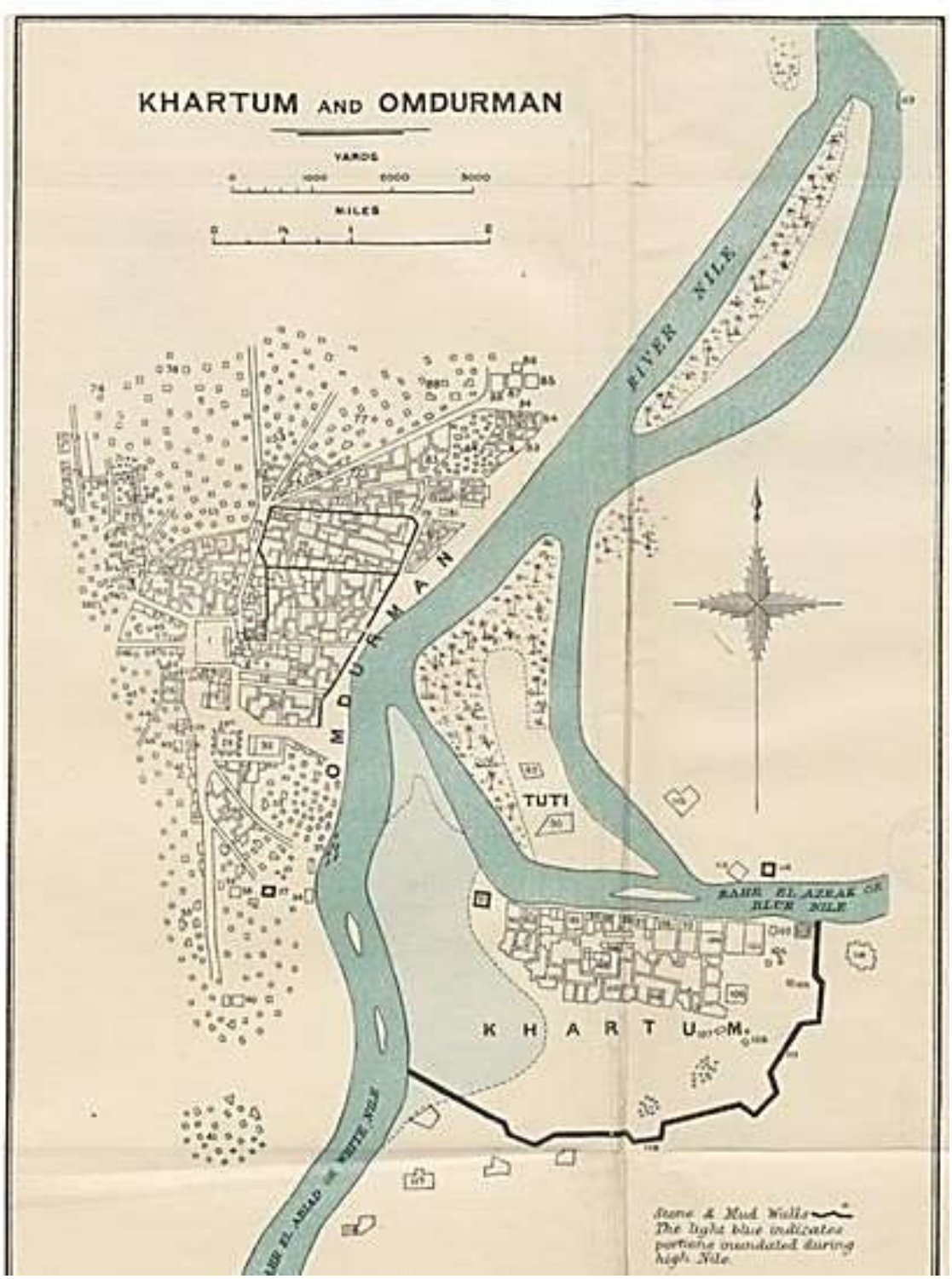


Figure 2.6: Khartoum during the Mahdiist period in 1896, Omdurman flourished as the capital and Khartoum was completely abandoned. Source: (El-Bushra, 1976).

Khartoum Town, however, contrasts with Omdurman, which was planned by Kitchener –the British leader- who established it as a city with a distinctive image and unique characteristics. This uniqueness has resulted from symbolic planning with

wide regular gridded streets and diagonals symbolising the Union Jack, in addition to monumental colonial architecture. These two combined formed a different but unique urban structure (Hamid, 2014).

Thus, Kitchener's symbolic planning of the new Khartoum was of no similarity to the historic Mahdiist part in Omdurman. Daly and Hogan (2005, p.232) argue that *"the town would thus immediately contrast with the warren of Omdurman; it is undeniable that the new Khartoum resembled the teeming Mahdiist capital in no way at all, everything in the new Khartoum would be symbolic"* (see Figure 2.8). The functional zoning of the town shows a clear division of functions while the institutional governmental buildings were set on the North strip along the Blue Nile embankment, the heart was planned as a market area, leaving the east and the west as housing zones (see Figure 2.9) By the 1930s, Khartoum had developed into a 'model colonial town' with many modern facilities (Babiker, 2003).

This period as described by El-Bushra (1976, p.35): *"was perhaps the most significant in the history of Khartoum"*. Khartoum then, grew as the most important administrative, commercial, residential and educational centre (El-Agraa et al., 1985) as well as recreational (see Figure 2.10). Only then, the cosmopolitan meaning has been introduced to the place (Norberg-Schulz, 1980). Hence, Khartoum can be considered as a relatively new city.

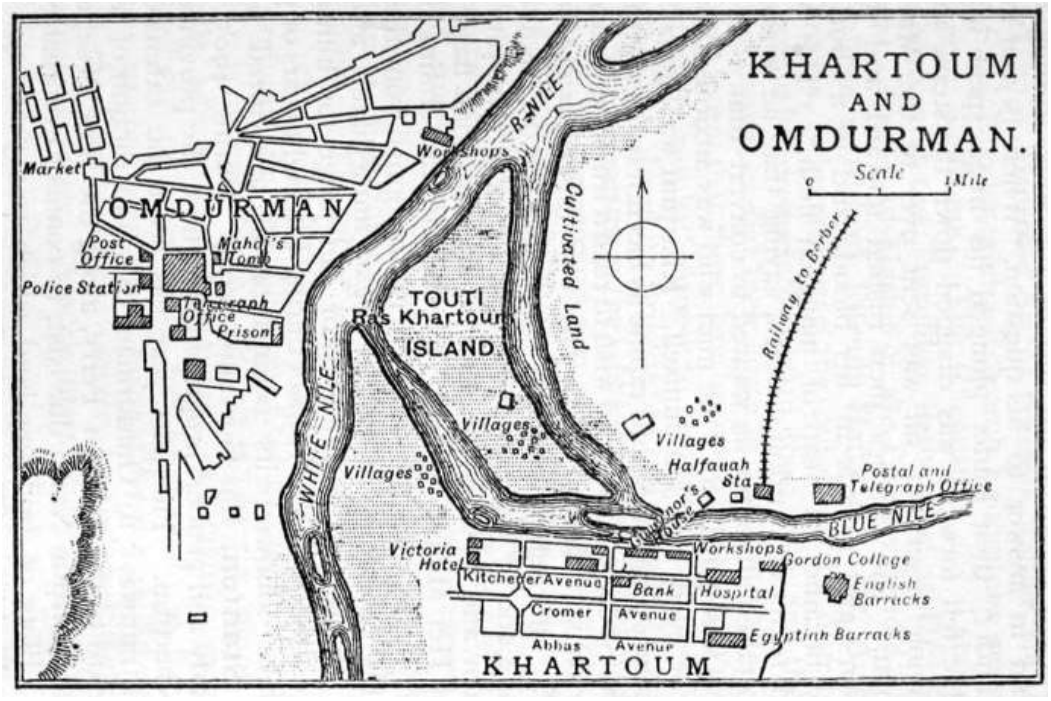


Figure 2.7: Khartoum in 1905 by Thomas Hook, just before the planning of Colonial Khartoum with the Union Flag. Source: http://commons.wikimedia.org/wiki/File:1905_map_Khartoum_and_Omdurman_by_Thomas_Cook.png

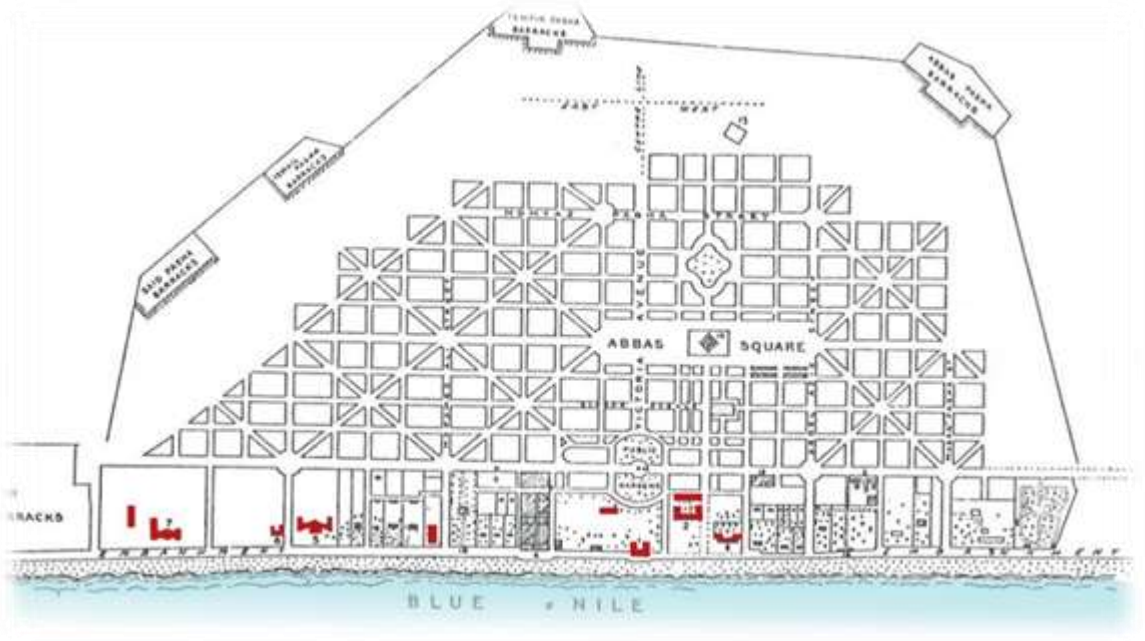


Figure 2.8: Map of Colonial Khartoum planned in a symbolic way with the Union Flag traversing the main streets Source: (Norberg-Schulz, 1980), Edited by: the Author

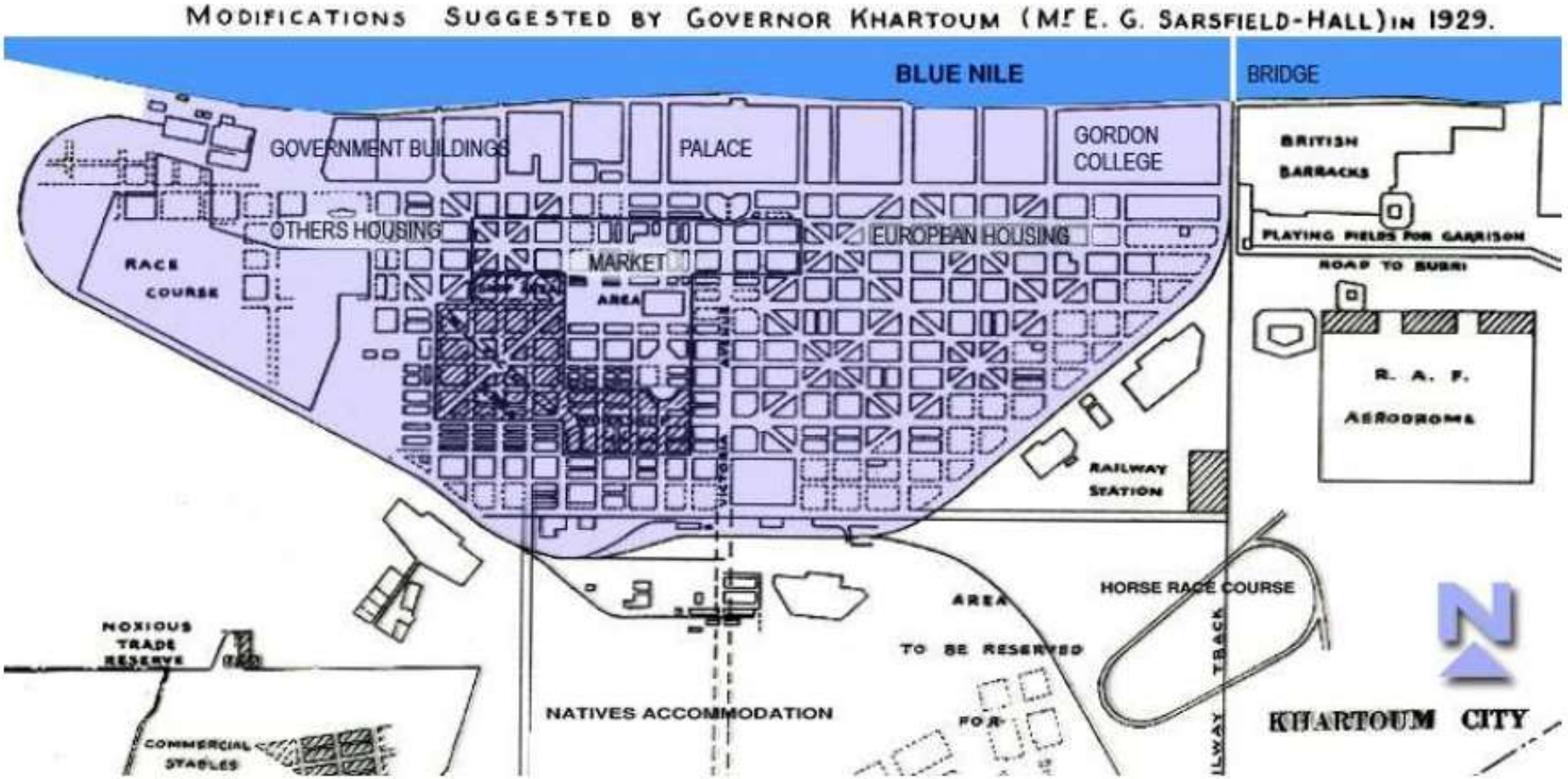


Figure 2.9: Colonial Khartoum in 1929 showing the functional zoning of the place. Source: (ElKheir, n.d.)



Figure 2.10: Tourist map of Khartoum 1952. Colonial buildings along the Nile are highlighted in black as main tourist attractions. Source: Sudan Archive/Durham (Ref. HAW_map8_2)

After Sudan's independence in 1956, the capital enjoyed a prominent, but brief period of flourish in most aspects of life (Ahmad, 2000). However, *"in the mid-1970s chaos set in"* (*ibid*, p.309). The focus of the new ruling regimes did not meticulously consider the visual image of the new postcolonial city of Khartoum (the term now referring to all the three towns) and the identity that the city and its architecture reflect. Yet, the focus was more towards the horizontal expansion of the city utilising the simple monotonous gridiron planning which resulted in what Elkeir (2012) described: *"the city sprawled tremendously and lost character" (see* Figure 2.11). Ahmad (2000, p.309) added: *"the positive planning features were obliterated after the town planning machinery was marginalised and almost dismantled. The once-beautiful town was vulgarised, vandalised, ruralised…."*

Accordingly, the emerging architecture in this context was yet to develop a strong character that has a positive impact on the place Khartoum due to the appearance of a flux of styles, alien representations and multiple identities. This has created a significant gap in Khartoum's architecture and the meaning of place.

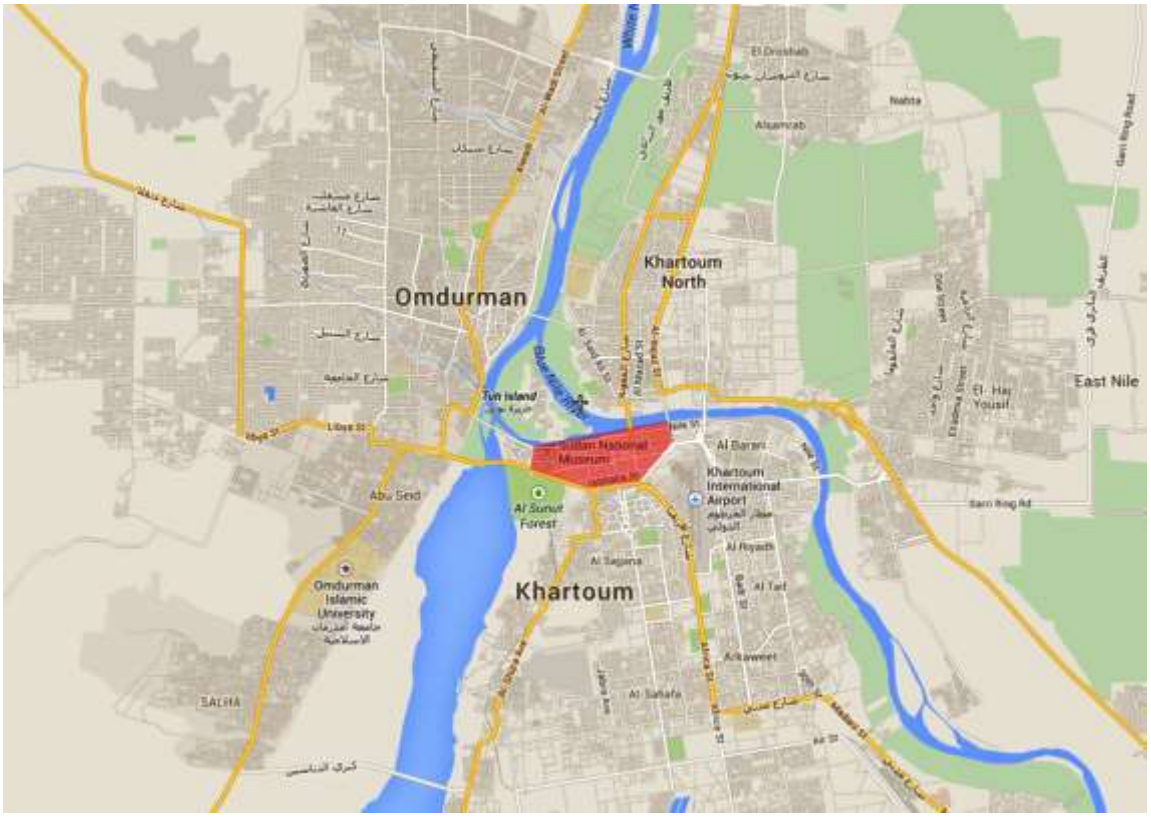


Figure 2.11: The Metropolitan Khartoum (2014) after 60 years from the British colonisation with Colonial Khartoum at its centre (red). Adopted from (Hamid, 2014)

2.1.1. Khartoum from an outsider point of view:

Interestingly, the famous theorist Norberg-Schulz has visited Khartoum in the late 1970s and has given his own artistic interpretation of the place and its architecture based on his experience as an outsider in four main categories as follows:

A. Image

Norberg-Schulz (1980) perceives the significance of the image of Khartoum from its natural landscape and climate. He then describes the place gradually, starting from its natural settings and climate, to the urban streets and finally to its architecture. He argues that although the city does not possess any heritage in the form of great architectural monuments, the urban environment, still has a structure as well as a distinct character. For him, the essence of this distinctiveness results from the response of the urban settlement to the geography of the city and its natural landscape –manifested in the Nile that divides the city into three towns– as he argues: *"colonial Khartoum also shows a coherent horizontal development, and although its geometrical plan was imported, the town in general demonstrates a satisfactory understanding of the site"* (*ibid,* p.119).

Yet, he considered that the vast dimensions of the Nile and the three towns that appear to be somewhat withdrawn from its banks make a unified visual image of the whole Khartoum almost impossible (*ibid*). Therefore, the architecture in each town developed with its own distinct image and hence Norberg-Schulz captured those images separately. Khartoum being distinct by the wide regular streets of its colonial city centre (see Figure 2.9), Omdurman on the contrary, being distinct with its labyrinthine fabric (see Figure 2.5) and Khartoum North is a mix between the two as it combines both characters.

B. Space

Norberg-Schulz then argues that the uniqueness of Khartoum lies in its meaningful spatial organisation that stems from the very simple spatial elements offered by nature. Interestingly, those natural elements were being taken as the point of departure for the man-made environment. While in a desert environment the urban settlement should be dense in order to withstand its severe climatic situation, what he captured was the horizontality of the urban settlement that was *only* dense in Omdurman and Tuti Island (see Figure 2.1). Colonial Khartoum on the other hand, was wide and generous in its spatial organisation. Thus, he classified those various spatial organisations as the labyrinthine pattern referring to the original vernacular solution in Omdurman and Tuti, and the geometrical pattern adopted in Colonial

Khartoum. The earlier reflects unique qualities such as intimacy and human scale created by a gradual clustering of the unit with the street as a secondary interval Figure 2.5). The latter, however, represents certain ideology and the street is taken as the main point of departure for the general spatial organisation of the city (see Figure 2.9).

C. Character

He commences his description of the holistic character of the place by capturing the natural environment and interpreting its character into some main components such as the sand, the burning sun, the barren landscape and the flat topography. He captures sand as the main predominant characteristic element that exists everywhere. The existence of it is intensified by the burning sun with its strong radiation, strong light and heat, resulting in a hostile natural environment. The predominance of the sand, therefore, gives the landscape a barren character. Nevertheless, the bareness of this landscape stems also from its mere flatness; a flat surface of the sand, which does not offer many possibilities for identification (*ibid*). However, the Nile with its green oases exists as a unique natural element that gives a promise of life in this desert place.

Thereafter, Norberg-Schulz (1980) moves away to describe the reflection of this natural character in the man-made environment. He encountered both the urban setting and the architecture, which together act as the main components of the man-made place. He narrated his encounter with the man-made place in Khartoum, both the vernacular setting of Omdurman and the modern setting of Colonial Khartoum (see Figure 2.12). Certainly, at that time of his experience –the late 1970s- the two places were in a stark visual contrast that will immediately attract any outsider to explore the two different worlds. Nowadays, this contrast still exists, but it is less clear as the two worlds almost dissolved within the contemporary development of the city.

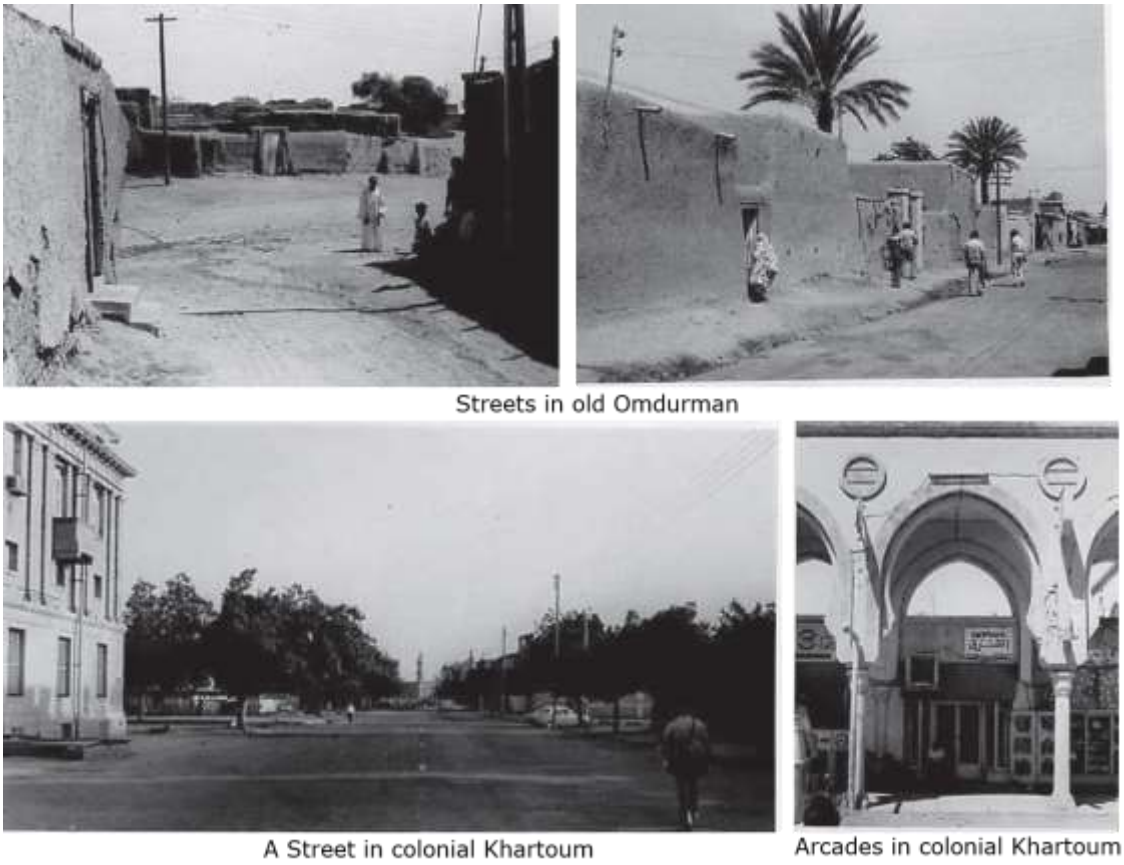


Figure 2.12: The vernacular setting of Omdurman and the modern setting of Colonial Khartoum as observed by Norberg-Schulz. Source: (Norberg-Schulz, 1980)

D. Genius Loci

The last point of Norberg-Schulz's experience of Khartoum appears to be the general definition that incorporates all the above-mentioned domains: image, space and character. To him, the place Khartoum was both local and international because its genius stems from an architecture that is *"determined by such 'messages' from the outside: Islamic, European or African but they have been adapted to the particular local conditions, to allow for human identification which is not merely cultural but directly related to the place"* (*ibid*, p.116) *and thus the result is a "meaningful universe of characters"* (*ibid,* p. 135). This is because, Khartoum's location is at the centre of several 'worlds' between Arabic-African worlds, a location that endows Khartoum with influences from diverse cultures, religions, languages and ethnicities. Hence, *"the pure and abstract absolutism of Islam meets the magic world of Africa proper"* (*ibid*, p.116) giving a clear testimony to the cultural pluralism of Sudan, intensified in Khartoum being the capital (see Section 1.2.2).

Additionally, Khartoum is a place that was also influenced by many forces from the outside, such as the Turko-Egyptian colonisation (1821 to 1885) and the Anglo-Egyptian colonisation (1898 to 1956). These colonisations added a mixture of Turkish, Egyptian and European features to the place. With the over-simplicity of the natural character in that it did not satisfy the need for identification, the Sudanese man started to satisfy his needs through the different Islamic, European and African messages that were adapted to the conditions of the place. Hence, the mixture of these three messages is what characterises Khartoum's urban fabric evident in the limitless features of various form articulations.

However, a more overarching classification of the different architectural layers that appeared in such a dramatic place during the different historical periods and reflected within it these different messages was needed. Therefore, the explorative endeavour of Khartoum's architecture commenced with a series of observations and photographic documentations firstly at the scale of the city, then at the scale of urban quarters, and then down to the scale of individual buildings. With Khartoum being geographically divided into three towns (see Figure 2.1), the architectural development nature of these towns has become somewhat different. This is because each of the three towns evolved to accommodate certain functional zones including Khartoum being the administrative town, Khartoum North being the industrial/residential town and Omdurman being the historical/spiritual/residential town. Secondly, they were built during different historical events that the city had witnessed, from colonisation and independence to the subsequent political regimes, an urban scenery that Ahmad (1999, p.27) narrated: "*the time dimension is fascinating: moving in space from one town environment to another is akin to moving in time from one era to another*". Based on these factors, four architectural paradigms can be observed in the three towns. Each paradigm represents an architecture with unique characteristics -and sometimes messages- that flourished during a certain historical period. These paradigms vary in the locations they have flourished in; from one paradigm existing in all three towns in Khartoum to one existing only in one town.

2.3. Classification of Khartoum's architecture into paradigms

2.3.1. Traditional Paradigm

This paradigm denotes the vernacular villages that were built on the land of Khartoum before its colonisation. These villages were built from mud and established on the banks of the Nile. Today, they still exist in Khartoum and are being incorporated within its urban structure in places such as the old part of Omdurman, in Khartoum North and Tuti Island (Norberg-Schulz, 1980). Ahmad (2000, p.311) described the total physical patterns of such traditional settlement as *"intimate organic patterns"* which he described: *"their physical patterns show familiar twisting roads and alleyways of varying sizes, small open spaces and homogeneous clusters of low, relatively dense cubic mud dwellings"* (see Figure 2.13). Ahmad (1999, p.29) described the architecture of these neighbourhoods narrating: *"visually, the neighbourhoods present the normal homogeneity and modesty resulting from the prevalent building material, mud, the prevalent built form, the cube with its classical purity, and the conservative lifestyles".*



Figure 2.13: The intimate organic pattern in Tuti Island as an example for the traditional paradigm. Source: Muzna Isam's archive.

However, earlier than the narration of Ahmad as an insider scholar, Norberg-Schulz (1980) observed and narrated the traditional architecture in the three towns of Khartoum. He observed the traditional urban settlement as an organic totality that is being shaped by three main interdependent aspects: nature, dwelling and social

structure. He perceived the house as being the living cell whose accumulation results in a densely organised urban setting. This urban setting extends horizontally with an obvious hierarchy of its urban spaces from the private domain (house) to the semi-private access street then to the public corridor street (see Figure 2.13*).* These specific urban characteristics are thus pedestrian-friendly and encourage maximum human interaction (Ahmad, 2000). Fascinatingly, these characteristics are a response to the place Khartoum and the actual manifestation of its natural simple character as Norberg-Schulz (1980, p.118) described it as being: *"meaningful, and expresses a deep "understanding" of the natural situation"*.

Within this unique urban setting, the 'house' is the vital unit of the architecture of this paradigm (see Figure 2.14). While having a simple cubist form that represents the simple and conservative lifestyle, *"it is where the attitudes of the society are fully manifested"* (Osman, 2003, p.23). Therefore, it embodies deep symbolic, cultural, and social meanings. Consequently, the spatial organisation became more influenced by the cultural practice of that society both internally and externally on the immediate surrounding urban settlement. Moreover, Norberg-Schulz (1980, p.129) describes the traditional architecture which he observed in Khartoum as an architecture that has a *"distinct uniform character"*. He explained the word distinct: as architecture that is unique in its response to the severe climate, "*reduced to true essentials"* and uses the local building materials and colours. Moreover, it reflected a dynamic relationship between the traditional architectural practices and good social and communal relations.



Figure 2.14: Houses as simple cubical forms, the external yard and the boundary wall around.
Source: https://www.pbase.com/bmcmorrow/image/120811625

Osman and Suliman (1996) comprehensively studied the architecture of this paradigm in Omdurman and noted that boundary walls are one of its main characteristics. While boundary walls provide physical separation between the house, the street and neighbouring houses, in Khartoum's neighbourhoods they are incorrectly stressed as a requirement (Ahmad, 1999). Norberg-Schulz (1980) justifies that this requirement is for dwelling in a desert country and accordingly they endowed the neighbourhoods with a uniform character. The result is thus an urban environment with streets lined with high walls that conceal the house from the view of outsiders (Osman and Suliman, 1996) (see Figure 2.15-B). Therefore, Norberg-Schulz (1980) stresses that the boundary wall as an architectural feature has shaped the essence of the traditional architecture and hence characterised the old neighbourhoods of Omdurman and Tuti as well as the residential neighbourhoods of Khartoum today. Hence characteristics of the traditional vernacular architecture based on the present researcher's observations coupled with Norberg-Schulz's interpretations can be listed as follows:

- Simple and pure architectural forms.
- An organic quality that results from the use of local materials and earthly colours, examples of these materials is mud which is either mud that is cast in situ, called 'Jalous', or in the form of sun-dried mud bricks. Sometimes they are externally covered with a cement-sand external layer, which is known locally as 'gishra' (Osman and Suliman, 1996, p.403).
- The boundary wall as the primary element of dwelling.
- Rooms as freestanding or attached to the perimeter wall.
- The spatial organisation of dividing the house into separated zones for men and women.
- Few and small windows.
- Buildings have rounded corners as a result of the organic nature of the building materials.
- The richly ornamented gateways.
- Flat roofs (from timber or corrugated galvanised iron sheets).
- Single storey.
- External yard: the space enclosed by the boundary wall**.** It links all the rooms together and forms a gathering social space for the families and their guests.
- Narrow lanes with variations in width (semi-private access).
- Gradual clustering of units.
- Street as a secondary interval.
- Human scale and quality.

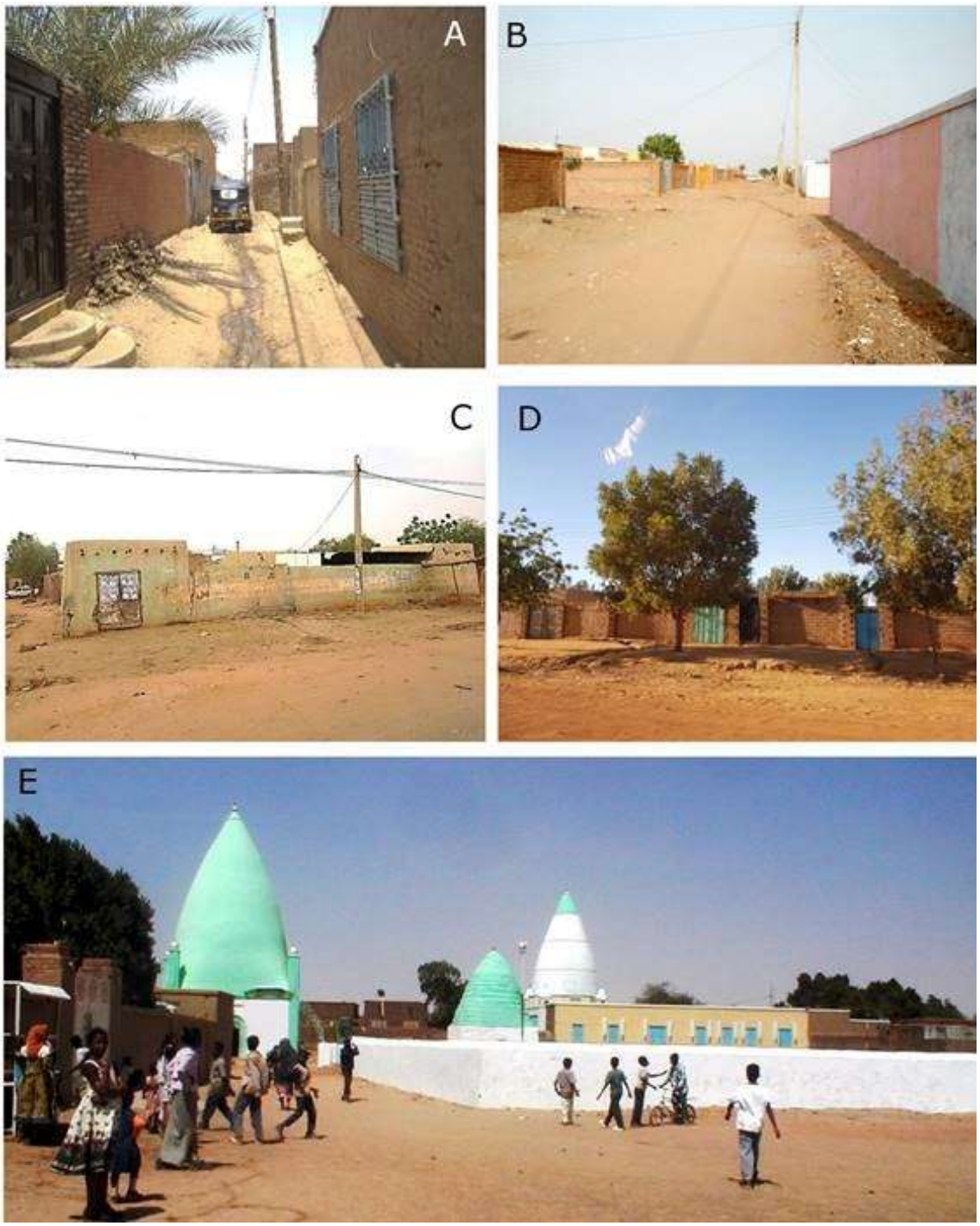


Figure 2.15: Traditional vernacular architecture in different neighbourhoods in Khartoum with boundary walls giving the streets an isolating but a uniform character, the hierarchy of streets from narrow organic alleyways (A) to wider streets (B, C & D) and an open space with a mosque at the centre of a group of houses. This open space is the second main space to perform activities after the street. Source: Gamal Hamid's archive.

However, this is only in Khartoum but with Sudan being a culturally diverse country, this diversity is manifested in the architecture resulting in a rich vernacular architecture with different functions, forms, compositions and building materials all

around Sudan (Elyas, 2015). Yet, with the formation of Khartoum by the colonial powers, vernacular architecture did not receive enough attention from the colonisers as well as the Sudanese intellectuals. Therefore, the traditional built environment became rudimentary and its character was not adequately developed (Osman et al., 2011). In today's neighbourhoods in the three towns of Khartoum, vernacular architecture is designed by the laypeople themselves or by their architects with more durable building materials. However, these neighbourhoods have lost their organic urban character as they are being planned in a monotonous gridiron layout, resulting in all streets and most of the houses looking the same. Consequently, the manifestation of tradition in the urban setting is being lost and it became more limited to body images, clothing and rituals that are not necessarily tied to a particular physical location of Sudan (*ibid*).

2.3.2. Colonial Paradigm (1898-1956)

It could be argued that Khartoum was traumatised with the overwhelming events that happened in 1898 with the violent end of the Mahdia regime and the start of another period of colonisation (this time Anglo-Egyptian). With this change, the centre of power was shifted back to Khartoum Town as the centre for the new colonisation. Osman et al. (2011, P.40) narrated this period and its impact on the architecture:

> *By the end of the 19th century, and after the Mahdia regime, Sudan was very detached from the architectural developments in the rest of the world…….Due to various other factors – such as religious changes, foreign occupation, climate changes, the lack of wealth and natural resources and political changes – there was a lack of continuity of the rich architectural heritage that was prevalent in the earlier historical eras of the country.*

Hence, Khartoum Town witnessed the rise of colonial architecture that was introduced as an architecture that it had not witnessed before and consequently, the disconnection with the traditional architecture began. Another reason is that the British did not believe that the traditional architecture was suitable for the necessary civic edifices and housing facilities comparable to the standards they were accustomed to back in Britain (Osman et al., 2014). Therefore, they went on building new architecture that is completely new to Khartoum's built environment.

However, those newly introduced architectural features, although not totally Sudanese, still suited the place and its environment. It included different building types such as institutional buildings (including administrative, governmental, commercial, recreational and educational functions) as well as residential buildings. This marked the first introduction of proper institutional architecture as a new type of buildings in Khartoum. This gave Khartoum Town its administrative/institutional role, which continues to the present day. Today, this colonial part although still the centre of the Metropolitan Khartoum, it has lost its recreational and residential functions. This resulted in a place that is alive and vibrant during the day but hostile at night except for one or two commercial nodes.

However, the newly-introduced colonial architecture did not have the same physical-spatial forms of the metropolitan society -here British- but was a unique product that combines that with the indigenous local architecture (King, 1976). Bay (2001) names this combination as a hybrid architecture and contends that the British colonial architecture in Africa had adopted the best out of the local traditional architecture and implemented it in a new way even if not directly explicit. However, Malinowski et al. (1945) contradict with King and Bay and consider that this is not just a combination of both cultures, but a completely new cultural phenomenon.

In this sense, this phenomenon doesn't only affect culture, but for sure the architecture. Therefore, King later renamed it as "*colonial third culture*" (King, 1976, p.58) and defined it as what results from the contact, in the colonised country, between the selected first culture and the selected second culture. Therefore, there are certain forms of knowledge, language, social beliefs and for sure, built forms and urban patterns that are unique to this culture.

With this in mind, and based on the present researcher's observations and photographic documentation coupled with Norberg-Schulz's (1980) narration of the *genius loci* of Colonial Khartoum, the features of the residential colonial architecture could be listed as follows:

- Houses more open to their surrounding environment compared with the traditional houses, through:
    - Continuous porticos or verandas: that run along houses' fronts forming a transitional space that links the interior space of the house with the exterior one. The space formed by these verandas is unique in being linked to the surrounding environment as well as being environmentally more pleasant than the external yard during the day.

- light fences: unlike the Traditional Paradigm, here the wall is slightly permeable or sometimes is substituted by a transparent fence rather than solid boundary walls.
- large windows.

- External Yard: The idea of the external yard shifted from being a central space that all rooms open into, to a merely external one. The link between it and the house is through the verandas (see
- Figure 2.16).

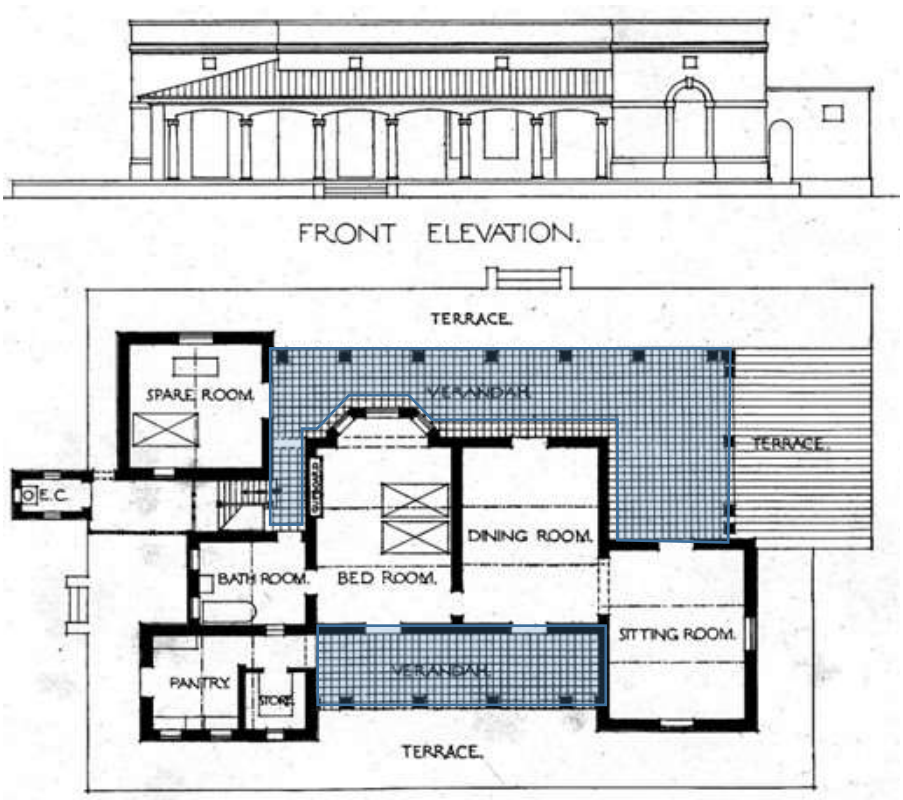




Figure 2.16: Residential colonial architecture in Colonial Khartoum. Source: Osman ElKeir's archive

It could be argued that these features were adopted from the Nordic places -in which residential architecture is characterised by the openness and direct contact with nature. Thus, they endowed the colonial houses with a new semi-public character for the dwelling that is new to the place; accordingly, residential architecture has changed from being an introvert architecture -in the traditional architecture- to a more extrovert one. Additionally, more decorative elements from classical European architecture were applied -such as columns and architraves.

These characteristics are mainly present in residential architecture. However, Norberg-Schulz encountered institutional public buildings as a different type of buildings that did not exist in the vernacular villages of Khartoum.[3] Therefore, he celebrated this type as it was implicitly sensed in his experiential narration, partly because, those institutional buildings might have reminded him of those in his own country. as for the institutional architecture and the general urban features of Colonial Khartoum as recognised by Norberg-Schulz (1980) can be listed as follows (see Figure 2.17):

- Geometrical planning and an "open" urban system.
- Green urban sites around institutional buildings.
- Extensive vegetation as natural porticos which transformed the whole *"urban milieu into a human alternative to the desert"* (*ibid*, p. 133).[4]
- Facades' articulation with arcades on the facades of the majority of colonial buildings. Accordingly, the urban space of Khartoum was characterised with lively ordered rhythms of arcades.
- Commercial porticos: these porticos were captured by Norberg-Schulz as a feature that allowed for a distinct architectural concretisation. This is because they proved the possibility of transforming the introvert architecture to an absolute extrovert one by providing an urban space that interacts with the volume of the building. Those Porticos have introduced a character that expressed the potential openness to the environment, providing a degree of climatic control and creating an urban inside that provides *"modern forms of human interaction"* (*ibid*, p.136) Those porticos were employed in a monumental character in public buildings whereas in commercial buildings they were joined to form arcades to create not only a protected environment for consumers but also a lively one. For Norberg-Schulz this interaction

[3] Although some institutional buildings were introduced by the Turko-Egyptian colonisation (1821 -1885), they were later destroyed during the Mahdiist rule of Khartoum (1885 – 1898). Hence, Colonial Khartoum could be the real proper institutional city centre in Khartoum.

between the urban space and the volume of the building is a quality that expresses the building's public character. However, Norberg-Schulz perceived them as elements of classical European architecture because they turned the original idea of arcaded courtyard houses of the Islamic cities inside out, transforming the whole urban milieu into a humane alternative to the sun. Nevertheless, this research argues differently about the origin of these porticos as will be discussed in Section 7.3.3-I.

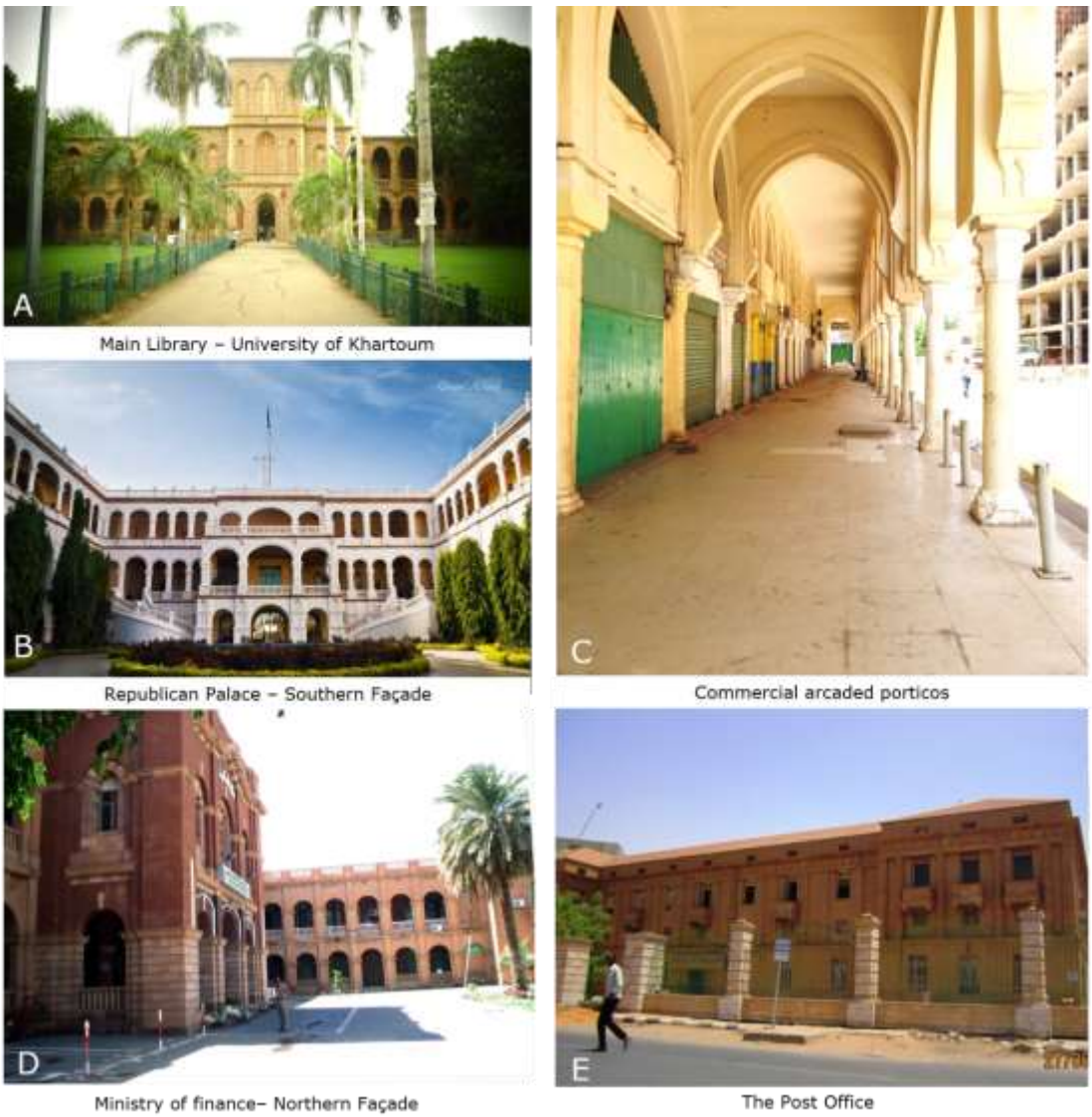


Figure 2.17: Green urban sites (A), facades' articulated with arches in the majority of institutional colonial buildings (A, B & D), commercial arcaded porticos (C). Source: the Author and Osman El Elkeir's archive

Landmark buildings of this paradigm include the Republican Palace, the Ministry of Finance and the Post Office (see Figure 2.17) which were designed by engineer Gorge

Gorringe and were completed in 1900 and 1901 (Sandes, 1937). They gained their significance from their significant location on the bank of the Blue Nile. Another main landmark building is the University of Khartoum's Main library which was built and completed in 1902 (see Figure 2.17). These colonial buildings were built with permanent materials that respected the local climate by providing good protection and isolation from the sun during summer and preventing damage by the heavy rains during autumn.

While being a unique architecture, the style and characteristics of the colonial buildings did not flourish in the independent postcolonial Khartoum. Unfortunately, however, after the independence, colonial buildings were not appreciated as part of the built heritage of Khartoum, instead, they are not adequately maintained and at extreme cases they are being disrespected and misused and thus rapidly deteriorating (Hamid, 2014).

2.3.3. Modern Paradigm (the 1960s – 1970s)

The architecture of this paradigm denotes the start of the postcolonial architecture that appeared after independence Therefore, choosing a name for this paradigm proved to be a difficult task. Eventually, the name Modern was chosen because it marked the shift away from both the traditional Sudanese architecture and the colonial architecture and replaced them with architecture with modern characteristics (Osman et al., 2011). In terms of location, this paradigm exists in Khartoum's city centre (KCC) and the extension of the city to the south, in the newly emerging mixed-use centre (Alamarat) in different types of buildings as well as scattered residential architecture in the three towns of Khartoum (see Figure 2.24)

The rise of this paradigm as Osman (2005) explains was largely affected by firstly: the establishment of the Public Works Department (PWD) after independence lead by foreign expatriate architects; [5][6]and secondly, the establishment of the first school of architecture in Khartoum with British professors who were supportive of the Modern Movement.[7]Therefore, the first cohort of Sudanese architects graduated with an

[5] The PWD was established as the government agency for the promotion of comprehensive architectural services throughout Sudan (Bashier, n.d.).
[6] Such as Peter Muller and C.N. Stefanides.
[7] Modern Movement: can be referred to an architecture that is conscious of its own modernity and striving for change. It appeared after the wide dissatisfaction in the early 19th century with eclecticism among architects historians and critics. It includes styles that appeared by the end of the 19th century and in the first half of the 20th century and became dominant after World War II (Colquhoun et al., 2002). It was based upon new technologies of construction, particularly the use of glass, steel and reinforced concrete. Additionally the Dictionary of Architecture and Construction defines Modern architecture as 'a loose term applied since the late 19th century to buildings in a variety of styles, in which emphasises is placed on

obvious inclination to this Movement and hence their architecture reflected that. Hence this could be marked as the first beginnings of Modernism in Sudan (*ibid*). Bashier (n.d., p.3) contends that this is the first act of *"westernization"* that "*produced a mixed style which reflects the adapted expressions of modern European architecture, and the traditions of the colonial period environmental design approach"* (*ibid*). Moreover, Bashier (n.d.) explains that the role of the expatriate architects was more prominent during the two decades following independence as were mainly designing for a small elitist community of the country's leaders including politicians, senior government officials, and university staff. However, during the 1960s and 1970s a pattern of change in the architecture started to appear and this time by the Sudanese architects.[8]

However, Elsheshtawy (2012, p.348) asserts that the adoption of any modernist language in a postcolonial discourse should be seen as the *"natural development" of the place.* While this is true and should be seen as a natural development, it is a rather late development. This is because at that time the Modern Movement was well underway in England and European countries (Osman et al., 2011).

The architecture of this paradigm adopted the language of modern architecture and an architectural authenticity represented by the simplicity and purity of form, through reinforced concrete structures, free plans, free facades. It also expressed transparency and lightness through wide windows and expressed the structure by exposing it (*ibid*). Therefore, this paradigm had an immense impact on the Sudanese architectural scene at that time, in fact, until today. Osman et.al (2011, p.8) described this paradigm as an architecture that is: *"pure, functional, dynamic, transparent, and embellishment-free forms were a source of inspiration and admiration for generations of young architects and architecture students".* Landmark buildings of this paradigm include AlEkhwa building, Badea HQ, Talab Building, Kuwaiti Towers and Industrial Development Bank (see Figure 2.20) respectively.

It could be argued that this attempt to create modern architecture in Khartoum is thought to be successful as it created forms that were not only modern but also suited the context, with its culture, climate and available resources. Osman et al. (2011, p.77) even contended that this paradigm could be considered as the first Sudanese response to the International Style which was, in fact, *"early experimentation in*

functionalism, rationalism and current methods of construction'. (The McGraw-Hill Companies, 2006, p.639)

[8] Such as Abdelmoneim Mustafa

critical regionalism" because it utilised the available indigenous materials and forms of attainable construction by Sudanese contractors.

Hence, from this literature review of the modern architecture of Khartoum after independence, the architectural features of this paradigm could be listed as follows:

- Less dominant boundary walls: unlike in the previous two paradigms, the boundary wall is no longer a wall that only encloses an area around the house but appears to be integrated with the building as one integrated form.
- The simplicity of plan forms (see Figure 2.18).
- The emergence of the collective living (apartment units) and mixed-use developments as apartment buildings with rental shops.
- Anti-ornamentations and simple facades.
- Optimum orientation and the adaptation to prevailing weather conditions: to achieve environmentally pleasant internal environments and to gain the optimum natural ventilation. Within this, the need for maximum shading appeared as one of the main goals of this paradigm.
- The layered language of the façade and deep overhangs. (see Figure 2.19).
- The interplay of solids and voids (see Figure 2.20).

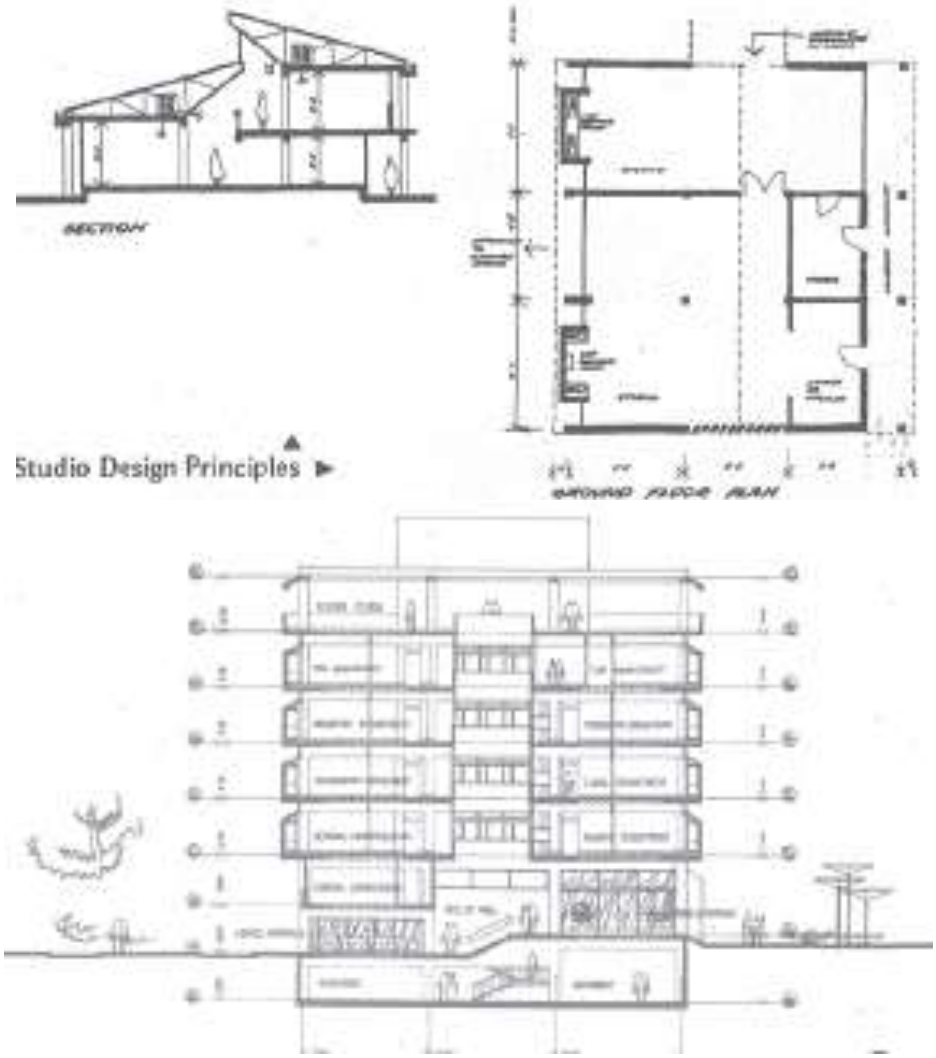


Figure 2.18 Simplicity of plans and forms of the architecture of the Modern Paradigm. Source (Osman et al., 2011)

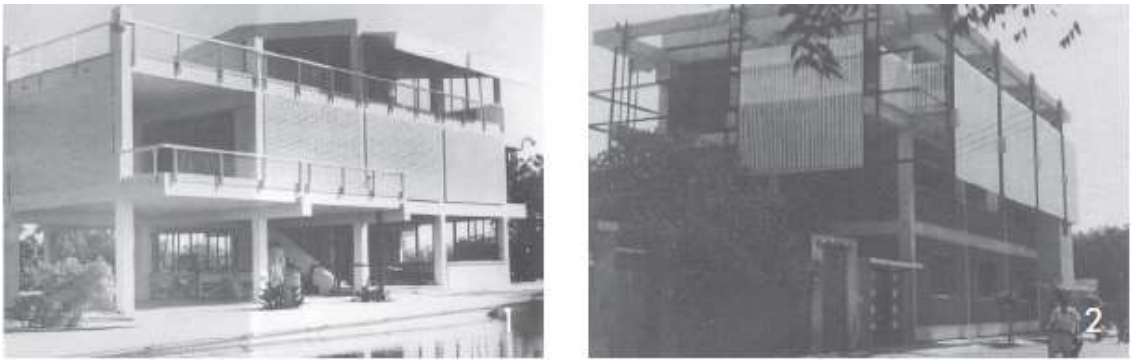


Figure 2.19 Examples of adaptation to severe weather conditions. Source (Osman et al., 2011)



Al ElKhwa mixed use building



Badea HQ Building



Talab Building



Kuwaiti Towers



Industrial Development Bank

Figure 2.20: Landmark buildings of this paradigm showing the interplay of solids and voids as a façade treatment. Source: the Author and http://www.shutteringeg.com/projects/banks-finishing-work-in-construction/37-extension-rehabilitation-of-badea-h-q-building-in-khartoum

Nevertheless, it is important to note that achieving this architecture was not an easy task. It coincided with a period when limited funds were available, limited choices of building materials and rarity of skilled labour. This has encouraged architects to follow a more pragmatic design approach which excellently marked their designs as satisfactory to the requisites of the Modern Movement (Osman et al., 2011). One way or another, it could be argued that this paradigm constituted the first independent

Sudanese regional and modern architectural language. Clearly, it attempted to create an architecture that tried to suit the place, its climate and its people with their new changing needs. Ideally, an attempt to create a new architectural identity in the urban structure of Khartoum after its independence.

However, the end of this paradigm could be attributed to the decline of (the Khartoum Town Planning Committee which was established from 1946 onwards and was responsible for guiding and controlling the growth of the three towns. By the late 1970s, its power had progressively been undermined by political decisions imposed on it from above affecting both the planning and the architecture (Ahmad, 2000). Another reason could be attributed to the absence of the architects both the expatriates -by their return to their countries- and the Sudanese architects mostly by leaving the profession in Sudan. The third reason, however, is the start of the influences of globalisation in the built environment of Khartoum resulting in the rise of the following paradigm.

2.3.4. Contemporary Paradigm (the 1980s till present)

In this research, the Contemporary Paradigm denotes the recent architecture that started to flourish in Khartoum in parallel to the rise of the impacts of globalisation and internationalisation. The realisation of this became evident with the opening up of Sudan's new-found oil resources in the 1980s, resulting in opening Khartoum to international markets, including architecture, with newly-discovered materials and construction technologies (Osman et al., 2014). Bashier (n.d., p.3-4) affirms that this could be considered as *"phase two of the process of Westernization in Khartoum"* following the Modern Paradigm, as he explains: "*as a result, architecture in the 1990s began to show the departure from past traditions and imitation of foreign fashions, and the diminishing of the conventional modern architecture in Khartoum".* Accordingly, a new architecture was borrowed from the international scene to represent this economic boom in the architecture, with a new international style that adopts unfamiliar materials to the place. This new style has been applied in the two civic centres (KCC and Al-Amarat) and an emerging third centre to the east (Al-Riyadh) (see Figure 2.24).

This unforeseen economic boom resulted in shifting the government's vision on the institutional architecture, from reflecting an Islamic authentication ideology to one

that represents Khartoum as an international city. [9] Furthermore, this has been coupled with private or foreign developers who pushed for commodifying architecture and representing their buildings as expressive images. Relph (1993, p.23) describes this act as a commodification of the overall place quality and asserts that *"this commodification of place qualities permits commercial designers to employ an eclectic selection of whatever is best from any time or place".* Similarly, residential architecture was influenced by this economic change which resulted in major social and cultural changes that resulted in rising demand for modernity in the residential architecture (Bashier, n.d.). While few endeavours to create a place-specific contemporary architecture emerged by individual architects, they did not flourish as they were rather individual efforts of few architects in private projects and were not supported by the government, which is the main client. Therefore, Khartoum was soon invaded by copied fashions that sacrifice the functional requirement, cost and environmental performance (*ibid*). On the same footsteps, architectural schools in Khartoum have shifted from the previous seed of innovative Modernism to extreme freedom of contemporary styles or even –in some schools– deconstructivist styles. Thus, the architecture that started to appear in the scene and proliferate is an immature architecture that was inadequately promoted by the building and planning laws and consequently resulted in a somewhat alien architecture in Khartoum that has limited respect to its surrounding place.

Despite this dramatic shift, Khartoum's contemporary architecture was mostly mentioned briefly in the few available studies about Khartoum's architecture which mainly focused on the Modern Paradigm (see e.g. (Osman, 2005), (Osman et al., 2011), (Bashier, 2012) and (Bashier, n.d.)) This has highlighted the need to focus on the Contemporary Paradigm and its impact on the place in this research (see Figure 2.22). Additionally, there are reasons related to the future of the city; as a developing one. Ideally, it is more in need of detailed analysis and interpretation of the shaping of its contemporary architecture, which should eventually help to improve its future architecture to be able to create more meaningful places.

Landmark buildings of this paradigm include Cornthia Hotel and Alwaha Buildings, yet based on a series of observations and photographic documentation, there appear to be some replica buildings that keep on repeating in the built environment of Khartoum with the following characteristics:

- Bulky isolating glass elevations.

[9] Is an ideology adopted by the Islamic National Front regime (1989-2019) to ensure the continuation of their power through embracing Islam as their strongest weapon (Osman, 2002).

- Various building forms (cubical, spherical ….etc.)
- Inconsistent heights.
- Exported contemporary building materials.
- 100 per cent coverage of the plot area leaving no area for pedestrians.
- A diverse range of eclectic architectural styles.

These characteristics have dramatically changed the shape of the city and consequently, the architectural identity of Khartoum started to shift and change from the strong colonial image to one that reflects the impacts of the forces of globalisation with minimum appreciation to the place (see Figure 2.21).



Figure 2.21: Landmark buildings of this paradigm (raw A) and the typical replica buildings (raws B&C). Source: The Author

Hence, from this point onwards the subsequent chapters will investigate and analyse in-depth the architecture of this paradigm including factors that are shaping it such as the incomprehensiveness of the planning and building regulations, the varieties of architects' design approaches, political influences and the lack of consideration to the important role that the architecture can play in its place, as the main problem that is overarching all these factors (see Section 4.2).

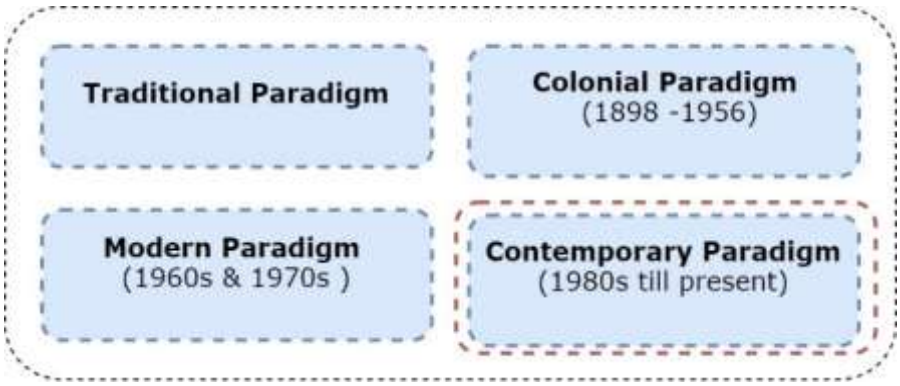


Figure 2.22: Khartoum's architecture classified into four architectural paradigms with the Contemporary Paradigm as the focus of this study. Source: the Author.

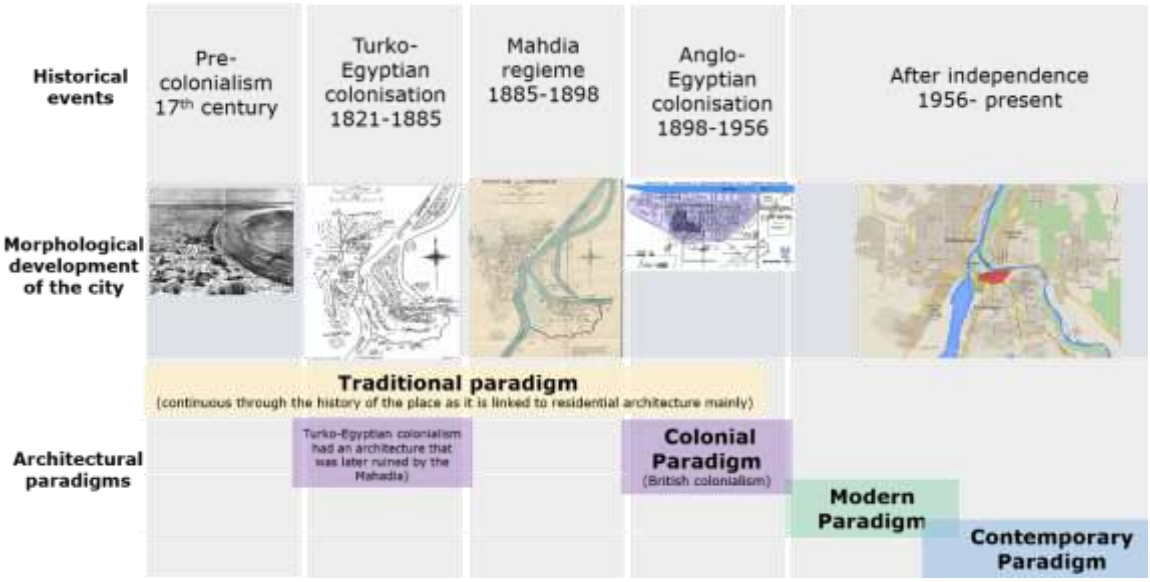


Figure 2.23: A diagram revealing the overlap between the morphological development of Khartoum and the architectural paradigms throughout history. Source: the Author

2.4. The development of a coded map for Khartoum's architectural paradigms

By observing Khartoum spatially and considering the concept of the four identified architectural paradigms, it was noted that these paradigms vary in their distribution across the city. Thus, the city can be coded into several distinct urban areas that have witnessed a mix of paradigms. This coding will give insights to the architectural development of each area throughout its history. To demonstrate this, the map of Khartoum (see Figure 2.24) has been highlighted with colours into six urban areas. The colour here indicates the existence of the paradigm in the particular urban area, but not its exact location. These areas are as follows:

1. Khartoum city centre KCC (Civic Centre 1): is predominantly occupied by institutional architecture with a juxtaposition of Colonial, Modern and Contemporary paradigms. This indicates that it has witnessed most of the architectural developments since the city's inception and from it, the city expanded to the south then to the east, and thus two sub-centres emerged that started to compete with KCC – namely AL-Amarat and Al-Riyadh respectively.
2. Al-Amarat (Civic Centre 2 – south of KCC): is predominantly occupied by juxtaposed mixed-use and residential buildings of the Modern and Contemporary Paradigms.
3. Al-Riyadh (Civic Centre 3 – east of KCC): is predominantly occupied by mixed-use and residential buildings reflecting the Contemporary Paradigm due to it being a newly developed area.
4. Khartoum North: This is mainly a residential area with some industrial activities and it varies from the Traditional Paradigm to the Contemporary Paradigm.
5. Tuti Island: This is an old residential area that demonstrates the Traditional Paradigm in its original form and its unique urban fabric.
6. Omdurman: This is also a residential area that demonstrates the traditional vernacular architecture of the old Omdurman and the subsequent appearance of the Contemporary paradigm in the recent extension of the town.

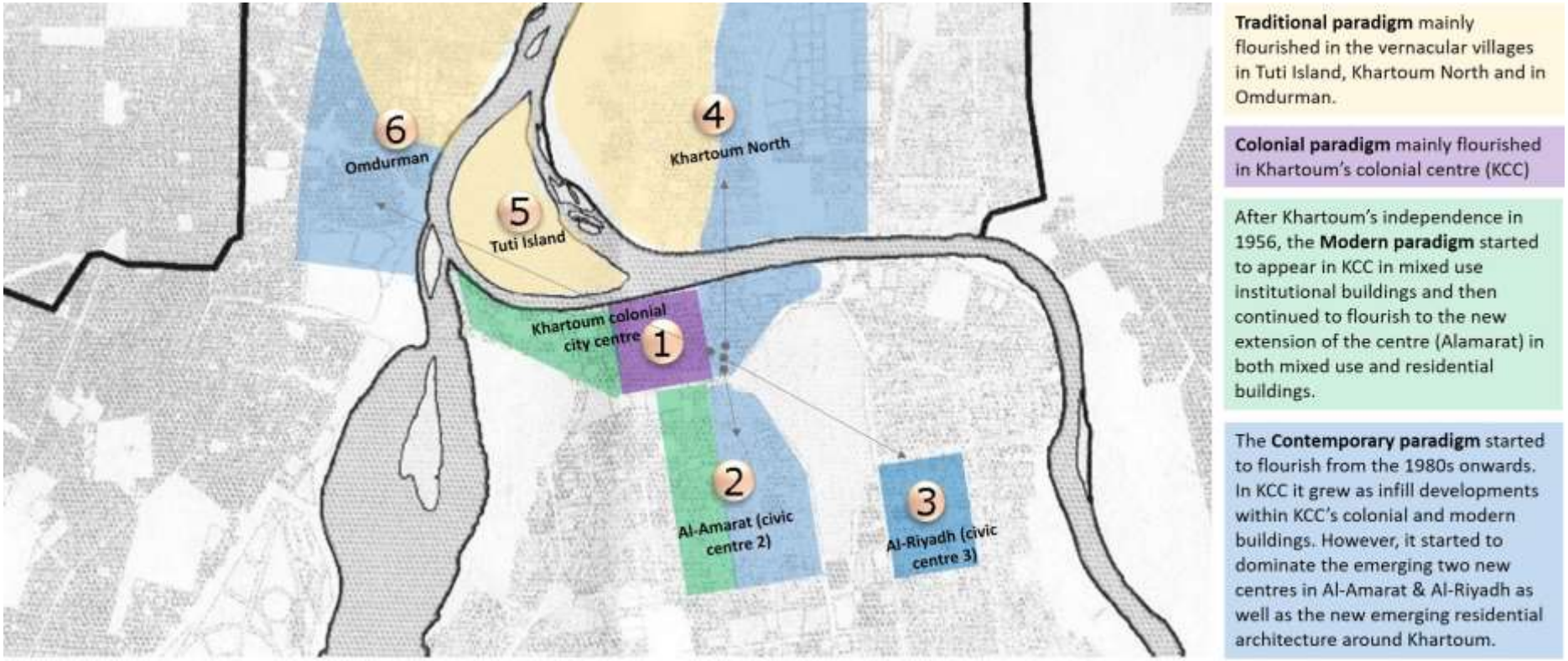


Figure 2.24: The coded map of Khartoum's architectural paradigms into six distinct urban areas. Each colour code demonstrates the existence of the particular paradigm in the numbered urban areas and not its exact location. Source: the Author based on Survey Department map, Ministry of Physical Planning, Khartoum State, 2018.

2.5. Defining the case study

Coding the architectural map of the city reveals that four domains strongly interrelate and are equally important in exploring Khartoum's architecture. These domains are:

- Khartoum's architectural paradigms.
- The different geographical urban locations as a reflection of the three towns of Khartoum as well as the phases of the city's expansion.
- The historical periods that the city had witnessed; and the paradigms which appeared during this period.
- Functional zoning within each urban area (institutional/ residential/ spiritual/ industrial/ mixed-use)

Examining all these domains is important when exploring Khartoum's architecture. However, fitting them in the scale of this research is a daunting process. Therefore, it was important to narrow down the scope of the research by selecting one of these six urban areas as the research's case study, leaving the other five for future research

Hence, by comparing the six distinct areas of Khartoum highlighted above, KCC (civic centre 1) proved to be the richest in architectural content as it has witnessed the majority of architectural developments of the city throughout its history (see Figure 2.24). It was therefore selected as a case study for this research because it demonstrates a mix of paradigms: Colonial, Modern and Contemporary Paradigms. The focus, however, will be on the Contemporary Paradigm because of three reasons: firstly, it resulted in the dramatic shift in Khartoum's architecture, secondly, it demonstrates considerable neglect to the role of architecture in creating meaningful places and thirdly, it is yet to be explored in the architectural research. Within this, it is important to highlight that by selecting KCC as the case study, and with it being the administrative centre of Khartoum that is occupied mostly by institutional buildings, the study will focus on the institutional architecture. This focus will thus fill another considerable gap within the existing architectural research of Khartoum that mostly focuses on residential architecture (see (Osman and Suliman, 1996, Ahmad, 1999, Bashier, n.d., Osman, 2003, Osman et al., 2011, Bani, 2015)).

Hence, the research is narrowed down across the four domains of exploration to be about the Contemporary Paradigm during the period of the 1980s until now, the case of KCC as a place and the institutional architecture (see Figure 2.25)

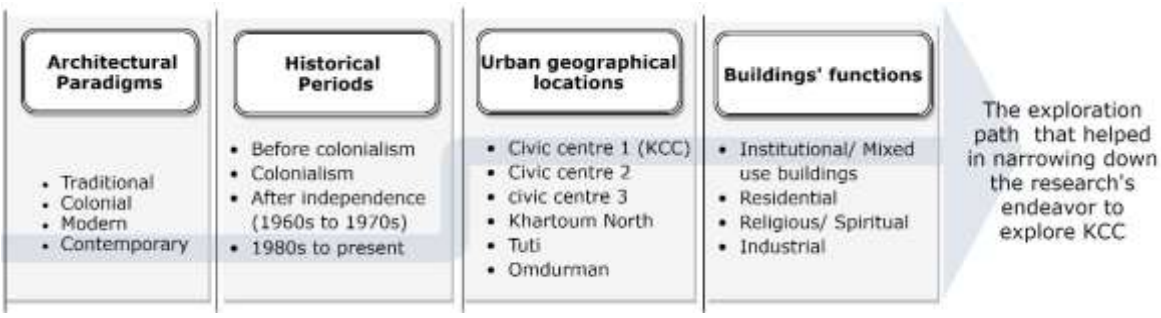


Figure 2.25: The mechanism for narrowing down the research explained by showing the subcategories of each domain, then highlighting the path chosen for this research and the possibility for other different research routes that could be carried out in the future. Source: The Author

2.5.1. Khartoum's city centre (KCC)

Khartoum's city centre represents the original colonial part of the city that was planned and built by the colonial regime as an administrative centre during the period from 1898 to 1956 (area 1 in Figure 2.24) It was selected as the centre because of its unique strategic location at the confluence of the Blue Nile and the White Nile (Babiker, 2003). It was predominantly built as downtown with mixed uses and a large variety of administrative functions together with cultural, residential, social and recreational buildings. These various functions were reflected in the architecture and the subsequent identity and essence of the place (see Figure 2.26). Ahmad (2000, p.314) reminisced the old Khartoum and narrated its charm:

> *Khartoum bloomed into an attractive little town with neatly laid out, broad, tree-lined main streets made it a delight to the Sudanese eyes. It gradually developed its institutions and was filled with employment opportunities and entertainment. Those past their middle age recall sitting at the Gordon Musical Hall watching Greek and Italian bands*…..(see
>
> Figure *2.27* and Figure 2.28).



Figure 2.26: Aieral view for the downtown area of KCC during the British colonial period. Souce: the Military civil Survey Department - Khartoum



Figure 2.27: Streets in KCC during the colonial period. Source: www.pintrest.com\Khartoumdowntown



Figure 2.28: A fascinating general view at KCC during the British colonial period showing Gama'a Avenue (left) as a lushly planted street with adjacent gardens. Source: the Military Civil Survey Department, Khartoum.

However, in the late 1970s, it witnessed the start of a change from a vibrant downtown to an administrative centre that is used at limited times during the day. Although initially, it was a slow change, it became radical under the National Islamic Front regime (Holt and Daly, 2000).[10] As a result, all community and services functions were replaced with governmental and private office buildings and company headquarters leaving entertainment facilities almost abandoned. Moreover, the existing colonial architecture –which occupies the northern strip along the Blue Nile- and the modern architecture -that occupies the central commercial downtown area- were not adequately renovated or maintained. Consequently, the Contemporary Paradigm started to appear as infill projects within these two paradigms without consideration for their characteristics such as colour, height, geometry, materials and scale (see Figure 2.29). This change has brought with it the common international contemporary architectural language that is alien to the place KCC

[10] The recently deposed regime known locally as Al-Ingaz (1989 – 2019)



Figure 2.29 KCC and examples of the juxtaposition of the Colonial Paradigm (in the yellow strip), Modern Paradigm (indicated in red letters) and the Contemporary Paradigm (indicated in blue letters) as infill projects. Source: www.googlemaps.com and the Author

Despite this uncontrolled appearance of the Contemporary paradigm in KCC, the juxtaposition and the overlapping between it and both the Colonial and Modern paradigms became the essence of the case study as it provided a rich context for exploring how the place and its architecture are linked together. Nevertheless, the background of the place as the colonial centre of Khartoum, made it more intriguing to investigate the identity that this place, now postcolonial, and its architecture reflect. This interest in the issue of identity has thus become an important part of this research supported by King's (2003, p.48) emphasis on the vital need for postcolonial studies that are related to spatial, architectural and urban issues. This is because in such studies, the role should be to focus on the contemporary architecture in postcolonial cities and how it should reflect the nation's identity in relation to the colonial past. King, furthermore, stressed that they are especially needed in both the public and the academic study in order to better understand the modern world. Despite this need, there appears to be a decline in research on such cities and a change in academic paradigm. Apparently, these cities have shifted their analyses to the national and international level to explain the role of third world countries in the world economy (*ibid*). Therefore, this is where the study of postcolonial urbanisation and architecture has a valuable contribution to make (Simon, 1989).

Hence, this research will have three main angles to study: architecture, place and identity in the postcolonial place of KCC (see Figure 2.30).

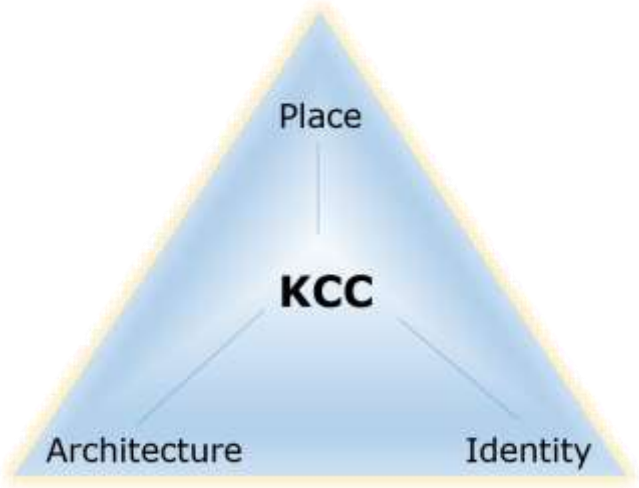


Figure 2.30: The three main angles of the research. Source: the Author

2.6. Conclusion

This chapter started by reviewing the history of Khartoum as a city and its morphological development throughout the different historical events that the city has witnessed. Moreover, it reviews the architecture that has developed in parallel to them and classifies it into four distinct architectural paradigms: the Traditional, the Colonial, the Modern and the Contemporary Paradigms. These paradigms denote the dominant architectural styles- that happened during these periods in Khartoum's history and consequently shaped the city's postcolonial identity.

Moreover, the chapter argues that an open exploration for a context like Khartoum is not possible and hence it identified a mechanism to narrow down the exploration of Khartoum's architecture across four domains: the architectural paradigms, the geographical location, the historical periods and buildings' functions (see Figure 2.25). Consequently, the chosen exploration path in this research will choose the Contemporary Paradigm that appeared in the 1980s until the present in KCC as the research's case study and which comprises mainly institutional architecture. The chapter concludes by highlighting the importance of investigating the identity that is being shaped by this paradigm in KCC as a postcolonial place today thereby highlighting architecture, place and identity as the research's three main angles to be studied and explored in the subsequent data collection.

Afterwards, the next chapter will explain the research design, the adopted research methodology that suites such exploration and the chosen data collection techniques.

Chapter 3: Research Design and methods

3.1. Introduction

Creswell (2014, p.3) defines research approach as *"plans and the procedures for research that span the steps from broad assumptions to detailed methods of data collection, analysis and interpretation".* Developing an appropriate research method involves several decisions that need to be justified. Informing these decisions would be the philosophical assumptions, the research design, and the methods of data collection and analysis (*ibid*).

Accordingly, this chapter is divided into three main sections: the first aims to rationalise the philosophical assumptions that derived the methods employed in the research to address the research questions and justifies the research design. Thereafter, the second section provides details on the data collection approaches adopted, which were conducted in two phases: with intensive interviewing as phase one and focus groups as phase two. The section reviews how they were designed, shows the techniques adopted to organise and analyse the resulted data and the limitations encountered while conducting both the interviews and the focus groups. Finally, the last section reviews the criteria that were adopted to assess the quality of the data of this research.

3.2. The rationale behind the derived methods

As the aim of the research is to explore and interpret the architecture of Khartoum, a qualitative approach was adopted as the broad approach for the research. Denzin and Lincoln (2005, p.3) define qualitative research as:

Qualitative research is multi - method in focus, involving an interpretive, naturalistic approach to its subject matter. This means that qualitative researchers study things in their natural settings, attempting to make sense of, or interpret phenomena in terms of the meanings people bring to them. Qualitative research involves the studied use and collection of a variety of empirical materials.

Merriam and Grenier (2019, p.3) emphasised that *"the key to understand qualitative research lies with the idea that meaning is socially constructed by individuals in interaction with their world".* Hence, it aims to explore and understand the meaning that individuals or groups ascribe to a social or human problem (Creswell, 2014). Moreover, another feature of qualitative research is its underlying emphasis on an inductive process which Creswell (2007, p.43) describes*: "we ask open-ended research questions, wanting to listen to the participants we are studying and shaping the questions after we "explore"……Our questions change during the process of research to reflect an increased understanding of the problem".* Therefore, Groat and Wang (2013, p.222) emphasise that the strategy of qualitative research is one of *"first-hand encounters"* with a defined context. Therefore, qualitative research is exploratory, fluid and flexible, data-driven and context-sensitive (Mason, 2002). In summary, all these qualities of qualitative research suited the exploratory investigation in this research on the case of Khartoum's architecture.

Subsequently, the research's interest in exploring Khartoum's contemporary architecture and documenting it adopted *instantly* the case study as the initial research method. However, with a lack of comprehensive documentation on Khartoum's architecture, investigating the case study undertook an exploratory nature. Nonetheless, with the absence of an appropriate narrowing down mechanism that would guide the exploration of the case study, principles of grounded theory approach were introduced to advance the theoretical exploration and to comply with the flexibility needed in this exploratory research.

Accordingly, the adopted research method could be named as a *case study within the principles of grounded theory*. In this situation, Yin (2009, p.174) explains that case study is part of a larger mixed-method study and clarifies further that *"the larger*

study will contain your completed case study but also should report separately the findings about the data from other methods". Consequently, the final analysis merges findings from all the different methods (*ibid*). Hence the rationale behind choosing both the case study and the principles of grounded theory will be demonstrated in the following sections.

3.2.1. Case study

With the broad aim of this research about studying the contemporary architecture of Khartoum. An initial main research question was asked:

- ***How the contemporary architecture of Khartoum is being shaped?***

This is a question of a *"how"* nature which aims to explain a complex phenomenon within its context. Therefore, the research began from the case study, which Yin (2009) has emphasised that the more the research question seeks to explain circumstances of "how" and "why" the more the qualitative case study will be relevant. He also pointed out that the qualitative case study allows researchers to retain the holistic and the meaningful characteristics of the case. Thus, Yin (2009, p.18) defined case study as: *"an empirical inquiry that: investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly defined".*

Moreover, Merriam (1997, p.27) adopted a more holistic definition of the qualitative case study.as *"an intensive holistic description and analysis of a single instance phenomenon or social unit*". One of the main features of case study research is that it relies on multiple sources of evidence, with data needing to converge in a triangulating fashion (Yin, 2009). Moreover, it depends on, rather than rejects, the researcher's interpretation of the collected data (Groat and Wang, 2013).

In this regards, Yin (2009) distinguishes three types of case study research: exploratory, explanatory, and descriptive. Exploratory case study attempts to define research queries of a succeeding study or to determine the feasibility of the research procedure. The data collection often occurs prior to the definition of a research question. As for the explanatory case study, the design of the research seeks to establish cause-and-effect relationships to understand how events occurred and which ones may impact particular outcomes. Finally, the descriptive case study aims to present a complete description of a phenomenon within its context *(ibid).* Thus, in order to answer the *"how"* question on the shaping of the architecture of Khartoum

as the case study, the research started as an *explanatory* case study. However, with the existing knowledge on the architecture of Khartoum being poor, and the available literature is providing no conceptual framework or hypothesis of note (Yin, 2009), this research as an empirical study has shifted to the characteristics of an *"exploratory"* study (*ibid*, p.37). Within this specific step of the research, the principles of grounded theory were introduced.

This change from explanatory to exploratory and the adoption of grounded theory principles was moreover, supported by the finding that the issue of architectural identity is ambiguous and complex and seems distant in a globalised world. Thus, the need to advance the exploration of places more creatively came to the fore (see Section 4.6). Accordingly, a tool that could facilitate and advance this exploration was required to guide the later data collection and analysis. Hence, introducing the principles of grounded theory helped in developing this tool through a theoretical intervention, empirically applying it in the context of Khartoum and analysing its findings to explore places and their architecture.

Stake (1995) classifies case studies into three categories: intrinsic, instrumental and collective. As for the intrinsic case study, the case is usually pre-selected and is thus useful when this case is unique and there is no intention to create a theory or to generalise findings (Algozzine and Hancock, 2017). As for the Instrumental case study research, it aims to better understand a theoretical question or problem. Algozzine and Hancock (2017, p.38) argue that when instrumental case study approach is used, an *"enhanced understanding of the particular issue being examined is of secondary importance to a greater insight into the theoretical explanation that underpins the issue".* Finally, Collective case study is designed with more concern for representation (Stake, 1995). It aims to address an issue while adding to the literature base that will benefit in conceptualising a theory about a larger collection of cases (Algozzine and Hancock, 2017). Thus, at *the point of shifting* from an explanatory to exploratory case study, the principles of case study research and grounded theory were *merged* and the case study was shifted from being intrinsic (about the architecture of Khartoum) to being *instrumental* (as the medium to explore the theoretical tool).

3.2.2. Adopting Grounded theory principles

It could be argued that the principles of grounded theory were introduced in this research because it provides the research with the flexibility and fluidity needed for

exploration. According to Charmaz (2014, p.3), a grounded theory method *"will bring surprises, spark ideas, and hone your analytic skills"*. It helps *"direct, manage, and streamline your data collection and, moreover, construct an original analysis of your data" (ibid).* Birks and Mills (2011, P.30) agree with this and emphasise that *"the application of grounded theory principles and methods is a flexible, fluid, evolving process".* Thus, this dynamic nature *"presents the researcher with enormous advantages over more rigid approaches to investigating phenomenon"* (*ibid*). Hence, it requires to be open-minded towards what it might bring in order to develop theoretical analyses from the beginning (Charmaz, 2014).

Glaser and Strauss (1968) were the first to discover grounded theory as a research method as they advocated developing theories from research grounded in qualitative data rather than deducing testable hypotheses from existing theories (Charmaz, 2014). They aimed to move qualitative enquiry beyond descriptive studies into the realm of theoretical explanatory studies to provide a theoretical, abstract and conceptual understanding of the studied phenomenon (*ibid*, p.8). Hence, according to this unique nature of grounded theory methods, Birks and Mills (2011) identified instances where it is most appropriate to use it, when *"little is known about the area of study, the generation of theory with explanatory power is a desired outcome"* and *"an inherent process is embedded in the research situation that is likely to be explicated by grounded theory methods".* Therefore, at the point of the shift from an intrinsic case study to an instrumental one, those instances became applicable to the research and hence grounded theory was introduced. Similarly, Charmaz (2014, p.15) highlighted, *in more details*, nine principles that make a study grounded theory analysis (see Figure 3.1), as follows:

1. Conduct data collection and analysis simultaneously in an iterative process.
2. Analyse actions and processes rather than themes and structure.
3. Use comparative methods.
4. Draw on data (e.g. narratives and descriptions) in service of developing new conceptual categories.
5. Develop inductive abstract analytic categories through systematic data analysis.
6. Emphasize theory construction rather than description or application of current theories.
7. Engage in theoretical sampling.
8. Search for variation in the studied categories or process.
9. Pursue developing a category rather than covering a specific empirical topic.

Charmaz (2014) emphasises that applying actions/principles from 1-5 could be as evidence of a grounded theory study. While this research adopted until step 6, it could be argued that due to the time and scale limitations of this research, stage six could have been taken further to a more theoretical direction that could have added more refinement to the emerging theory of the interpretive tool. Hence why it will be labelled as principles of grounded theory.

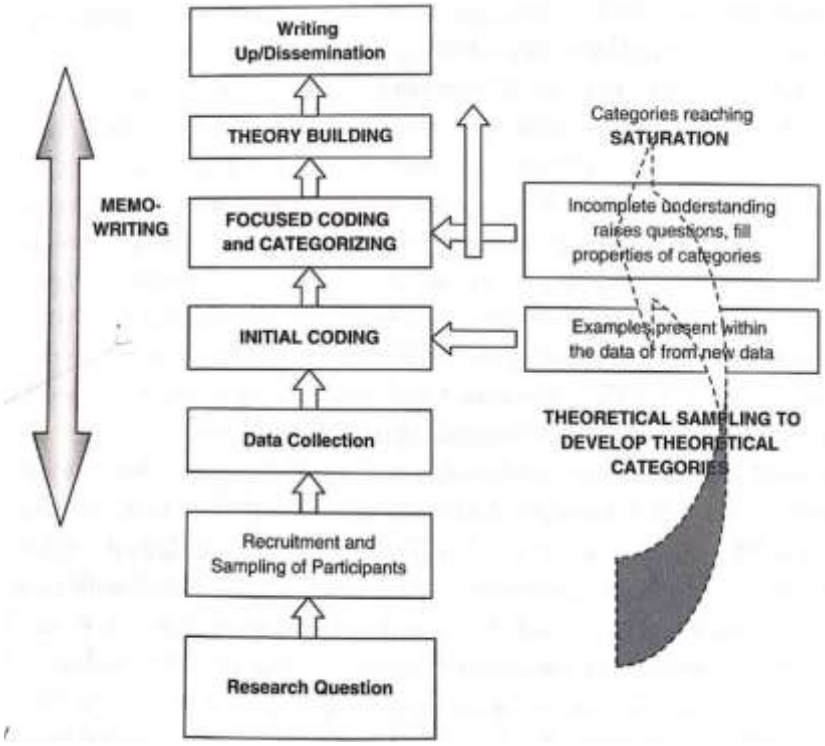


Figure 3.1: Grounded theory processes. Adopted from (Charmaz, 2014, p.18)

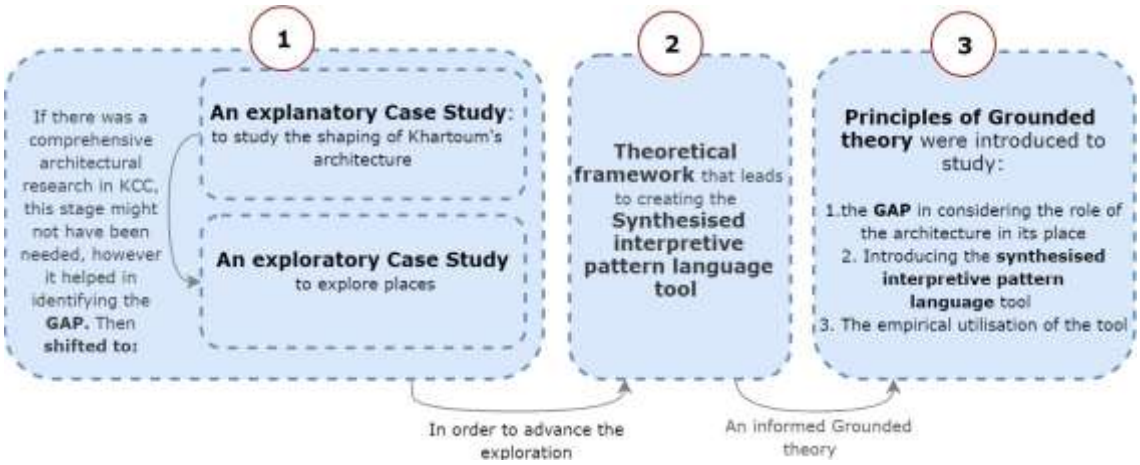


Figure 3.2: Methodology adopted in this research is a combination of case study and principles of grounded theory that are informed by a theoretical synthesis. Source: the Author

As a method, grounded theory depends, in most of the cases, on interviews as a main data collection technique that acts as a major tool for paving the way to form a theory (*ibid*). Thus, interviews were adopted as the first technique for collecting the data as explained in the following section.

3.3. Data Collection Techniques

3.3.1. Phase one: Intensive interviewing

According to Charmaz (2014, p.56) qualitative interviewing typically means *"a gently- guided one-sided conversation that explores research participants' perspective on their personal experience with the research topic".* Evidently, in any qualitative research, there are three types of interviews: informational, intensive and investigative (*ibid*). Informational interviewing aims at gathering accurate facts and description of events with clarification of some details of places or people involved. Similarly, investigative interviewing aims for accurate details for accurate information but with the aim of uncovering hidden actions or exposing policies and practices. In grounded theory research both approaches might be used as the research progresses but in an intensive and very detailed way; i.e. intensive interviewing.

As the research interest started with exploring the morphological development of the KCC and how that impacted the shaping of the contemporary architecture of KCC and consequently the identity, and with a considerable lack of documentation about this, informative data from interviewing Khartoum's experts (architects, planners and educators), was considered as an essential start to the data collection. As such, the facts, backgrounds and insights from those interviewees were understood by examining their perception about Khartoum's contemporary architecture and interrogating their approaches to planning (planners), teaching architecture (educators), or designing the architecture (architects). This has been conducted in intensive detail.

Evidently one of the main criticism of interviewing is its subjectivity (Charmaz, 2014). Yanos and Hopper (2008) emphasise this and argue that researchers can be drawn into inauthentic collusion with the participants resulting in creating an inauthentic and useless interview. However, Yanos and Hopper (2008) propose that in grounded theory such interviews should not necessarily be treated as useless as they can offer important leads about silences, forbidden topics and vulnerabilities. Thus, this was

the case of the interviews of this research which the moments of silences or stories about personal experiences have indicated a forgotten topic. While the interviews were focusing on the shaping of the architecture of Khartoum with focus on the architectural identity as an inevitable important issue in a postcolonial context, the theoretical analysis of the interviews highlighted the *role of the architecture in concretising as well as enhancing its place* as a forgotten topic within the general architectural practice and education in Khartoum (see Section 4.2.9).

Design of the interview questions

The interview questions were designed into 5 main themes (see Appendix B.3). Due to the explanatory/exploratory nature of the case study, the questions were designed as open-ended questions and non-judgemental that could encourage unanticipated statements and stories to emerge (Charmaz, 2014). Therefore, the design of the questions played an important role in extracting the interviewees' ideas and perceptions. Moreover, in some instances, the questions were slightly changed or one or two questions were added/deleted to tailor the exploration of the research to the interviewee being interviewed. However, they were mainly designed for practising architects, in a logical sequence starting from:

I. The background of the office of the certain architect as open-ended questions and was mainly aimed to open up the conversation and getting to know the architect more.
II. The design philosophy of the architect, their consideration of the quantitative versus qualitative thinking in the design and general influences of the design. This highlighted their different design theories and enabled insights into how they associate this to Khartoum's architecture
III. Architects' designs that they think added a distinctive value to its place and how they interpret that.
IV. A closing part that contains questions about a comparison between the current contemporary architectural identity and that of the 70s.
V. An example of tailoring the questions is when the interviewee was an educator, questions will be added about how the architectural education links students with practice and the real world? And how do they train students to think inclusively about the role of their design in its surrounding place? This would also apply to other experts such as planners and historians, as more questions would be added to get insights from their area of expertise.

Selection of the participants

The selection process of participants was concerned with exploring and interpreting Khartoum's contemporary architecture. The sample is thus, *a non-probabilistic, purposive sample* of experts in this field which Bryman (2016, p.408) explains: *"in purposive sample the researcher samples with his or her research goals in mind".* It is a sample that is generally used when the research is less concerned about generalising to the larger population and more concerned about discovering useful patterns of information about particular groups (Kitchenham and Pfleeger, 2002). Therefore, the sample members differ from each other in terms of key characteristics that are relevant to the research questions (Bryman, 2016) but they should all lead to the research goals and interests. Therefore, they should not be selected on a random basis, but strategically (*ibid*).

The process of choosing these experts thus underwent a strategic screening stage commencing with nominations from eminent academicians who identified key architects having prominent roles in the contemporary architectural scene in Khartoum, as well as other relevant experts including planners, historians and academicians. Interviews were conducted with the most-repeated names across all the nominations. After these initial interviews, the researcher asked the respondents to name other experts and architects with prominent roles in the contemporary architecture of Khartoum. This was repeated in every interview to help to generate the list of the majority of the architects that have key roles in Khartoum. Hence the sampling approach adopted is a *"sequential sampling"* that undertakes an evolving process that begins from an initial sample and gradually adds on to the sample as to how it suits the research questions (Bryman, 2016, p.410). Within this, the appropriate ethical considerations that were involved in planning and running the interviews were attended to and the relevant documents were presented to the participants (see Appendices AB).

This screening stage has therefore resulted in classifying architects in Khartoum to individual architects in private projects and pro-government architects as a fact that was mentioned repeatedly by the architects since the initial interviews. Therefore, the selection criteria relied on selecting architects from both categories. Moreover, the criteria involved experts from different generations to ensure the viewpoints of those different generations. While interviews with planners were conducted to gain insights on the planning of Khartoum and the implication of that on the architecture, those with the academicians gave insights on the role of the architectural education and its impact on the shaping of the architecture of Khartoum. This level of heterogeneity among participants, the variation of experiences and circumstances

and the later required abstract conceptual analysis of the data has resulted in expanding the number of interviews (Charmaz, 2014) to reach a total of 24 interviews (see Table 3.1).

This number was not decided from the beginning, rather, it depended on the screening process as well as the continuous evolution of the interview questions that aims to cover the different areas of exploration according to the interviewees' expertise. Nonetheless, the broad and general initial research question of (*How Khartoum's contemporary architecture is being shaped?*) required this large sample as Bryman (2012, p.418) explains it *"to address the theoretical and empirical reach of the questions"*. Moreover, the number indicates a data saturation point (Bryman, 2012) at which no new information was gained from the interviewees at this stage of the research.

Table 3.1: A table expressing the number of interviewed participants and the overlap between the different categories

	Experts: Planners and academicians	**The older generation of architects**	**The younger generation of architects**	**Architects of the government**
	E	A	C	B
	G	B	D	C
	H	E	G	F
	I	F	H	M
	J	I	M	N
	K	J	N	
	P	K	O	
	V	L	P	
	W	R	Q	
		T	S	
		V	U	
		W	X	
Total of participants	9	12	12	5

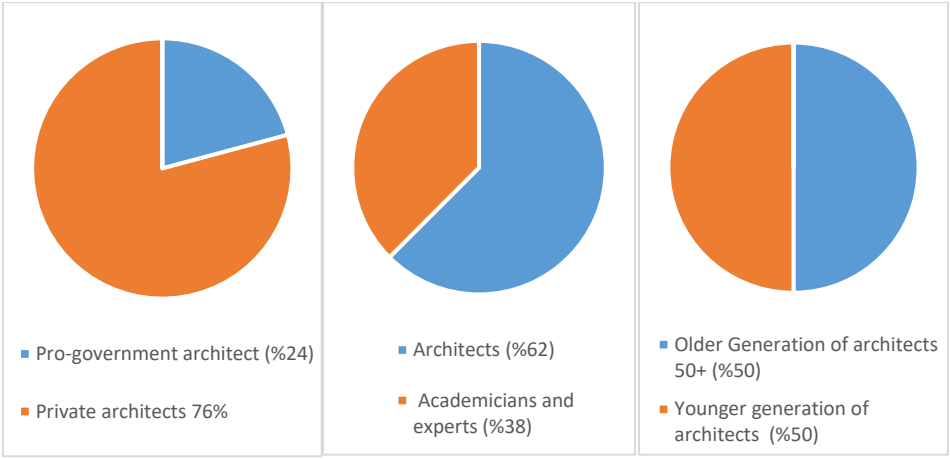


Figure 3.3: Pie charts showing the data in Table 3.1 in percentages

Analysis of the interviews:

A quick review of the data from the interviews reveals that the results can be themed into four general perspectives through which participants approached to answer the questions. These approaches are:

- The political ideologies of the government and its effect on architecture;
- The economic situation in Khartoum and its effect on architecture;
- The ways architects perceive Khartoum's architecture in relation to its surrounding place and how they design accordingly; and
- Architecture as a professional practice.

Inevitably, these different approaches had their impact on the analysis of the interviews and have consequently guided the coding process which is the first step of analysing the interviews. According to Charmaz (2014, p.4), coding is the first analytic stage of grounded theory research which could be defined as the process of *"naming segments of data with a label that simultaneously categorises, summarises and accounts for each piece of data"*. The advantage of the coding is that it distils data, sorts them and gives them an analytic handle to make comparisons with other segments of the data (*ibid*). NVIVO Software was used for transcribing and coding both the interviews and the latter focus groups (see Figure 3.4).

The coding process started by assigning codes and labels to the data in order to condense the bulk of the data into analysable units by creating categories with and from the data (Coffey and Atkinson, 1996). The first step of analysis thus lies in establishing links between those categories as well as finding relative concepts (*ibid*).

Within this, Miles and Huberman (1994, P.56) define codes as: *"tags or labels for assigning units of meaning to the descriptive or inferential information compiled during a study. Codes usually are attached to 'chunks' of varying size –words, phrases, sentences or whole paragraphs, connected or unconnected to a specific setting. They can take the form of a straightforward category label or a more complex one (e.g. metaphor)".* Hence, Coffey and Atkinson (1996) steps of coding were adopted in the coding of the data in this research as follows:

- Breaking up and segmenting the data into simpler, general categories (see Figure 3.4).
- Expanding, transforming and reconceptualising data, opening up more diverse analytical possibilities.
- Going beyond the data, thinking creatively with the data, asking the data questions and generating theories and frameworks.

The initial stage of coding was conducted on the data from the first part of the interviews as a pilot coding. By iteratively highlighting the main codes, a total of 9 variables were identified that (potentially) play important roles in affecting and influencing the contemporary design approaches of architects in Khartoum. Thereafter, these variables were rearranged and grouped into three categories in relation to the shaping of Khartoum's contemporary architecture to internal-related factors, external-related factors and fundamental factors (see Appendix B.4). However, after this initial open coding and analysis, the theoretical direction of the study was not clearly defined as the findings of this pilot stage were more descriptive of the current architectural situation in KCC and applying any theoretical analysis seemed rather complicated. Thus a focused coding was conducted which relied on putting data back in new ways and making connections between categories. (Strauss and Corbin, 1990).

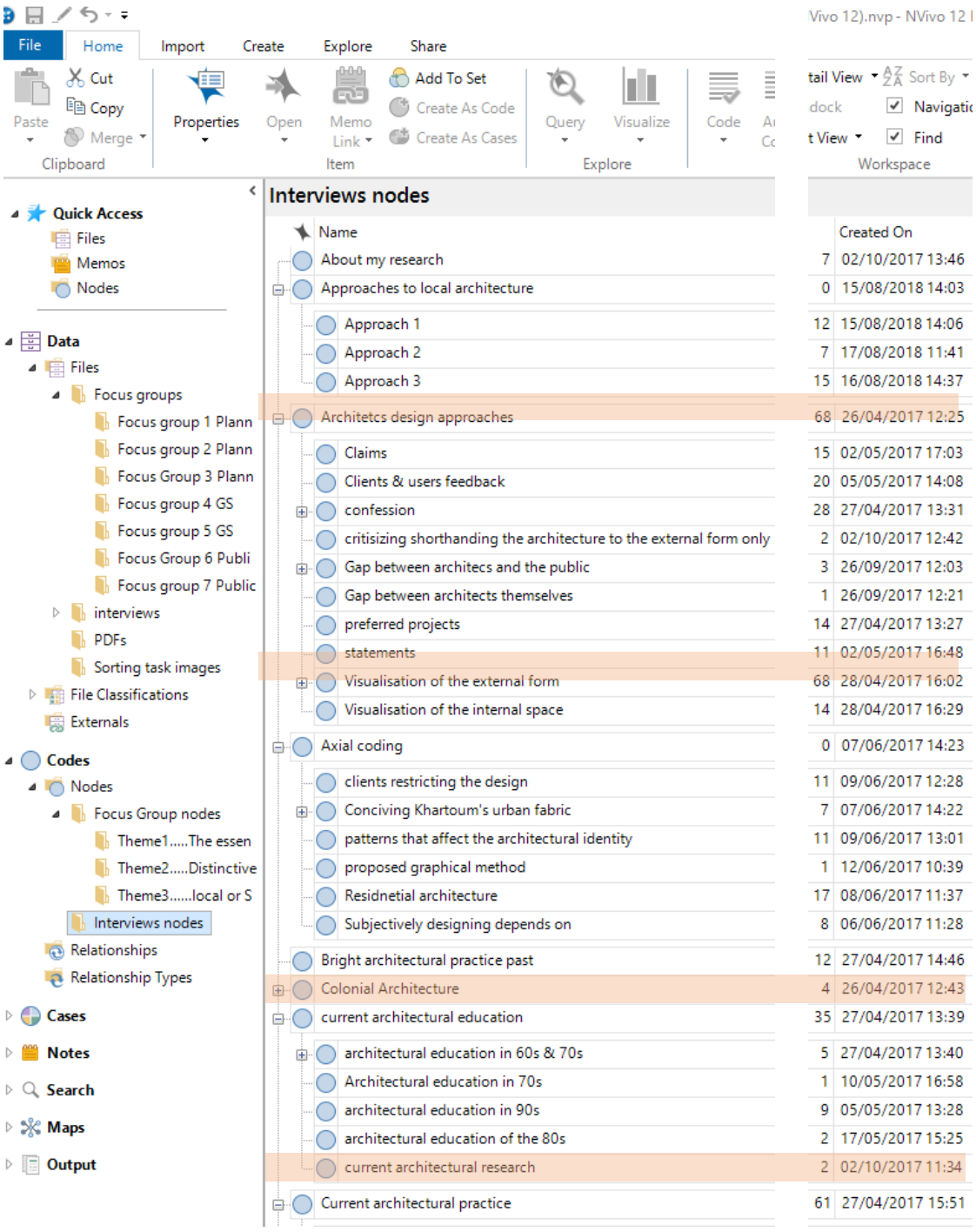


Figure 3.4: A snapshot of the NVIVO Software interface showing the coding of the data from the interviews, with the highlighted codes as the core categories depending on the number of codes within them. Source: the Author

Accordingly, through the continuous study of the data, comparing them and writing memos, the most important and significant codes that best fit the data were identified. These codes are the research's core codes and they act as tentative analytic categories (see Figure 3.4 and Figure 3.5). In this regards, Charmaz (2014)

asserts that this process helps in paving the way, for the theoretical direction of the research.

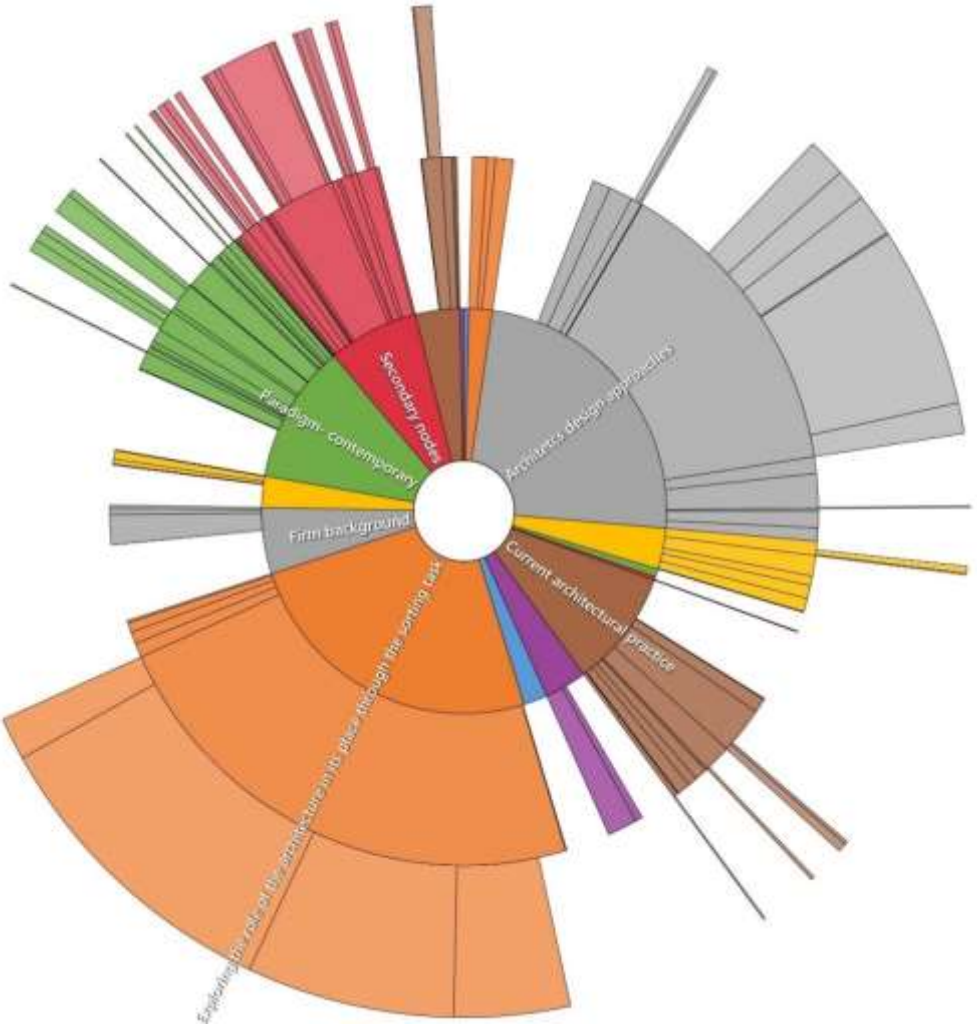


Figure 3.5: Hierarchy chart generated from NVIVO Software showing the dominant provisional core codes from data of the interviews.

Nevertheless, the application of this step on the data from the interviews highlighted that some further questions and gaps need to be explained through undertaking more focused interviews or other data collection techniques to help in defining the theoretical plausibility of the research categories which will eventually lead to the theoretical direction (Charmaz, 2014). Thus, the initial core codes are not only grounded in the data but also provisional (Charmaz, 2014) They are provisional because they open the door for other analytic possibilities that should follow up on these codes to fill the identified gap within the research (*ibid*). Hence, the provisional core codes in this research highlighted the main gap within the architecture of Khartoum which is: the *lack of considering the role of the architecture in concretising*

and improving its surrounding place (see 4.2.9). Charmaz (2014) asserts that the identification of this gap is a key step in the analytic process which will pave the way to later develop a central theory of the research (*ibid*). Hence, focus groups were introduced in the later stage of the research to help in filling this gap.

Limitations encountered during the interviews:

- It is important to highlight that it was challenging to reach architects of the government who are mainly designing governmental projects. It was not easy to get access to those unless through a gatekeeper. Yet, in two or three instances when the researcher got the access to contact them, the interviews were not conducted as they eventually apologised. However, it was eventually possible to conduct five interviews with key personnel in five offices that are believed to have built a large number of projects of the government and key architectural developments in Khartoum in the last two decades. Hence, it is important to be reflective here and mention that this difficulty in getting access to a fair representation of the sample of architects resulted in that the data of the interviewed architects, *majorly,* represents the perspective of individual architects from private offices as opposed to those from government departments.
- The fact that the architectural practice and education community in Khartoum is small, despite expanding in recent years, has resulted in the consequence that some of the interviewees are known to the researcher for examples: through a colleague or a practice that the researcher had worked in before, which in this case the interviewer was not completely anonymous to those being interviewed, as Platt (1981, p.77) puts it that the interviewer *"has a history and perceived characteristics, some of which may be directly relevant to the research topic".* Therefore, a degree of concern regarding the validity of answers from those specific interviews arose. This is because some interviewees were motivated to try to give a picture of their practice as tidier and conforming as possible (*ibid*, p.81). Consequently, this has implied the necessity to triangulate the findings from the interviews with another data collection technique.
- With the University of Khartoum's Faculty of Architecture acting as the dominant architectural school in Khartoum since its establishment in the late 1950s, the majority of the different generations of the current practising architects are mainly its graduates. Therefore, it could be argued that the data presented is unintentionally representing University of Khartoum's graduates. who share the same education background knowledge and to some extent, they are members of the same architectural community (Platt, 1981). This has resulted in

respondents repeating the same information regarding issues such as: reminiscing the architecture of the Modern Paradigm, having a common negative perception about the current architectural identity of Khartoum and having the pride that they have graduated from the best architectural school in Sudan.

- Discussing the issue of identity at the beginning of the interview in the form of open-ended question proved to be vague and did not give constructive answers on the architectural shaping of the architecture of Khartoum. This was captured whenever participants would hear the word identity and they would answer in a quick subjective way. Therefore, this highlighted the need to find a more credible method to explore the issue of identity.

In summary, the identification of these limitations and the process of focused coding, have paved the way for the process of '*theoretical sampling'* to gather more data. Charmaz (2014, p.192) defines it as the process of *"seeking and collecting pertinent data to elaborate and refine categories in your emerging theory".* It is considered as a pivotal strategy in grounded theory as it helps to delineate and develop the emerging core categories. This could be achieved through either seeking statements, events, cases that might illuminate the emerging categories, interviewing new participants, observe a new setting or repeat the interview with some participants or interview some participants further questions.

Thus, as a first step to engage in the theoretical sampling, a tool to advance the exploration of places in a more systematic objective way was highlighted as a potential needed addition to aid the exploration of the three angles of the research: the place KCC, its architecture and its identity. Within this, came the second main utilisation of the literature in the research –after the first utilisation of the literature in the context of Khartoum- as the second phase of data collection to create this tool. Hence, Norberg-Schulz's (1980) theory of *Genius loci* and his experiential interpretation will be synthesised with Alexander et al. (1977) theory of Pattern Language to form an interpretive pattern language tool. The aim of this is to inform and guide the exploration in a more theoretical way. However, as the discussion around introducing the literature in grounded theory research is debatable, it will be discussed in the following section in more details.

3.3.2. Phase two: A theoretical intervention: a synthesised interpretive pattern language tool

Introducing the literature review in grounded theory research is a disputed issue. While the classical grounded theorists (Glaser and Strauss, 1968) and (Glaser, 1978) advocate that introducing it early in the research will eventually influence the analysis, the later theorists increasingly recognise that a lack of familiarity with the relevant literature is unlikely and untenable e.g. (Clarke, 2005) and (Dunne, 2011). On one hand, the former group calls for delaying the literature after completing the analysis, to avoid seeing the data through the lens of the existing theories. On the other hand, the latter group of theorists reject this and argue that Glaser and Strauss naively viewed the researcher as tabula-rasa (Layder, 1998). and (Thornberg, 2012). Layder (1998) furthermore asserts that grounded theory, instead of presenting a rigidly fixed approach of generating new theories from data, it must acquire a dual role that allows for the influence of preconceived or extent theory. This is because researchers typically hold perspectives and possess knowledge in their fields, which is very difficult to be ignored (Charmaz, 2014). Therefore, the utilisation of the existing theories should consider the extent theories as problematic and not as given textbooks (Henwood and Pidgeon, 2003). Charmaz (2014) agrees with this and stresses that in grounded theory, the theoretical framework should be used to provide an anchor for the reader and to demonstrate how the grounded theory refines, extends and challenges extent concepts. Therefore, it takes a different twist as it emerges from the analysis and the argument about it.

Accordingly, this research adopts the second group's point of view about the importance of introducing the literature review. This decision was taken because a need to provide a theoretical anchor to the research has emerged after analysing phase one of the data from the interviews. Hence, the theoretical literature review was introduced in chapter 5 and has been analysed and criticised in relation to the empirical data. Consequently, this has guided to further exploration as the second phase of data collection –through focus groups- which is reviewed and analysed in chapters 6 and 7. Finally, the thesis concludes with another round of theoretical literature review through which the aim is to situate its theoretical concepts with wider theories.

Hence, this thesis adopts grounded theory principles that are based on sequential theoretical exploration as well as grounded in the empirical data which both have been crafted for this exploratory study about the architecture of Khartoum. This approach is thus similar to Thornberg's (2012, p.249) *'Informed Grounded Theory'*

in which he calls for using the extant literature to inform the grounded theory, he explains:

> *What I call informed grounded theory refers to a product of a research process as well as to the research process itself, in which both the process and the product have been thoroughly grounded in data by grounded theory methods while being informed by existing research literature and theoretical frameworks.*

Hence for Thornberg, grounded theorists vision the advantage of using the pre-existing theories in a sensitive, creative and flexible way instead of seeing them as obstacles or threads as to how the classical grounded theory suggests (*ibid*). However, he suggests data sensitizing principles in using literature such as theoretical sampling, staying grounded and constant reflexivity (*ibid*).

In this regard, it is possible to list in details the literature that is introduced in this research which was crafted according to the findings from the field and had resulted in *informed principles of grounded theory* as follows:

1. Literature about the architecture of Khartoum as a postcolonial city and the existing architectural research on the place (KCC being the case study) (Chapter 2)
2. With findings from the first round of data collection emphasising that the issue of identity generally is subjective and in Khartoum specifically it will remain disputed, literature about the issue of architectural identity was introduced to triangulate it with the findings of the shaping of the architectural identity in Khartoum.
3. The necessity to provide a theoretical anchor to the research has emerged and thus, the theoretical synthesis of both Norberg-Schulz's (1980) theory of *Genius loci* and his experiential interpretation with Alexander et al. (1977) theory of Pattern Language to form the interpretive pattern language tool was introduced. Moreover, literature included reviews and debates about the Pattern Language theory and the position of this research towards the theory and how it contributes to it. (Chapter 5).
4. Literature on the insider/outsider dualism and how their experiences and interpretations impact the research and the analysis of its data. (chapter 6).
5. Literature to scrutinise and support the findings from the analysis of the data that resulted from the empirical application of the interpretive pattern language tool on the place KCC and its architecture.

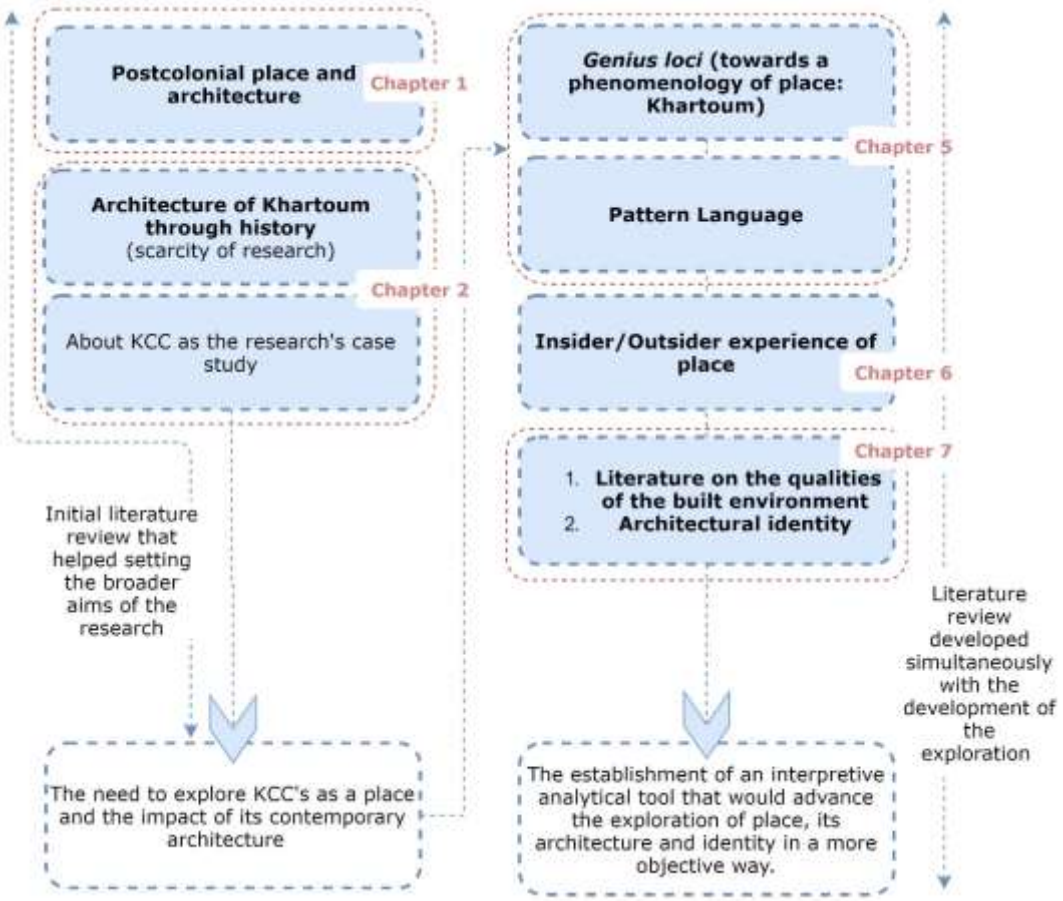


Figure 3.6: Layers of the research design highlighting an overview of two literature review frames highlighting the main aims of the research and the design of the chapters within. Source: the Author

3.3.3. Phase three: Focus Groups

With the data collected from the interviews with architects of key roles in Khartoum's contemporary urban environment, as the first round of the data collection, this round of the data collection entailed conducting focus groups with new categories of participants who will give a new perspective of the architecture of Khartoum in the case of KCC. The main aim was to validate and triangulate the data across all participants in both interviews and focus groups. Thus, the results of the interviews were analysed and used as part of the focus groups questions for further exploration.

Focus group is *"a research technique that collects data through group interaction on a topic determined by the researcher"* (Morgan et al., 1997, p.6). It is considered to be one of the most important qualitative interview methods as they enable the researcher to recognise and participate with the evolving nature of the human understandings (King and Horrocks, 2010). Focus groups as a method is a rich data collection technique because it identifies participants' interactions, highlights their

attitudes, language and framework of understanding. Moreover, they provide insights into the social processes in the articulation of knowledge such as: examining which information is censured or muted within the group (*ibid*). Accordingly, in this research, focus groups helped in extending the conversation about ideas and experiences that were left underdeveloped in the interviews as well as triangulating the findings from the interviews (Kitzinger, 1994).

Selecting participants

Participants for the focus groups were selected purposefully in order to add a rigours insight into the previous findings from both the documentation and interviews. This agrees with Morgan et al. (1998b, P.71) who argue that *"in focus group research, the strategy is to use 'purposeful' sampling, whereby the researcher selects participants based on the purpose of the study".* Bloor (2001) agrees with this and argues that the purposive or theoretical sampling should be adopted in the design of the focus groups where key characteristics and findings from the previous data collection –here interviews- act as a guide. Therefore, purposive sampling refers to the process of theorising the dimensions that are likely to be relevant in giving rise to different perceptions or experiences (Barbour, 2008). It is thus related *"to the anticipated use of the selected criteria in making comparisons once the data have been generated*" (*ibid,* p.58). Purposive sampling is thus unlike the systematic random sampling because the aim is not to make a generalisation to a population like that of large-scale quantitative studies (*ibid*).

In this regard, participants of the focus groups should be selected carefully as the aim is to facilitate an interactive discussion and the sharing of views and understandings that will eventually meet the research aims. Moreover, it is required that *"focus group participants will share some similar characteristics, experiences and demographics that will both meet the aims of the research and facilitate conversation"* (Kitzinger, 1994, p.66). However, the level of similarity or difference between the participants will eventually determine the level of interaction between the participants, hence, it should be carefully considered.

Accordingly, the selection included both homogenous and heterogeneous groups. On one hand, homogenous groups might be more reliable upon spending more time interacting than with the heterogeneous groups. However, the homogeneity of the groups might restrict the range of issues and positions discussed in the group interview as participants are already familiar with each other. Examples of these groups are those who use the same service or are from the same professional group.

Nonetheless, King and Horrocks (2010) agree that a good way of sampling is to recruit *pre-existing* groups which compose of clusters of people who live, work, or socialise together. They argue that recruiting such groups can offer a level of confidence in the group's ability to discuss and interact. Similarly, Kitzinger (1995, P.300) supports the pre-existing groups because they allow the *"observation of fragments of interactions that approximate to naturally occurring data. An additional advantage is that friends and colleagues can relate each other's comments to incidents in their shared daily lives"*.

Heterogeneous groups, on the other hand, are those groups that share certain characteristics such as age, race, education, or others and usually not familiar with each other. Hence, they might take more time to 'warm-up', or participants are less likely to attend a discussion with a group of people who they don't know (Bloor, 2001). Yet, it might have the advantage of allowing people to speak more freely and openly than if they would in pre-existing groups. Bearing this in mind, ethical considerations that were involved in planning and running the focus groups were attended to and the relevant documents were presented to participants (see Appendix C and D).

Accordingly, seven focus groups were conducted in this research. The selection of these groups and their classification were categorised into three main categories as follows:

I. Planners: to give a different perspective from that of architects and to provide specific planning information that is helpful for the study. Within this, there was a special focus on the recent Khartoum's Structural Plan (KPP5) in order.to capture the recent vision for Khartoum's planning and building regulations. Accordingly, this included interviewing planners from KPP5 committee or those who were associated with it. However, within the committee, there were distinct hierarchies of peer groups from top decision-makers, to senior planners to junior planners. This implied that the views of those in lower status could be silenced (Bloor, 2001). Therefore, each peer group was conducted as a separate focus group making a total of three focus groups.
II. Architectural students: to provide an important reflection on the relationship between the shaping of the architecture in Khartoum and the current architectural education. In total, two groups were conducted, the two were graduates of two different architectural schools to get the opinions of architects graduating from different schools.

III. General public: The third category was members of the general public who have experienced the place KCC before, by working or studying in it. In total two groups were conducted; one with researchers studying in the same graduate school but have previous experience of KCC and one with administrative employees working in an organisation. Both of the groups have experienced the place KCC by working in it.

All of these groups were *pre-existing* homogenous groups as the aim of the focus groups was to explore the points of views of different categories of participants about the *genius loci* of the place KCC, extraction of the local pattern language, empirical utilisations of the interpretive pattern language tool, definition of distinctive architecture and exploring Sudanese architectural character and identity. Hence, investigating these specific issues thought to be more useful through pre-existing groups who work in or experience KCC together. This has facilitated informative and interactive discussions because the more the participants know each other the more precisely they will discuss and examine issues of importance (King and Horrocks, 2010).

Group size

It is advisable that a range of 6-10 participants are to be included in each focus group because below six, it might be difficult to sustain discussion and more than 10 it will be difficult to control the discussion (Morgan et al., 1997). Accordingly, in planning the focus groups for this research the aimed size for the group was between 6-8 participants /group. However, the size of the focus groups mainly depends on the nature of the participants, if they are hard to engage, it is advisable to recruit a large number, and if they are highly involved participants smaller group size might work more effectively (Bloor, 2001). An example of this, was a group of seven participants with senior planners and decision-makers who proved to be difficult to control and the data from it was challenging to transcribe and code (see Table 3.2). This is because the topic is a complex one and the participants are all experts in authority and it was clear that they all want to have enough time to express their opinions. Consequently, this had guided the researcher to reduce the number of participants in the second focus group with the same peer group. Hence, five participants attended the discussion and it was more controlled as participants were more relaxed as they went on confessing their regrets about the current planning and building bylaws. They, moreover, highlighted important discussions about the possibilities of generating Sudanese architectural character through patterns and how that could be included in the building bylaws (see Table 3.2). On the other hand, in some of the

groups, there were 'no-shows'. Thus, the smallest group conducted was one with graduate architectural students which consisted of four participants as there were two 'no-shows'. Yet, it was informative as the researcher was able to expand on issues about the relationship between architectural education and the knowledge about Sudanese architectural character and identity.

Conducting the focus group

The focus groups took place in Khartoum. The first focus group was conducted as a pilot with researchers from outside the field of architecture. This step proved to be of a great benefit and fostered improving the focus groups. It successfully influenced the design of the questions, the clarity of presenting the research aims and key objectives to subsequent groups and highlighted when and where both *'discussion stimulus'* and *'probes'* are needed. However, with focus groups being not easy to run, Morgan et al. (1998b) argue that if the first focus group was successful then including it into the analysis is crucial. Therefore, the pilot focus group was included in the data. Inevitably, this is one of the advantages that focus groups is a flexible method that can be improved from experiences from earlier groups (Bloor, 2001).

The research team that carried out the focus groups consisted of the researcher as the focus group moderator and an assistant. While the role of the moderator was to guide and moderate the discussion, the assistant's role was to take notes and identify key issues that can later be used in the analysis (King and Horrocks, 2010). Other shared roles between the moderator and the assistant included setting up the room, managing recording equipment, preparing name badges, distributing notes, papers and pens and arranging refreshments. These steps were carried out before the actual start of the focus group and the arrival of the participants. The focus groups took place in venues that are familiar to the participants, mostly in a meeting room in their organisations where they can feel more comfortable.

The fact that running the focus groups after the interviews proved to be useful as the results from the interviews provided more targeted theoretical themes that need further exploration. These themes revolved mainly around the lack of considering the role of the architecture in its place and how they impact the identity. Therefore, the preparation of the guide of the focus groups questions focused on trying to explore this gap within the research and investigate it further. Thus, questions were divided

into three main parts that represent the three main research themes. [11] These themes are:

1. Exploring the *genius loci* of the place KCC
2. Extracting the local pattern language of KCC
3. Testing different empirical utilisations of the interpretive pattern language tool such as identifying distinctive architecture/patterns in Khartoum and exploring the Sudanese architectural identity in relation to patterns (see Table 3.3).

However, to avoid the subjectivity and the common shared preconceived ideas that were encountered during the first phase of the interviews and to gain more targeted information, panoramic images of the place KCC (see Figure 6.3) were presented to participants as prompts to guide the discussion about the architecture of KCC and to start interpreting it from its place as a whole. Moreover, participants were asked to write down their reading of the characteristics of the place in paper notes, which was then followed by group discussions. This facilitated the provision of each participant's answer without being influenced by other group participants.

Table 3.2: Groups of the focus groups

	Type and speciality of participants	**No. of participants**	**Backgrounds of the participants**	**Remarks for analysis**
Group 1 (Pilot study)	General public (pre-existing group)	5	Participants are postgraduate researchers from different backgrounds	▪ This group was very useful as it facilitated improving the clarity of the questions and the research's key objectives. ▪ Participants were very nostalgic and were reminiscing their experience of studying in the place KCC
Group 2	Senior planners and decision-makers in the Ministry of Physical	7	5 out 7 are with an architecture background, one with planning background	▪ This group was difficult to control as some of the participants were more vocal and interrupting others.

[11] See Appendix D.2

	Planning/ Khartoum		and one with Scientific Diploma background	▪ one participant left early ▪ The researcher was still hesitant about some questions because it was the first group to be conducted after the pilot study. This has facilitated improving the questions further.
Group 3	Senior planners and decision-makers in the Ministry of Physical Planning/Khartoum	5	4 out 5 are with an architectural background, and one with a civil engineering background.	▪ This group was more controllable and accordingly, participants went on confessing regrets about the current planning and building bye-laws
Group 4	Junior Planners in Khartoum's Structural Plan Dept. (KPP5) at the Ministry of Physical Planning	6	All participants are of an architectural background	▪ Participants were very expressive and they provided insightful information.
Group 5	Graduate architectural students (from university case NO.1)	8	All participants are of an architectural background	▪ Participants demonstrated an advanced theoretical architectural knowledge that resulted in asking critical questions that helped in analysing the data
Group 6	Graduate architectural students (from university case No 2)	4	All participants are of an architectural background	▪ There were 2 'no shows'
Group 7	General Public (pre-existing group)	4	Participants are from various backgrounds	▪ An interesting discussion developed about participants' daily experiences while working in KCC.

Table 3.3: Schedule design of the focus groups[12]

Time Schedule	Steps	The technique used or action needed
10 minutes	**Introduction** - Welcoming participants, identifying each participant with his/her chair where name badges were allocated - Provide each participant with research information documents including research background, design of the workshop and consent forms - Allow participants to introduce themselves, give their name and occupation - Brief introduction about the research	▪ Allow participants 5 minutes to read through and have a general idea about the research.
30 minutes	**Theme 1 & 2** - Exploring the *genius loci* of the place KCC - Extracting the local pattern language of KCC	▪ Panoramic images as probes ▪ Participants were asked to write the general characteristics of the place KCC in a form of bullet points each in separate sticky note paper ▪ Moderator to explain the idea of patterns, participants to extract more patterns ▪ Moderator to discuss the idea of classifying the extracted patterns into (architectural, urban and transitional patterns) ▪ Participants to classify the patterns
20 minutes	**Theme 3** - Testing different empirical utilisations of the interpretive pattern language tool such as: 1. Select 3 distinctive buildings from the everyday architectural scene in KCC	▪ Images of 12 representative buildings were given to participants ▪ Participants were asked to write down their choices and reasons in notes

[12] The term 'workshop' was used instead of 'focus group' when inviting and dealing with the participants. This is because the term workshop is more familiar and clearly reflects a group discussion.

	2. Specifying the reason for architectural distinctiveness according to participants and extract distinctive patterns	
20 minutes	**Theme 3 (continued)** - Exploring the Sudanese architectural identity in relation to patterns through: 1. Investigating a few architectural projects that claim 'local/ Sudanese architectural identity' 2. Investigating the relationship between identity and patterns	▪ Images of the projects were shown to participants
10 minutes	**Conclusion** - highlighting main points - Thanking participants and ask them to sign consent forms	▪ Participants to sign consent forms ▪ Participants were offered some incentives that were usually a combination of 2 or 3 of Juice, chocolate, water or tea

Analysis of the focus groups

By similarly adopting the coding process in the data of the focus groups and coding each of the three themes separately, it was possible to distil the data into categories (see Figure 3.7). In essence, the main themes of the focus groups were developed from the data of the interviews as well as the introduced theoretical interpretive pattern language tool, yet the aim in the focus groups was to examine these themes through the empirical utilisation of the tool in the architecture of KCC. Thus, it could be argued that the categories on the first stage of the initial coding were suggestive and not definitive. However through further analysis, comparing and linking between the different segments of the data, a new standpoint that helped in viewing the different themes led to fresh conceptual directions (Charmaz, 2014) which started from applying the tool to extract the local pattern language of the architecture of KCC.

However, to elaborate on the emerging theoretical categories, engaging in theoretical sampling was crucial. Payne (2007, p.74) defined the process of theoretical sampling as: *"a process of ongoing data collection for the purpose of generating theory, where*

previous analysis influences decisions about subsequent data to be collected. It is theoretical because it is guided by and contributes to the emerging model". Charmaz (2014) considers theoretical sampling as a pivotal strategy in grounded theory because *"it prompts you to predict where and how you can find needed data to fill such gaps and to saturate categories".* It is thus an essential characteristic of a *complete* grounded theory study (Payne, 2007).

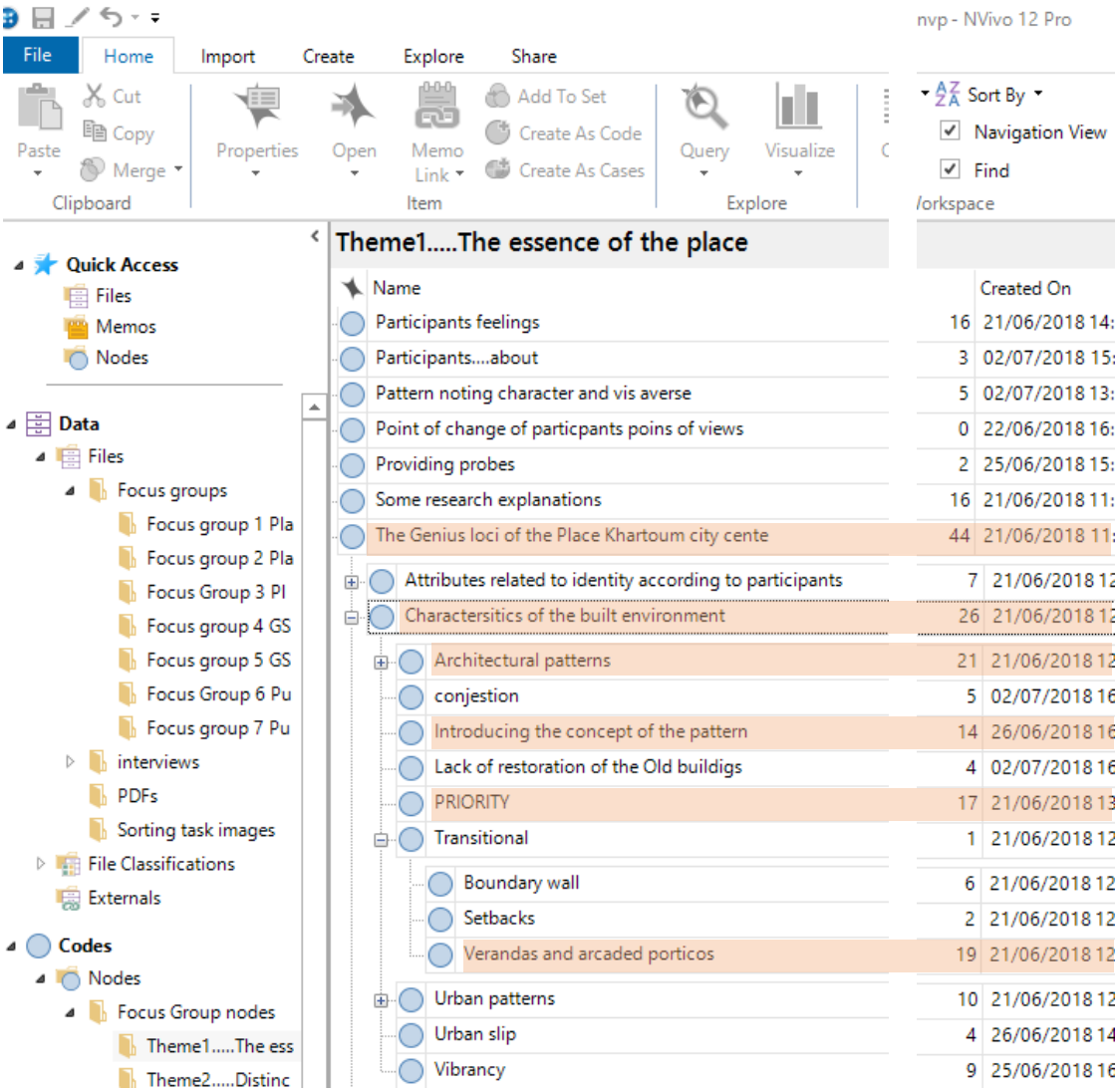


Figure 3.7: Example of coding the data from the focus groups with the codes highlighted as the main core codes (First theme: exploring the *genius loci* of KCC). Source: the Author

By engaging in theoretical sampling (see Appendix D.4), it was noted that using the interpretive pattern language tool to only extract the local pattern language of a place is not enough (theme one in the focus groups). This finding thus indicated the need to further stretch the realms of the utilisation of the tool; hence the two subsequent themes in the focus groups investigated both identifying distinctive

architecture/patterns in Khartoum and exploring the Sudanese architectural identity in relation to patterns (see Figure 3.8). Thus, the theoretical sampling came to answer the second and third research questions of:

- ***What is the role of the emerging local pattern language in interpreting the place KCC, its architecture and identity? and;***
- ***How can the interpretive analytical tool advance the theoretical exploration of places, their architecture and their identity?***

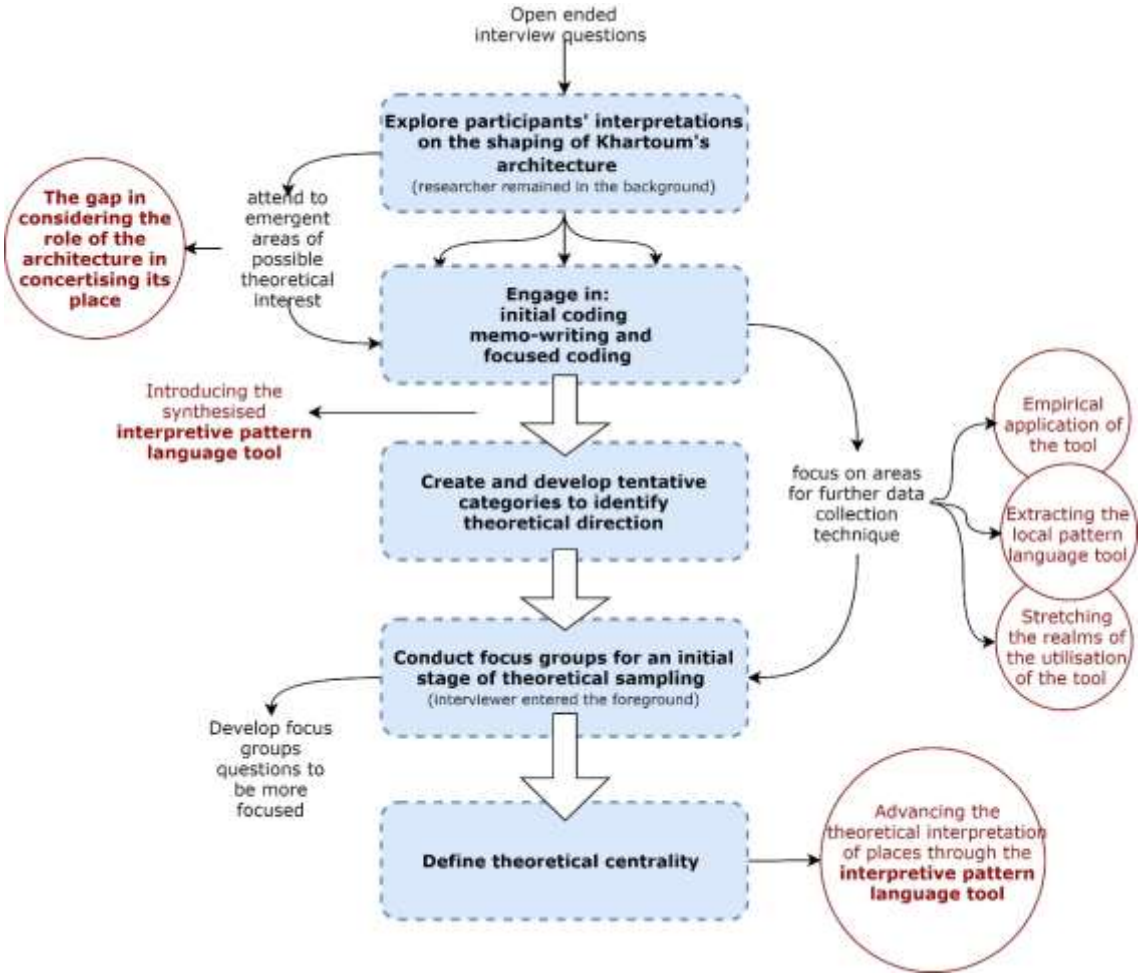


Figure 3.8 Interviews and focus groups within the principles of grounded theory used in this research and the emerging theoretical categories through the research process. Source: original diagram adopted from (Charmaz, 2014, p.88), edited by the Author

Through the findings of these two themes, the theoretical centrality of the thesis started to emerge. However, it could be argued that due to the limited time and scale of the research, the analysis process only engaged in a partial process of theoretical sampling that could have been taken further, as the tentative categories had just started to develop into abstract and conceptual theoretical categories that were

developed in the latter stages of the analysis. With more time in hand, developing the theoretical idea of advancing the theoretical exploration of places through the tool could have been achieved through interviewing or re-interviewing more participants with a focus on this idea. Hence, the name of 'principles of' grounded theory was used in this research. (see Figure 3.9).

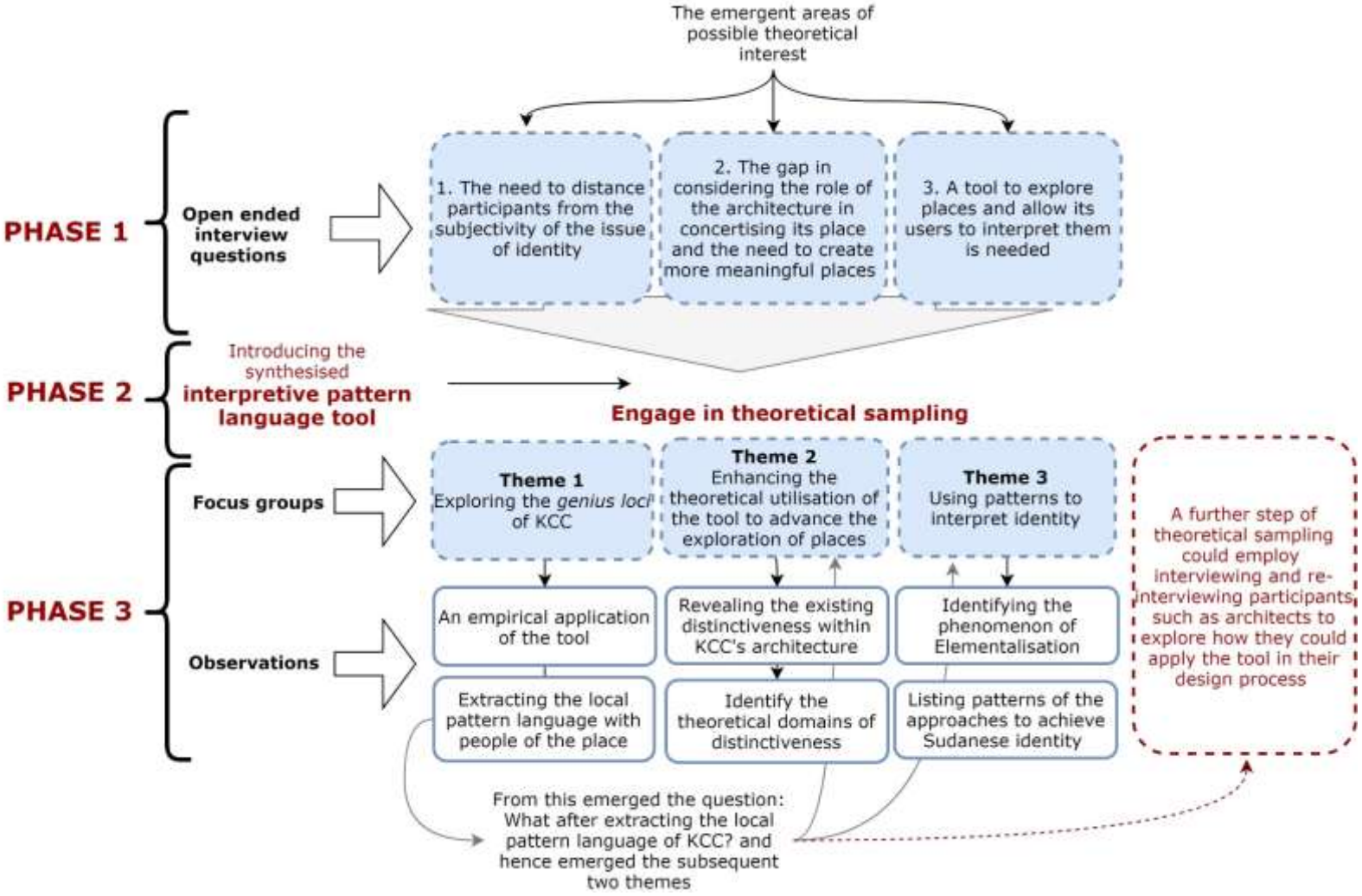


Figure 3.9 Explaining the research process in relation to the data collection techniques used and the emerging theoretical categories at each stage of the research. Source: the Author

Issues encountered during the focus groups:

There were some issues encountered during the focus groups which impacted the resulted data and are thus important to be addressed in future research:

- One of the main limitations of the focus group is that group interaction affects what some people might say and some participants may feel more restrained as part of a group and be more vocal in a one-to-one interview (King and Horrocks, 2010). Similarly, group interactions in these focus groups had affected participants' responses as with one case of a focus group when some participants were more dominant than the others which entailed some intervention from the moderator to encourage the overshadowed participants to express their views.
- The fact that the discussion of the focus groups was based on presenting images of places in KCC and examples of representative buildings in it had its impact on the responses. On one hand, responses are realistic because they are being based on the real experience of these places/buildings. This includes graduate students' responses on some of the buildings which they have experienced and studied theoretically, and thus their answers were largely influenced by what they were taught. However, on the other hand, answers were not fully realistic because they were based on the instant visual impression of the images as participants had not experienced those buildings before. Accordingly, in this latter case, participants are judging the buildings through the visual sense only and this lacks the other senses that have a major contribution to the spatial understanding of the place and providing a three-dimensional experience (Porteous, 2013). Thus, perceptions of those who experienced or studied the buildings are different from those who did not.
- While there were three main themes of discussion that were presented to the participants gradually, the title of the research that was showed to the participants firstly in the Consent Form (see Appendix D.3): *'Shaping identities: Investigating the role of the emerging patterns of Khartoum's contemporary architecture (the 1990s to present)'*, seemed to have unintentionally guided and influenced the discussion. This is because the word *identity* had instantly stimulated mixed feelings on the participants regarding the existing controversial debates and preconceived ideas about the Sudanese identity. Therefore, participants slipped in talking about the issue of *identity* during the first two themes without being asked about it. Therefore, it could be argued that it would have been better not to introduce the word *identity* in the title, but rather to leave it for the last theme. Hence, a number of the answers in the first and second themes of the focus groups included comments on the issue of identity which

seemed to be quick and subjective answers. On the contrary, answers about *identity* on the third theme were more logical as participants started to think more realistically and objectively by utilising the interpretive pattern language which helped them to interpret architectural identity in an entirely new way.

- In some cases, participants reversed some of the questions and asked them to the moderator in an attempt to know her opinion. However, in such cases, the moderator needed to stay neutral to remain non-judgemental and to avoid influencing the participants or guiding them to the answer.
- The need to paraphrase long sentences to make them clearer as well as restating the main aspects that the participants tried to deliver so that *"this enables the moderator to ensure that the meaning the speaker intended to communicate is clear"* (King and Horrocks, 2010, p.72).
- The need to reflect upon the feelings that were expressed by the participants (King and Horrocks, 2010), For example, in one occasion a group of participants were talking about the essence of the architecture of the University of Khartoum and accordingly, they kept on reminiscing about the place. Here, the moderator reflected on that saying: *"Can we say that your answers are based on nostalgic feelings?"* Interestingly, the participants nodded positively.
- The need to summarise the main findings: at many times the participants were not able to logically summarise the main points that they wanted to deliver. Thus, summarising that by the moderator made the points heard and validated by the participants and in some points prompted further discussion.
- The recruitment of these groups was done through gatekeepers who were mainly participants in the interviews. Those gatekeepers helped in linking the researcher with the potential participants for the focus groups. An example of that is linking the researcher to the administrative office at the Ministry of Physical Planning/Khartoum and working collaboratively with this office to nominate the participants that are relevant to the study. The latter, however, contacted the participants directly and recruited them accordingly. However, Barbour (2008) highlights that involving gatekeepers in the recruitment of the sample might result in a gap in the resulted data. Therefore, it is possible to highlight that focus group participants could have been recruited in a more creative way that would eliminate any level of bias in the data obtained.
- A large amount of data obtained from the seven conducted focus groups made it time-consuming to transcribe and difficult to analyse. This is specifically because, within each category of participants, 2-3 focus groups were conducted sometimes, with members from different organisations/universities. For example, the graduate students' category consisted of two focus groups each one

representing the graduates of a different university who have expressed different points of views. Consequently, the data from the focus groups will provide a potential comparison of information at two overlapping levels; one at the level of the categories and one at the level of the groups within the same category. Thus, with the time and scale of the research, it was difficult to present these different comparisons fully.

- Langauge: Interviews and focus groups were transcribed from Arabic to English. This entailed the researcher to translate on the go while transcribing. The approach for the transcribing sought to examine sometimes with the focus groups, personal experiences that required full transcription. This probably involved a level of detail in order to capture participants' interactions which will ultimately inform the analysis.

  While the researcher aimed to transcribe the exact words of the participants, a degree of subjectivity is present. This results from the process of the author's translation and that not the exact words in Arabic, especially those of the local dialect, can be conveyed in the same way in English. Despite this, the researcher aimed to transcribe the accurate words of the participants as much as possible. This, therefore, results in what Morgan et al. (1998b, P.73) call as *"Messy Quotations".* Hence, when it comes to presenting those quotes to support the data reporting and analysis in this research, it was necessary to carry out some minor tidying up; yet, with great care. King and Horrocks (2010) support this and allow for minor tidying up in order to aid comprehension. Morgan et al. (1998b, P.74) also support this as they argue: *"the researcher must determine the extent to which statements should be abridged or modified",* and that he/she *"has an obligation to present the points of views of the participants fairly and accurately".* This process of tidying up quotations was reviewed by multiple English writing consultation sessions.

3.4. Assessing the quality of the qualitative analysis of the data.

Throughout this research process, there have been various decisions and methods employed to ensure the quality and trustworthiness of the research. These considerations are discussed in the following sections:

3.4.1. Credibility

Is achieved through the principles of good practice and through obtaining confirmation on the research findings that the researcher had correctly understood the social worlds; i.e: respondent validation (Denzin and Lincoln, 2005). Lincoln and Guba (1985) identify techniques to achieve more credible findings and interpretations; some of which are prolonged engagement, persistent observation, and triangulation. *Creswell (2014, p.201)* labels this as the qualitative validity which calls for checking the accuracy of the findings by employing certain procedures. Other terms that address validity and credibility are trustworthiness and authenticity (Creswell and Miller, 2000) and (Silverman, 2017). Hence, to check the accuracy of the findings in this research some of Creswell's (2014) validity strategies were adopted *as follows*:

- Triangulation: is used to confirm the accuracy of the findings as well as to convince readers of that accuracy (Creswell, 2014). Silverman (2006, p.290) defines triangulation as *"combining multiple theories, methods, observers, and empirical materials to produce a more accurate, comprehensive and objective representation of the object of study"*. Hence, the assumption is that, if the findings attained with all these sources of evidence correspond and draw the same or similar conclusions, then the validity of those findings and conclusions has been achieved (Silverman, 2006, Creswell, 2014). To achieve triangulation in this research, architects, planners, experts, educators were all interviewed. This was also followed by focus groups as further group interviews with members of the public, architectural students and planners (see Section Section 6.2). The benefit of incorporating the focus groups was gained through group interactions which enhanced the findings. King and Horrocks (2010, p.164) label this latter triangulation as *methodological triangulation.*
- *Member checking:* through taking specific descriptions or themes back to participants to determine whether those participants feel they are accurate (Creswell, 2014).This was done with the findings from the interviews with the architects of the three identified approaches to achieve local identity (see Section 4.4), as two of those architects were contacted to comment on the findings.[13]
- Present *negative information* and evidence that contradict the general perspective of the theme. For example, this was achieved in presenting the

[13] It is worth noting here that this re-contact with the architects was beneficial also in getting their permission to present their names in the research as the leaders of these approaches.

findings of the various perceptions on the phenomenon of Elementalisation; as all the information that represent those who support and those who don't support the act of elementalising the architectural identity in certain patterns.

- Aiming at *clarifying the bias* that the researcher brought to this study to create a self-reflection, i.e.: reflectivity. To be reflective in the research and generally is *"to be aware of our personal responses and to be able to make choices about how to use them"* this also includes to be aware of the social and cultural contexts in which we live and to be aware of how they impact on the ways we interpret the world (Etherington, 2004, p.19).

Therefore, adopting interviews and focus groups as the main methods of data collection in this research implied a careful consideration of the way they have been analysed. This is because the process of analysing them entailed bringing the researcher's subjective values, experiences and meanings to their endeavours (King and Horrocks, 2010). However, *"this subjectivity is not treated as a problem to be avoided, but as a resource that can be developed in ways that augment and intensify social research"* (*ibid*, p.126).

In this research, subjectivity appeared from the early stages of coding as naming the codes themselves is a subjective process that depends on the role of the researcher in interpreting and naming them. Moreover, choosing the categories and deciding on which categories will be selected as tentative categories. While tentative categories may be clear as the most repeated categories, the researcher might have easily fallen into selecting a tentative category over another more illuminating one.

Moreover, subjectivity and bias appear with the ways to analyse and deliver the voice of the participants such as decisions on using of interviewees' points of views and the way to make them more present in the research. Moreover, linking these voices as empirical data with the literature and creating a representation that might be directed at a particular audience. Within this, it is important to mention that these examples of subjectivity appeared in the earlier writing up stages of this research in which the role of the participants was only expressed in as small quotes here and there. However, this was blocking the voices of participants and had let the subjectivity of the researcher to take a prominent role (King and Horrocks, 2010). Later, as the writing developed, the researcher tried to be more closely connected to the research findings by taking the time to reflect upon, record, review and incorporate all the information from the participants and reflect on the role of the researcher when for example emphasising areas at the expenses of others by explaining the rationale for that.

Hence, the role of reflexivity here comes to enable the critical stance to be taken towards the impact of the researcher, the data with its different participant's viewpoints and the context which the research takes place (*ibid.*) This, in the grounded theory case, will allow the researcher to acknowledge her role in the creation of the analytical interpretation (Payne, 2007). Therefore, with subjectivity being inseparable from qualitative social research, Charmaz (2014) selects the name 'constructivist' grounded theory to acknowledge subjectivity and the researcher's involvement in the construction and interpretation of the data in grounded theory research.

Therefore, to ensure trustworthiness during the process of this research, discussions were ongoing with a supervisory team and research progress was presented at peer conferences and seminars to research groups. Moreover, the grounded process of data analysis was tackled with an open-mind to reveal all potential outcomes from the data, ensuring that all explanations were revealed, giving voice to participants (Woods, 2017), whilst it is acknowledged that the conclusions made are only one possible interpretation of those findings (Corbin and Strauss, 2015).

3.4.2. Reliability

In qualitative research, the reliability of a study can be difficult to determine. However, if detailed information is explicitly provided to explain the research process, in addition to the verification strategies suggested by (Morse et al., 2002) such as: "investigator responsiveness", "methodological coherence", "sampling adequacy" and "saturation", reliability can be obtained. Thus, it is possible to negate concerns of the reliability of this study as the researcher recorded the evolution of the methodology in detail explaining the reason of merging the case study with principles of grounded theory, constantly evaluated the process and ensured the rationale behind the decisions was documented and explained. This is to be carried in conjunction with peer review and supervisory discussions and the researcher's reflectivity on mirroring the potential influence on the research itself and the participants.

3.4.3. Transferability or Usefulness

Lincoln and Guba (1985) contend that transferability is an assessment criterion that is in place of generalisability in quantitative research. They argue that it is based on

the ability of the researcher to provide sufficient rich detail that a reader can assess the extent to which the conclusions drawn in one setting can be transferred to another (*ibid*). More specifically, however, Charmaz (2014, p.338) suggests that for evaluating the grounded theory research under the transferability which she called "usefulness" criterion, it is necessary to ask: *"Does your analysis offer interpretations that people can use in their everyday worlds?".*

Hence, with this research about the case study of Khartoum's contemporary architecture, it is inevitable that the overall findings that relate to the specific peculiarities of Khartoum are not generalisable. However, the *process* of the exploration of places using the *interpretive pattern language tool* and the ways to utilise it to extract the place's local pattern language is "useful" and could be considered as an element of transferability that is applicable to other existing places. For example, the utilisation of this tool in the case of KCC has provided useful information for educators, architects, planners, architectural students and other architectural readers to interpret places and identify the role of their architecture. Hence, it is intended that through disseminating the research findings by publishing in journal papers and presenting at conferences and professional workshops, the transferability and usefulness of this research will be maximised. Through this, the research will become available to the wider professional audience including architects and architectural students as well as academicians.

3.5. Conclusion

This chapter explained the research design starting from the rationale behind the adopted *case study within principles of grounded theory* method, the implementation of the adopted data collection and analysis techniques and reflections on the issues and limitations that were encountered during these processes. This chapter thus emphasises that the design of the thesis is not a conventional deductive one with a theoretical framework at the beginning, rather it is an unconventional inductive exploration that resulted in an uncommon layout of a thesis. However, this could be considered as the innovative methodological approach that was uniquely crafted for this thesis and inevitably resulted in building the theory of the interpretive pattern language tool.

The chapter that follows will present the findings from phase one of the data collection; the interviews, which explores then explains in detail the factors that are shaping the contemporary architectural identity of Khartoum.

Chapter 4: Exploring Khartoum's contemporary architectural identity

4.1. Introduction

By defining the research's main angles to be explored in KCC as architecture, place and identity, this chapter focuses on both architecture and identity. It investigates how Khartoum's Contemporary architectural Paradigm is being shaped and interprets the identity that it reflects as an important issue to be investigated in a postcolonial place. It presents findings from interviews with a number of architects who have key architectural roles in Khartoum as phase one of the data collection. It reviews the findings in two parts: the first part reviews the results of architects' understanding of the shaping of KCC's contemporary architectural paradigm and how they tend to link their contemporary architectural designs with their surrounding place. This part emphasised that the contemporary architecture in KCC is affected by various factors that resulted in an inharmonious urban fabric.

Consequently, the second part explores the shaping of architectural identity in Khartoum and identifies architects' approaches to achieve it. Finally, the chapter concludes by highlighting the ambiguity and complexity of the issue of architectural identity and suggests a simpler approach to investigate it.

Part 1

4.2. Investigating KCC's Contemporary Paradigm

The previous documentation of Khartoum's architecture (see Section 2.3) was the result of reviewing the existing research coupled with a series of observations and analysis of photographic documentation. However, interviewing architects with key roles in the contemporary architectural scene of Khartoum was considered as a first step for expanding this documentation and investigate the current situation. The interviews thus commenced with the aim of understanding architects' recognition and comprehension of the place KCC being the case study for this research and how they link it with their contemporary architecture.

One notable finding was that the majority of the architects conceived Khartoum's urban fabric as a rudimentary and inharmonious fabric. This is because it represents an eclectic and uncontrolled architecture as architect L (2017) described: *"there is no dominating character, any design is being based on the designer's mode of expression. It is also noticeable that even each designer has more than one style".* This perception about the urban fabric of Khartoum continued to rise, repeatedly, from the early stages of the interviews. As such, architects believe that it is unworthy of consideration during their design process. Architect D (2017) explained: *"the surrounding context does not mean anything to me in the design especially in the small housing projects because in most of the times the context is not in harmony"*.

Within this, nine factors that are shaping this uncontrolled contemporary architecture in Khartoum and consequently the inharmonious fabric were observed as follows:

4.2.1. Varieties of architects' design approaches

The findings of the interviews proved evident freedom in architects' design approaches. This could be attributed to the following:

I. Incomprehensive planning and building regulations:

Since its inception Khartoum witnessed five urban planning schemes as follows:

1. Mclean Plan of 1910

2. Doxiadis Plan of 1958,
3. MEFIT Plan of 1974,
4. Doxiadis and AM Mustafa Plan of 1991, and;
5. MEFIT and CENTECS Plan of 2008.

Those schemes were *authorised by national or sub-national governments in order to direct the growth and development of Greater Khartoum for an average of one to two decades each. Those master plans addressed primarily Khartoum's land use, housing and transportation issues* (Hamid and Bahereldin, 2013)*. However, little attention was paid to environmental issues* and to architectural design, the image of the place or the emerging architectural identity. Planning expert E (2017) emphasised this and stated that: *"the current building regulations do not have any considerations to non-materialistic, aspirational or conceptual issues such as architectural identity, style or aesthetic qualities. Rather they focus on issues of safety and environment".*

Moreover, the overwhelming urbanisation or rather ruralisation of Khartoum as the capital confused all the masterplans and rendered them as failure to meet their expected outcomes.[14] Hence, they were abandoned before taking off (ElKheir, n.d.) and the attention was shifted to maintain this urbanisation in the form of a rapid horizontal expansion of Khartoum's urban fabric. With building by-laws being under the umbrella of the planning regulations, they were also influenced by these failures. Consequently,

> *Violations of planning laws and building regulations became commonplace since the late 1970s and so were changes of land uses and intrusions by a flood of new buildings especially those offered by 'do-gooders'. The responsibility slid from the hands of planners to those of profiteers* (Ahmad, 2000, p.317).

Osman (2000, p.3) thus criticised the building regulations in Khartoum arguing that: "*they are promoting prejudice against traditional building materials, they limit innovation in design, layouts are climatically inappropriate and monotonous they are not promoting communal development and promoting inappropriate zoning of activities".* In these regards, interviewed architects collectively agreed on that and claimed that the building by-laws are not sophisticated and detailed enough and

[14] urban biased development, desertification and droughts, tribal conflicts and civil wars internally and externally were factors that caused dramatic migration heading straight for the capital camping around its peripheries. Khartoum thus stretched to nearly a hundred kilometres north south and about seventy kilometres east -west and provided accommodation for nearly 30% of the population of the vast country (ElKheir, n.d.).

consequently architects do not face strict regulations during both phases of designing and executing. Architect L (2017) emphasised:

> *Khartoum is generally not developed yet… Therefore, we are free to do what we want as we find that there is nothing that will impact our building in terms of respecting the context or being influenced by an adjacent existing building*

This looseness of the building regulations had resulted in an architecture that is based on biased and subjective judgements of design approaches. Bay (2001) argues that such judgements are based on the likelihood of uncertain decisions and are not based on quantitative thinking or even memories and meanings collected from the public. As such, architects in Khartoum are uncertain about what they want to reflect on their architecture, and as a result, they are completely free in their design approaches. In fact, some of the architects deliberately permitted themselves to create whatever their clients wished for. Consequently, this has become evident in Khartoum's built environment that seems to be 'uncertain' or 'unfinished'.

II. Clients

On one hand, architects expressed a strong willingness to meet their clients' preferences in their design. This is based on the assumption that the client is the main user of the building and that he/she should be satisfied with it, regardless of the context. However, the problem, as Interviewee J (2017) argued, lies in the background of the clients as they vary in their frames of references. For example, for some clients the ideal model is the local architecture, for others, their ideal is an ultramodern architecture such as the towers of Dubai and the architecture they saw in the Arabian Gulf or anywhere else. Additionally, other clients would request from the architect to make a tour with them in Khartoum to select the buildings that they like. All these preferences are being made without any cultural –informative– background, and, as a result, they expect architects to imitate those styles as they are. Architect J (2017) adds: *"clients are not respecting the value of the design as they do not understand what design is and what it adds".*

On the other hand, some clients do not formulate exactly their requirements and they do not list them in a detailed brief. This finding was raised repeatedly by the interviewed architects. A representative quote of this was by Architect A (2017): *"we did a lot of buildings with briefs that we created by ourselves because the client doesn't know what he/she wants".*

Additionally, clients' budgets play an important role in the design approach. For example, the higher the budget is, the more often the approach is directed towards expensive materiality, prestige, and impressiveness.

III. Maturity in style vs lack of supervision

In Khartoum, the architecture profession lacks a rigorous accreditation system that determines the level of expertise and practice needed to carry out certain projects. Rather, the profession is based on the act of exploration from inexperienced recent graduates as well as experienced architects from older generations. Paradoxically, their designs could be executed without proper supervision. Architect P (2017) argues: *"our current building code neglects the role of experience making a graduate architect equal to an architect who has 20 years of experience".* As an example of this, Architect B (2017) described the different transitional periods in his practice life. He stated the total immaturity at the start of his practice which was not controlled by any proper supervision. He argued: *"my practice commenced with no character and no certain philosophy … a trial and error*" (Architect B, 2017). While this architect had realised his immature practice and has later redefined his work, it is likely, with the lack of supervision, that others will still be lost in the mere experimental practice as %42 of the interviewed architects indicated that they follow the same experimental approach.

IV. Approaches to the external form

Architects expressed large varieties of design approaches in their external forms. This is another consequence of the looseness of the building regulations and the ultimate freedom given to architects. Those approaches can be categorised as either practical approaches or subjective approaches. On the one hand, practical approaches aim to respond to the place, with its peculiarities, from the early stages of the design process. These approaches are akin to the regionalism approach in how buildings would respond to their environment (Tzonis and Lefaivre, 2003). Architects who represented this approach based their design philosophy on exploring the local materiality of the place, adopting local technologies and environmental approaches and working with local people to understand their needs and their cultural backgrounds.

On the other hand, subjective approaches are adopted by architects who expressed rather uncertain approaches by grounding their designs on idiosyncratic decisions. These decisions were, in most cases, experimental, immature and based on

subjective idioms. They were not developed enough to reach a certain character or a style that the architect/ or the firm is to be known for. From the data the following six subjective approaches could be identified:

- *Mixing old with modern approach:* with great differences in the recognition of 'Modern form' between architects and the variations of its implementation. To some modernity is a way to reflect wealth and prestige; indicative codes of that include: *"we thought that this is what 'modern' is, it was a way to show the wealth"* (Architect D, 2017). To others, modernity is shorthanded to using cladding, glass and high-tech materials without consideration of their effect on the shaping of the image of the place;
- *Islamic architecture approach:* that is based on a superficial application of Islamic features such as arches, domes….etc.;
- *Creating an* incongruous *design with a sublime form approach*: Within this, there seems to be a common belief that the architect should create an outstanding form regardless of the place. Here, it became evident that there is a great variety in the understanding of 'outstanding architecture'. This could be linked to the fact that Khartoum is still a newly emerging city and its people are highly tempted by the notion of contemporaneity and excessive newness. Therefore, they are unconsciously overwhelmed by the mere imitation of what is novel in the world of architecture, believing that this is outstanding architecture;
- *Artistic approach:* in which design is based on some forms -such as a company logo- and apply it to the façade of its building;
- *Imaginative design approach:* which is based on the architect's ultra-freedom to create any design he/ she or his client conceives.
- *The use of joyful colours approach:* aiming to reflect joy and impressiveness to passers-by through colours.

Those subjective approaches to the external form, if either one or multiple of them adopted in a single project, indicate that the shaping of Khartoum's architecture is largely based on a bias that inevitably endows the place with an undefined and uncertain architecture.

V. Architects basing their design on various visual, impressive and perceptual expected impacts

This factor was observed from repeated words and expressions that were highlighted implicitly by the interviewed architects, unlike the previous four factors which were

more explicit. For instance, results of the interviews revealed that around 89% of the interviewed architects reflected a liberal approach to designing -such as designing an architecture that would reflect a sense of prestige, or a sublime, iconic, 'incongruous' and bold design or a design with an attractive strong colour -that aims for gaining materialistic impacts. Those materialistic impacts include for example: gaining the satisfaction of the client at the expense of the context and the wish of architects in wanting to promote themselves regardless of what their architecture reflects. Ironically, only 11% of the architects expressed impacts related to conceptual, immaterialist and aspirational meanings of architecture, which was about reflecting the impression of local people by using local materials from their environment, and considering the surrounding context (Interview B, C & R, 2017) (see Figure 4.1). Unfortunately, the extreme liberal design approaches might limit the innovation in Khartoum's contemporary architecture as it becomes *confined* by the willingness of both clients and architects.

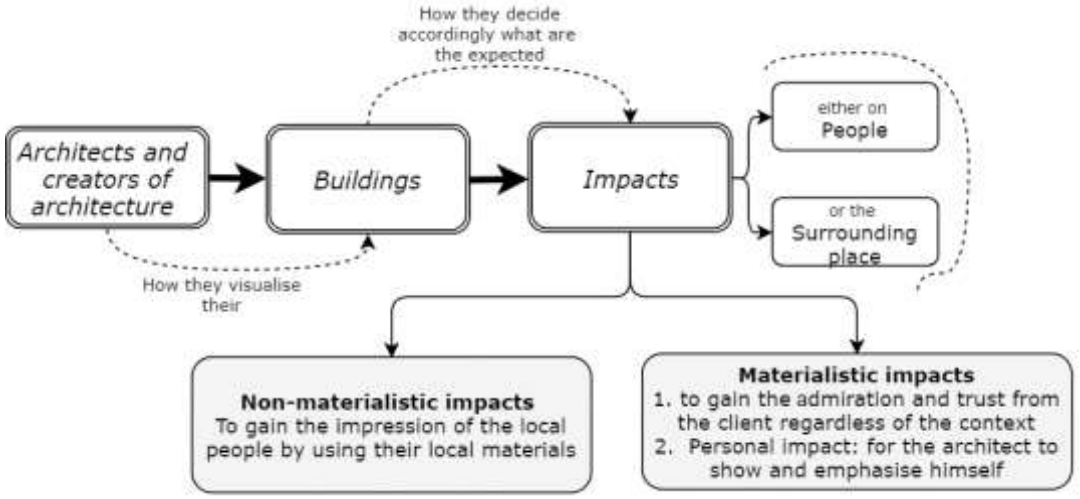


Figure 4.1: The visualisation of Khartoum's contemporary architecture based on the expected impacts. Source: the Author.

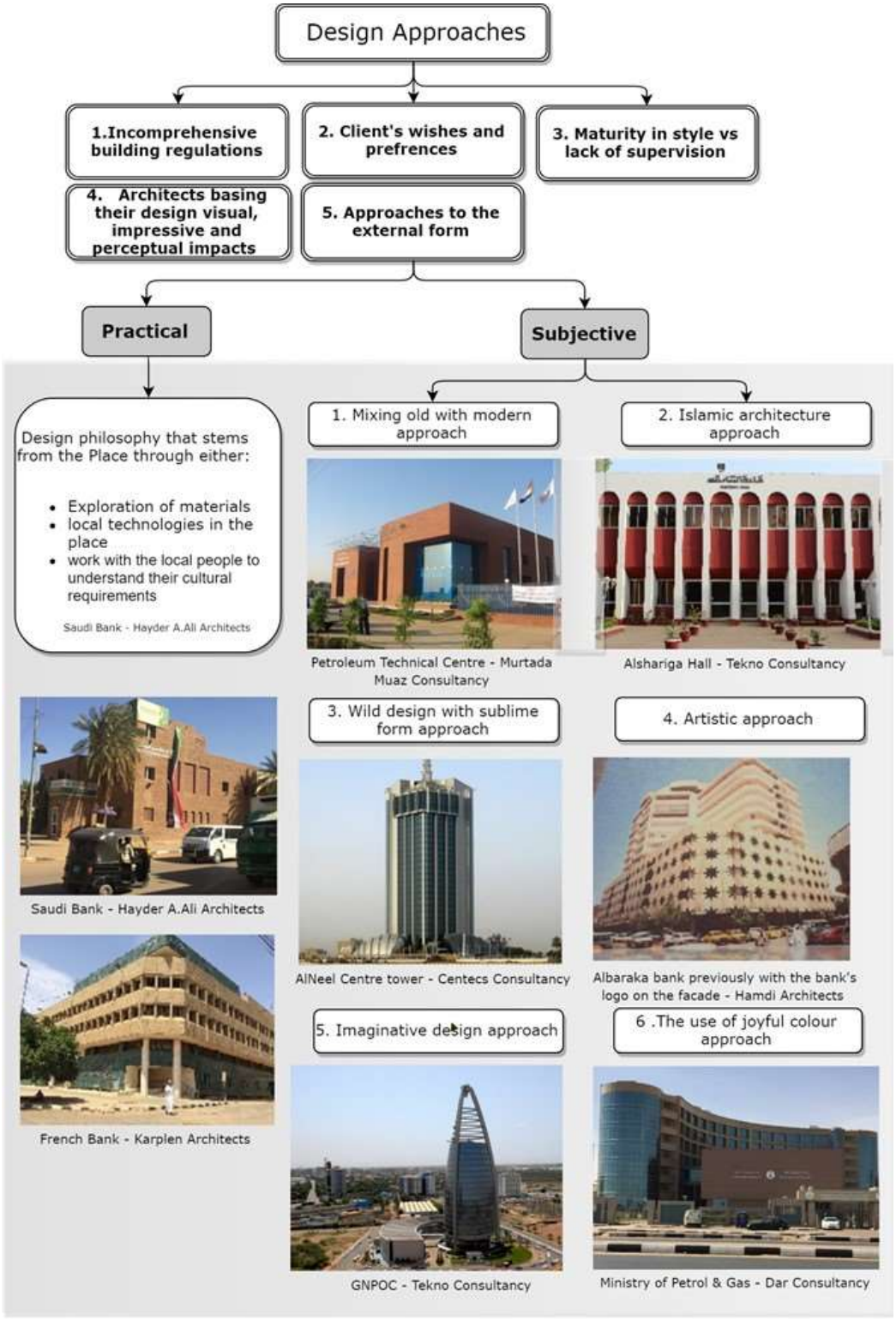


Figure 4.2 Factors resulting in the varieties of design approaches and the consequent approaches to the external form with examples. Source: the Author.

4.2.2. Absence of urban design guidelines

Urban design, which is about buildings, open spaces and streets, has an important role in enhancing urban places for people. Yet, to realise this role, investment in the public realm is crucial. In order to effectively achieve this, political influence that promotes the positive image of the place is highly important as it will encourage all parties to achieve better places and consequently apply positive aspects of urban design in the current contemporary architectural practice (Saleh, 2001).

In Khartoum, policies and structural plans mainly focus on the expandability of the city which leads to projects that rarely concentrate on the public realm. Interviewee V (2017) emphasises this as he states*: "the current building regulations do not specify or force to respect the place".*[15] Thus, building regulations reflect an absent role of urban design; from the scale of general planning regulations to the scale of building regulations – with the latter being not well detailed or sophisticated enough (KPP5, 2008). Moreover, there is a lack of realisation of the importance of urban design and that the role of an urban designer is, in fact, distinct from that of the planner and the architect. This is evident in that urban design was, for a long time, absent from architectural education and was only introduced in the past few years, in only two architectural schools mostly as graduate programs.[16] Additionally, it is noticeable that the political instability results in an unbalanced investment evident in constructing new sublime, grand and expensive governmental projects at the expense of proper urban design projects.

Another example of the disregarded role of urban design is manifested in KCC. Despite the fact that it represents the heart of the city, life and vitality have disappeared from it; especially at night-time as activities mostly end at sunset. It accommodates, beside the colonial edifices, bland and shiny office towers (see 2.5). The situation is thus similar to downtown Riyadh, which Saleh (2001, p.316) described as follows*: "the modern downtown is hostile to the pedestrian"* and he summarised the problem as being that; *"the public realm lacks the continuity of an urban design framework*". However, this research adds a rather different interpretation of this negligence of the role of urban design in Khartoum. It could be argued that it happens at an unconscious level that stems from the traditional architecture of Khartoum which is an introvert architecture that regards the urban

[15] This point of view is important as the interviewee here is an expert, planner and academician. He is a previous minster of physical planning- Khartoum state.

[16] These two schools are University of Khartoum and Sudan University. However, the earlier has introduced it as an undergraduate course nearly 10 years ago, yet it was a very short four weeks course that does not have an impact on students. Only two years ago, they have expanded it with a theory of urban design course.

environment as a secondary realm and that it is of less importance compared to the internal enclosed one.

Therefore, with Khartoum being a rapidly expanding city, the overall macro-urban design is now a pressing need. However, as a start, general awareness about that should be conveyed to the officials, the general public, planners, and architects, and could even be incorporated in education curricula. Thereafter, its implementation should be directed towards firstly, effectively accommodating people in the external environment of the city including streets, public squares and buildings edges. This will facilitate opening the city to the urban environment, which is the essence of a successful public realm. Secondly: reducing the rigidity caused by the gridiron planning of Khartoum. Gridiron planning has its negative impacts on the city by dictating spaces and buildings with similar design features, geometrical configuration, architectural features and building materials and makes it difficult to distinguish between the streets and the places (Saleh, 2001). Architect P (2017) agrees with this and adds that the homogeneous gridiron planning of Khartoum had its direct effect on the physical identity of the city. Therefore, urban design efforts will effectively eliminate that homogeneity and create places of uniqueness.

4.2.3. Dominance of planners over architects

With the absence of the role of urban designer, the physical identity of Khartoum is mainly being determined by planners. Although architects share this role, their impact is limited to designing within the boundaries of the building plot and is manipulated by the regulations that the planners legislate. Consequently, with the lack of comprehensiveness of those building regulations (see Section I in 4.2.1), the overall image of the place is characterised by this incomprehensiveness and the mentality of the planners thus, dominates the scene. Madanipour (1997, p.366) described the reasons for this mentality as being occupied by problems that are bigger and more serious than urban design and the image of the city. He demonstrated that generally in cities with similar situations to Khartoum:

> *Attention to the social and economic problems of cities has often side-lined design activities as irrelevant, or at best as unaffordable luxuries. In the middle of economic decline, it was argued there was no need for design, as associated with new developments, at a time when no development was in sight.*

Therefore, with the few efforts for imageability in the latest Structural Plan for Khartoum (KPP5, 2008), they may never be implemented or may be implemented but over a very long period. They are mainly influenced by the inevitable change in the political and economic context over the time

4.2.4. Expatriation

The era of the 1980s witnessed the beginning of the influence of expatriation as a significant factor in shaping the city (Interview G, 2017) due to the economic recession and unstable political conditions (Bashier, n.d.). Therefore, this has affected the whole Sudanese society and architectural practice specifically. Hence architects were forced to search for better working and living conditions abroad as (Bashier, n.d., p.4) emphasised:

> *This migration movement has drained the profession of rare expertise and young graduates who became more acquainted with the culture of globalization. As a result, a gap occurred between the generations and a shift away from the continuum of architectural traditions finally took place in the 1990s giving way to the stylistic fashions of the late 20th century.*

Thus, this shift was described by Interviewee H (2017) as the *"period of loss"* as people suddenly started to consider new architectural alternatives. Osman (2002) argues that this architectural change is one of the promises that are brought by the unexpected extraction of oil, yet, in a country with a poor economic situation.

Hence, within this economic recession expatriates were mainly those who had the money to build in Sudan. Accordingly, they utilised this opening up and promoted the search for alternatives by bringing new architectural languages. They returned to Khartoum with architectural dreams from the affluent oil-producing countries of Saudi Arabia and the Gulf (Osman, 2002) and other international examples; that they have admired either through experience or mere observation. Thus, they became saturated with those dreams and wanted to copy them in Khartoum. It could be argued that the influence of expatriates is more apparent in the housing sector. It is manifested in introducing a new housing prototype which includes a private house on the ground floor level and flats on upper floors. Through this new design, they were able to rent out the flats as the most secure way of investment. Osman (2000, p.2).

This phenomenon thus explains the sudden thriving building industry in the degraded situations of Sudan where the unstable political and economic situation do not encourage any other investments.

Accordingly, this new housing prototype has changed the image and the architectural language of housing in Khartoum. Architect A (2016), however, argues that this change is a serious deformation of the housing architecture in Khartoum because an architectural language that is completely new to the place has been introduced; one that has changed the residential architectural fabric in the city forever.

4.2.5. Political Influences

Political influences on architecture appeared from the early 1980s, during Nimeiri's regime which has witnessed many changes.[17] These changes included a shift in the government to a more Islamic approach announced officially by Nimeiri in 1983. However, the impact of the Islamic approach on the architecture became more apparent with the new regime that took over through a military coup in 1989 (Osman, 2000). However, similar to Nimeiri, *"at the end of 1991, the regime announced its intention to impose the Shari'a"* as its official source of legislation and hence it was known as the Islamic National Front regime (Holt and Daly, 2000).[18] This interprets what Architect G (2017) meant by a government with a *"certain ideology"*. Consequently, they utilised religion as their strongest weapon, which is difficult to question and highly likely to win mass support. They imposed it in everything such as legislation, education, culture and for sure, it had its influence on architecture. They called for a return to a forgotten Sudanese identity through Islamic architectural authentication, or what is known locally as '*Ta'seel'.*[19] Osman (2002, p.10 & 11) considers this newly created identity as "*Religious Fanaticism"* identity rather than an authentic one.

Accordingly, the interviewed architects considered this Islamic authentication as a serious problem to the architecture of Khartoum. This is because what had happened is a *"narrow-mindedness"* (*ibid*) of a design approach that shorthands the Islamic architectural expression in one pattern –such as the *Arch-* or what this research calls

[17] The era of Nimeiri extended from 1969 to 1985 which was such a long period that by early 80s Nimeiri lost the popular support. Therefore, in order to neutralise the opposition against him, in 1983 he announced an increase attention to the role of Islam that would attract mass support (Holt and Daly, 2000).
[18] The Arabic word for Islamic legislation.
[19] The Arabic term of authentication and what has been known locally as the phenomenon that accompanied the regime.

'*Elementalisation* of architecture'.[20] Architect I (2017) believes that it could have been "*a great chance to look afresh into Islamic architecture and to come forward with a modern model, to regenerate and to recreate the Islamic architecture".* Interviewee G (2017) described:

> *This is evident in the features used, which are meant to give a symbol of an Islamic state. Examples of these features are 'Arches'. Yet those arches were used in different shapes and forms. Therefore, most of the times, they were mistakenly used.*

Thus, with the government being the largest client in the building industry, this Islamic ideology has been reflected in the majority of the governmental buildings. In this regards, Interviewee G (2017) elaborated that the political ideology, when viewed from a bigger perspective within Khartoum, is not only affecting its architecture but also its planning:

> *When you talk about the city you also talk about planning, streets, open spaces. This is all done by the government…. and planners are driven by the political will. The decisions are almost political more than scientific…... Consequently, they end up dividing plots without any services and facilities, just because it is the political will.*

Additionally, other political influences on the architecture are caused by the continuous replacement of ministers and governors of Khartoum State. This resulted in ministers who only stayed for a short period of time, during which they formulated various architectural visions that are not consistent with those of previous ministers. Architect Q (2017) who worked for 10 years in a government-supporting office noted that they would get building orders such as: *"finish the building within two months".* Consequently, this architect admits that*: "in this case, we just design something to be built and finished. Such buildings are not well studied to accommodate the future in 40-50 years".* In other circumstances, the political influence is imposed on the building elevations by introducing new boundary walls with gates decorated by certain forms such as *arches*, or by forcing the architects to use green colour in all main elevations. Interestingly, green was the colour that the government adopted as its representative colour as another form of political infringement on the architecture of Khartoum.

[20] This will be elaborated later in section (7.3.3).

Nevertheless, it is important to draw attention to the fact that this Islamic authentication is not limited to Sudan. It is an international trend that has been adopted in different contexts and with different characteristics; see for example Islamic authentication in Indonesia (Destiarmand and Santosa, 2013). In Sudan, however, it did not only affect the built environment but also the culture and education (Osman, 2002). In order to conclude, it is worth highlighting that although the political influence was not the main focus of the research, it appeared as a factor that had a substantial impact on the findings as will be shown in the subsequent chapters.

4.2.6. The significant change of approach within key architectural offices

As the various political influences had their direct effect on architecture and the practice of many architectural offices, an overall observation from the interviews revealed significant transformation within the offices that have key roles in the architectural scene of Khartoum. It was noted that the older the office was, the more architectural change it underwent as it probably witnessed both the Modern and Contemporary Paradigms in parallel to the different political and historical developments in the city as well as the changes in the economic situation. Significantly, this change is Examples of these offices were highlighted during the interviews and examples from their architecture were roughly organised and sequenced in a timeline (see Figure 4.3).

The timeline indicates that the architectural language of these offices, in the beginning, represented a modern regionalist approach. This approach was achieved by using local materiality and designing environmentally responsive elevations that are well-shaded through shading devices, outer skins or balconies. Buildings that represented this approach can be regarded as early *Sudanese* experimentation in critical regionalism (Osman et al., 2011).



Figure 4.3 A timeline that indicates the transformation of the architectural language within key offices in Khartoum. Source the Author adopted from (Mahgoub, 2007a)

On the other hand, another architectural language appeared in response to the notion of previously mentioned Islamic authentication ideology. It was apparent through the interviews and the focus groups that there is a common belief that by applying some "Islamic" features, the building can reflect the Islamic identity which the government is calling for. An example of this was highlighted by an interview with office N. The office has passed down through the years from the father to his descendants. Consequently, this has resulted in a significant change of styles through the generations. On one hand, the father responded to the dominant architectural Islamic authentication ideology of the 1980s and thus his architecture adopted features from Islamic architecture such as *arches* to indicate an "Islamic" image. (Interview N, 2017) (see Figure 4.3 office N). On the other hand, the approach of the present generation has shifted to a more contemporary image aiming to represent Sudan in international projects and developments. In order to achieve this, the office is adopting different approaches that would ensure the flow of similar projects in the future, even if the approach results in a hybrid architecture being imported in Khartoum. By incorporating the hybrid architecture approach, their philosophy allows for borrowing architectural features from other countries and mixing them with features from local architecture. Noticeable examples of these projects are Petronas

headquarters and Meshirib residential project in which features from Malaysian (roofs) and Qatari architecture (arches) –respectively- were borrowed and applied in Khartoum – a representation of the act of alienating the urban fabric of Khartoum at its best (see Figure 4.4).



Figure 4.4 Petronas headquarters (left) and Meshirib project (right) as examples of projects by office N that were designed through a hybrid architecture approach. Source: https://www.teknoconsultancy.com/projects/commercial/petronas-headquarter/ and http://larkarchitects.co.uk/projects/mushaireb/

Moving on in the timeline to the late 1990s and 2000s, with the new-found oil resources, an unexpected increase in wealth and commercialisation resulted in opening up the country to the international market. This change brought with it new demands and aspirations that were reflected in the urban fabric of Khartoum and accordingly, a new contemporary architectural language was required. At this point, the majority of architectural firms suddenly drifted with the international architectural trend and therefore, it could be argued that those drifts were rather immature, experimental practices. This is because, in a short period of time, they copied some common practices from the international scene such as: using cladding materials and designing high-rise buildings, assuming that they would achieve an international architecture. Paradoxically, some of the interviewed architects were proud of this approach, despite the total disregard to the context. Architect F (2017) stated about the use of cladding and glass: *"we used aluminium cladding and glass in areas that we want to express modernity, and their use is intended, they give a good feeling"*. These practices thus formed the Contemporary architectural Paradigm (see Section 2.3.4).

On the contrary, architect X (2017) expressed deep regret to following this approach arguing that: *"For me, I regret this building* -see Figure 4.4, the top right building that represents the era of the 2000s- *…….. I regret introducing the curtain wall ….because we wanted to build an iconic and modern form"*.

It could be argued that the reason for this regret is due to the architectural shift of his office, which during the 1970s and 1980s produced some of the masterpieces of the Modern Paradigm in both institutional and residential buildings, in collaboration with the famous architect Abdelmoneim Mustafa.[21] Architect X (2017) has thus, implicitly, identified the cause of regression in the architecture of his office, which is a factor that has similarly been highlighted by other architects (Interviews G, k, R, 2017). Those architects agree that when the architectural practice in Khartoum is viewed at a larger scale, another aspect that adversely affected the significant transformation can be their position vis-à-vis the current political regime. They emphasised that architects who represent an opposition towards the Islamic National Front regime were marginalised from governmental projects and their role became limited to private projects. Architect X (2017) continued explaining that: *"there is no healthy process of assigning projects to someone competent. For example, they do not give us jobs unless they do not find someone else to do them"* and consequently his office became *"a little bit marginalised in its impact"* (*ibid*).

Similarly, Architect R (2017) stressed that, and added that this affects architectural identity of the Contemporary Paradigm: *"a lot of offices have been eliminated from the market and the architectural work has been monopolised. Therefore, the identity is being confined to certain hands".* Evidently, these certain hands are those who support the government, and consequently being assigned to the majority of the government jobs, which are currently *"towers of glass"* (Architect L, 2017).

This marginalisation, on the former group of architects, could, in a way or another, caused them to be drifted with the common international trend and to easily follow their client's preferences, regardless of the context. Nevertheless, it could be argued that this drift is, in fact, the result of the pressing need on them to survive and sustain what is left from their architectural reputation. Yet, deep down, to some of them, they are still reminiscing on their previous unique architecture.

4.2.7. "Cultural emptiness"

Osman (2002, p.8&9) argues that the notion of Islamic authentication that has been adopted by the Islamic National front regime in 1989 was conveyed in a form of a *"rigid militant Islam"* which imposed in the country a level of *"raging violence"* that resulted in *"cultural emptiness"* (*ibid*, p.8). and *"superficiality"* and: *"has led to the*

[21] *"Abdelmoneim Mustafa is regarded as the god father of Khartoum's architecture"* (Interview I, 2017). See also (Osman et al., 2011).

denial of all other cultures of Sudan and focused on its Islamic past, despite the fact that Sudan has a rich history preceding the advent of Islam and is an extremely vibrant and varied context" (*ibid*, p.11).

Therefore, this superficiality became more present in the built environment of KCC in forms of *"cultural contradictions"* such as; *"images of wealth (the discovery of abundant oil reserves), progress (the sudden interest of foreign investors and the influx of foreign money), a building boom and cultural revival (Khartoum being the cultural capital of the Arab world for 2005)"* (*ibid*, p.9). Arguably, by cultural contradictions, the author is referring to those sudden developments in the built environment of Khartoum, which are unexpectedly being born in a context of cultural flux. The resultant architecture of this is a series of expensive buildings –in the middle of a dilapidated or un-urbanised area and images of some sleek mega projects that are superficially designed, with some being decorated with Islamic arches in their boundary walls to satisfy the urge for Islamic authentication.

In this regard, the representation of culture in Khartoum has been limited to cloths, songs and some customs, with a complete absence from the physical form of the built environment. On one hand, some might argue that it is not necessarily important to reflect the culture in the physical form, especially that of the city centre's institutional architecture. Ideally, however, it is important for the architecture not to, at least, contradict with the place and the people and present, rather, an honest image.

However, it is worth noting that this *"cultural emptiness"* of Khartoum's architecture is now shifting towards more of a fashionable architecture. Some of the interviewed architects highlighted the difficulty for them to adopt certain local Sudanese cultural precedent and apply or abstract it in contemporary architecture. Therefore, they tended to disregard the culture in the physical form and mainly represent it in the internal spatial organisation –mainly in residential buildings, for example in designating separate zones for male and female guests. One architect, however, emphasised the importance of assimilating different cultural expressions, even in institutional architecture. His approach incorporates the possibility to superimpose different elements to represent different Sudanese cultures. This will be elaborated later in (Section III in 4.4.2).

However, all these trends have resulted in the architecture of Khartoum being like an experimental *fashion* that changes regularly according to the architects and their cultural beliefs. Paradoxically, Bashier (2012) views this fashion-like architecture, from another positive perspective. He believes that it can reflect the cultural diversity

of the community of Khartoum which is composed of a mixture of different ethnic groups from across Sudan, each with their own provincial cultures. While Khartoum acts as a melting pot for these distinct cultures, each cultural group would still preserve some special characteristics of their own localities and would *honestly* reflect them in their architecture. Therefore, this research argues that both Islamic authentication and architects' extreme freedom to reflect the various cultural assimilations of modern architecture in relation to their clients' local culture, result in the appearance of Khartoum's architecture being as a *fashion* glossed over with a superficial Islamic print.

4.2.8. Inadequacies of architectural education:

The issue of the inadequacy within the architectural education in Sudan has been raised repeatedly by the interviewees. They highlighted the gap between education and actual practice, in that the former does not adequately prepare the students for the latter. Therefore, graduate students tend to pursue an unrealistic design approach. While these design approaches produce very creative forms, they are in most cases alien to Khartoum's context. They lack the awareness of respecting the public realm and integrating it within their designs.

However, the issue of education is more complex than this. Originally, architectural education was introduced in the mid-1950s by the British through the establishment of the first architectural department in Sudan at the University of Khartoum. Notably, this school has remained the dominant architectural school in Sudan up untill now, and thus architectural practice was, to a large extent, influenced by its graduates. However, it witnessed various changes in the school of thoughts since its inception ranging from Modernism to Rationalism to Internationalisation and Freedom of architectural composition to a return to Rationalism. Consequently, these significant changes had their effect on the architectural scene of Khartoum and the practice of Sudanese architects. This has been captured during the interviews as architects – who are graduates of the University of Khartoum- noted that from the scene of Khartoum, one can distinguish the buildings designed by each generation based on their period of education (see Figure 4.5).

Osman (2002), who studied at the University of Khartoum during the period 1988-1992, argued that awareness about the context is crucial especially in developing countries or newly emerging cities and that new designs should not contradict the real context. However, Osman states that the Sudanese architectural education: *"had*

given me no skills to cope with situations that one would most likely to be confronted within African contexts". Architect D (2017) who studied at the University of Khartoum during the period from 1991-1996 has emphasised this and added that although he was taught architecture in a rational approach, it was a rigid approach that lacked basic contextual knowledge and consequently it does not allow for creativity. Within this, Osman (2002, p.5) described some examples such as:

> *creative brief formulation, achieving consensus between different government officials and departments, becoming aware of the socio-political motives behind government decisions, interacting closely with communities, contextual approaches to design that enable one to make relevant decisions at all stages of a project rather than to be confined to the boundaries of the site and the given brief: these were the aspects lacking in our education*

Following this, the education was shifted towards a *"freedom in architectural composition"* approach (Architect D, 2017). Architect P (2017) who studied at the University of Khartoum from 1996-2001 described it as follows:

> *There was a disturbance on the philosophy of architectural education as there was a lot of things that were marginalised and shorthanded to the form. The complexity of architecture was neither addressed in the design studio nor in the taught subjects*

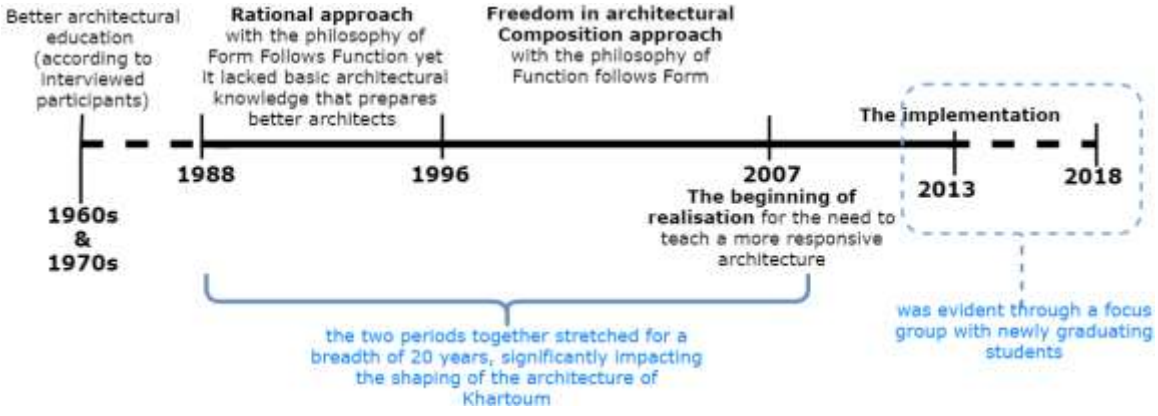


Figure 4.5: A timeline showing the changes of schools of thought in the University of Khartoum's architectural school and the direct effect on the architectural scene. Source: the Author

Nevertheless, the Sudanese architectural education is now facing new issues. Many new emerging private institutions –who are dealing with education as an investment- have launched new architectural schools. As a result, the prominence of the graduates of the University of Khartoum in architectural practice decreased amongst the graduates of the various architectural schools. Nevertheless, interviewee I (2017) believes that the University of Khartoum architectural graduates continue to dominate the education by developing the curricula of the emerging schools, and implicitly applying the University of Khartoum's School of Architecture's teaching orientation. As a result, the emerging architectural schools may embrace the same design approaches of the dominant mother architectural school. This intensifies with the kudos associated with the University of Khartoum and its reputation –(see Section 7.3.3)– in that the newly emerging schools are proud of following its architectural educational approach.

Paradoxically, current educators of the University of Khartoum -Faculty of Architecture– who were interviewed emphasised the disappointment of this blind following. This is because the school witnessed an era of obsession with the impressiveness of form where the form takes priority. This has stretched from 1996 until 2007 (Architect P & H, 2017). During this period, theoretical subjects that were taught were completely disjointed from the design projects and students were not implementing what they had been taught. The implication of this has encouraged dealing with the design from a bird's eye/aerial perspective rather than considering the actual architectural experience at the human level. One staff at the Faculty of Architecture at Khartoum University confessed: *"this is our fault and not that of the students"* (Interviewee G, 2017), and accordingly they believe that such approach is not worthy of being copied.

Therefore, those educators indicated that this approach is now being changed to a more rationalist approach. Through this approach students are diected to design real design tasks either past, future or current projects in the contemporary urban fabric of Khartoum. Within this, students are allowed some degree of creative experimentation without being excessively realistic or rigid. This could be more emphasised by challenging the students to respond to the surrounding urban context and assessing them based on that, with goals such as maintaining the originally available environment and way of living in the context. As an attempt to achieve that, new modules have been introduced about the history of the local Sudanese/colonial architecture (Interviewees G & P, 2017). Finally, for the goal to be fully achieved, the assessment criteria should also promote the proper urban contextualisation and

enlighten the students about their responsibility as architects towards their community.

4.2.9. Lack of consideration to the link between architecture and place

While those previously mentioned factors have significantly shaped the overall urban fabric of the city, an overarching factor could be highlighted that somehow affects all these factors; that is *the disconnection between place and architecture represented by the lack of appreciating and comprehending the role that the architecture could play in concretising and enhancing its place.* This factor was observed repeatedly when architects were interrogated about the way they visualise their architecture in relation to the surrounding context. The results emphasised that there is a considerable lack of proper approaches to contextual design. While few architects and experts expressed their awareness about the importance of that, others expressed a total disregard to it. The earlier group highlighted that they do not or are not able to always apply that to their architecture. The latter group, however, expressed a considerable underestimation of the effect of their new buildings upon an existing place and a lack of consideration of their responsibility as designers towards it.

Nevertheless, the impact of this factor affects both the architecture and its surrounding place and in most of the cases, it results in creating non-meaningful places with an alien architecture that does not belong to it due to excessive newness. Pallasmaa (2012, p.20) describes alien architecture as *"monuments of selfishness"* that *"flatten the sense of history and time"* and *"leave us as outsiders in our own domicile"* Consequently, this has a direct impact on undermining both the place identity and architectural identity of the contemporary urban fabric of Khartoum. Hence, the aim should be a rooted architecture which Brislin (2012, p.10) describes as the architecture of resistance that resists the neutralising and alienating tendencies. It is the architecture that tends to celebrate the variety of human experience, the sense and the memory in order to generate a spirit of local identity (*ibid*).

In order to conclude this part, it could be argued that those nine factors have significantly shaped the overall urban fabric of the city and consequently reflected an uncertain architecture. However, their influence is more noticeable in KCC, being the central point that has witnessed the different historical periods of the city and thus, accommodated different architectural layers. The juxtaposition between those

different architectural layers and with Khartoum being a postcolonial place, the issue of identity came to the fore as an important issue to explore and interpret in the architecture of KCC. Therefore, this second part the research commences the investigation on identity by exploring the relationship between the postcolonial context and the contemporary architecture in KCC and how the identity of the latter could be interpreted within the identity of the former.

Part 2

4.3. Is it possible to define identity?

The early exploration of this research has commenced with the hypothesis that architectural identity could be precisely identified. Moreover, it was presumed that architects in the interviews would be able to comment about the identity they create through their architecture. However, this could be considered an overwhelming expectation. This is because many participants requested a clear definition of the word identity whilst others seemed to answer without precisely identifying which dimension of identity they were explaining. Within this, general definitions of the term identity were explored. According to the Oxford English Dictionary (2018), identity is *"the characteristics determining who or what a person or thing is"*.The Cambridge dictionary defines it as: *"who a person is, or the qualities of a person or group that make them different from others"* (Cambridge Dictionary, 2018). Additionally, it was important to look at the definition of the word in Arabic as it might represent the most relatively close meaning that the participants will be thinking of when being interviewed. Accordingly, identity, as translated from Almaany Arabic Dictionary (2018), is defined as *"the person's own justification or feeling of his self and his individuality"* whereas national identity is *"the distinct characteristics of that nation and its originality".* Fearon (1999) argues that although the use of the term 'identity' nowadays is a recent social construct that everyone knows how to use properly, it is still difficult to give a short and adequate summary that captures the range of its current meanings. This is because identity is often treated as something *"ineffable and even sacred, while in the academy identity is often treated as something complex and even ineffable"* (ibid, p.4).

Fearon (1999, p.2) distilled the meaning of identity from the analysis of both the current usage in ordinary language and social science discourse. He argues that the term identity is presently used in two senses: social and personal. In the former sense, he defines identity as *"a social category, a set of persons marked by a label and distinguished by rules deciding membership and (alleged) characteristic features or attributes".* As for the second sense of personal identity; *"an identity is some distinguishing characteristic (or characteristics) that a person takes a special pride in or views as socially consequential but more-or-less unchangeable".* Lynch (1960, p.8)

interprets the identity of an object as *"its distinction from other things, its recognition as a separable entity. This is called identity, not in the sense of equality with something else, but with the meaning of individuality or oneness".* Brislin (2012) emphasises that the definition of identity could be either tight or loose, nevertheless it endows a sense of survival:

> *What is identity, that ephemeral and quixotic thing? Draw it too tightly and it is a noose: a boundary marker that defines the separation between individuals or between one group and another; a blunt weapon of differentiation that fuels rippling scales of dispute from neighbourhood argument through to Xenophobia and war. And yet draw identity too loosely and we no longer feel the connection between people and place….. Ironically, that which sustains us might also destroy us. But there is no doubt that a sense of identity is essential to survival – of individual, family, group and neighbourhood* (Brislin, 2012, P.8).

When identity is linked to architecture it *"goes beyond the visual appearance of the built environment and involves meanings of those built environments to the people who created them and the people who occupied them"* (Salama, 2005, p.77). This is because architecture plays a key role in expressing the socio-cultural and political identities through its spatial, physical and representational dimensions (Bandyopadhyay and Montiel, 2013). *"While the extent to which architecture still retains the ability to express identity in today's schizophrenic, globalised world is debatable …… its role nevertheless continues to be accepted"* (*ibid*, p. xiv). This is particularly important when an environment possesses a unique character. In this case, according to (Salama, 2005) it may be safe to say that this environment has an identity. He elaborates that *"an environment may be unique due to the use of certain unique forms that are to be found in this environment and nowhere else"* (*ibid*, p.79).

In a similar way, when the scale expands to the whole environment instead of the architecture alone, Lynch (1960) calls it the 'environmental image', which comprises three components: identity, structure and meaning. While identity is about individuality and the oneness of an object, a structure is about the spatial and formal patterns of the object and its relation to the observer and other objects. Meaning, on the other hand, is about the meaning for the observer, whether a practical or an emotional one. However, Lynch (1960) stresses that the meaning of the built environment is a complicated issue that is not easily influenced by physical

manipulation alone as opposed to identity and structure. Rather, it is manipulated by peoples' psychological feeling and their cultural backgrounds.

Moreover, Salama (2005) adds that the identity of an environment is also about the uniqueness of the activities that are usually performed in this environment and nowhere else. Here, it is important to highlight that the identity of the environment expands to encompass the whole environment, which will include besides the physical fabric of the buildings, streets, natural characteristics and activities. In this regard, this environment acts as the place that provides "*the stage-set"* for the actions of our daily lives within its tangible and intangible characteristics.(Bandyopadhyay and Montiel, 2013, p.xiv). Therefore, identity in this instance is about the whole place identity. Salama (2005) puts both architectural identity and place identity in other terms and thus classifies identity into visual identity, and activity-based identity. Moreover, Bandyopadhyay and Montiel (2013, p.xiv) link identity to memory arguing that: *"memory is intimately connected with the construction of identity; it is with the memories we collect throughout our lives that we construct our sense of identity and belonging".*

4.3.1. A review of architectural identity in similar contexts to Khartoum

Bandyopadhyay and Montiel (2013) argued generally, that identity should not express the social, cultural and political peculiarities of the present time only, but should also be an instrument to resist the destructive effects of globalisation. Paradoxically, debates on 'local identity' came into prominence recently, during the 1980s, when concerns arose from deep crisis confronting the traditional foundations of culture (Herrle, 2008). This crisis was mainly fuelled by the realisation that modernism had failed to deliver on its promises and aesthetics coupled with the disappearance of centralised institutions and collective minds as societies move through globalisation (ibid). Therefore, Bandyopadhyay and Montiel (2013) emphasise that critical positions in architectural identity discourse need to deal with the current volatile and chaotic situation of architectural identity.

Hence, it was informative to review the issue of local architectural identity in contexts similar to Khartoum, specifically from the Middle East and North Africa. Salama (2005, p.80) argues that there is an identity crisis in the Middle East and North African countries as the architectural profession on those countries suffers the absence of criticism and evaluation of the built environment. He then defines identity crises as:

"a feeling of uncertainty about who we really are and what is the purpose and what are the tools for manifesting our culture in the built environment" (*ibid*, p.80).

Salama, moreover, relates identity crises to some major reasons such as the sudden transformation in many Arab countries in the last 30 years due to major political or economic changes. As a result of these changes, the public has viewed the western model as a reflection of the contemporary lifestyle. Accordingly, Salama (2005) stresses that some Arab architects slipped into the blind copying of western architecture, which resulted in creating a false identity that expresses the values and principles of different communities and lacks the economic, environmental and aesthetical responses to the local context. However, it is important to bear in mind that, as the findings from the interviews highlighted, this new identity is the natural architectural development that suits the forcers of internationalisation and globalisation. Hence, 'outside' influences should not be considered as completely 'false' in a globalised world.

The first example of those reviewed architectural contexts is Egypt. With no exception, in the late 1970s, the country witnessed rapid urbanisation coupled with an intensive Postmodern architectural and urban development. This allowed for new experimental practices which were coupled with a banner of constructing identity. Therefore, this resulted in the emergence of different schools of thoughts regarding the issue of identity. To explore these schools, Salama (2005) reviewed the works of recent architects from the 1990s, which was an era that witnessed the flourishing of Postmodern trends that were influenced by historic and vernacular architecture. He thus classified architects' trends into Historicism and Historical Revivalism, Regional Modernism or Modern Regionalism and other trends that were difficult to categorise. It could be argued that the lesson learned from this case that, the presence of various trends to construct local identity represents the lack of collective consensus onto the extent to which historical and vernacular symbolism can be utilised into the contemporary identity.

Riyadh (a.k.a. Arriyadh), the capital of Saudi Arabia, has witnessed similar rapid urbanisation in the late 1970s that accompanied the abundance of wealth from the newly increased oil resources. As Saudi Arabia emerged as an important nation, the government was keen to show the world a new image. Consequently, the historical urban fabric of the city was abandoned (Saleh, 1998) and the *"upsurge in the economy gave them the financial muscle for modernization, but they were entering an area in which they had no previous experience"* (ibid, p.585). Therefore, this has brought a sudden appearance of an imitated western architecture in the urban fabric.

However, its recent developments have taken a different approach. Notably, a common consensus about the role of architectural and urban identity has recently started to be recognised. They have been identified as a tool for improving the spatial and physical quality of the newly built or transformed environment (Saleh, 1998). To explore this, Saleh (2001) reviewed the recent contemporary institutional and cultural projects, as well as urban design projects that succeeded in adopting the historic symbolism from traditional architecture and the old urban fabric of Riyadh. Saleh believes that those projects have played an important role in creating a shift towards maintaining a sense of continuity with tradition, ensuring the cultural revitalisation of the city and stimulating a sense of attachment and belonging. It is important to note that the lesson learned from this case is that, the wealth of the country, coupled with improved awareness about the role of tradition in creating a unique architectural identity and the belief about the role of urban design, has helped in the cultural revival of the city. However, it is the government strategy and vision that instigated this kind of revival, an advantage that is absent in many other newly developing countries where governments are more occupied with more fundamental issues such as poverty, absence of infrastructure…etc.

In the same footsteps, Kuwait witnessed a movement towards expressing cultural identity in its architecture. This was the result of a revival and awareness by the Kuwaiti architects in early 1990s, to their responsibility in creating modern architecture, suitable for their community, environment and heritage (Mahgoub, 2007a). This awareness was discussed in conferences and in the Media and was supported by research. To review this, Mahgoub (2007) interviewed architects who are contributing to the production of cultural identity in Kuwait. He identified several strategies that were employed by those architects in their designs as follows: *Pragmatic, Iconic, Analogic, Canonic, Symbolic and Metaphoric* design strategies[22]. Surprisingly, despite the shorter period of actual architectural production by Kuwaiti architects, they managed to assimilate local identity through those various strategies.

However, El-Sheshtawy and Abul Nagga (2000) argue that in a world now dominated by forces of globalisation, the common discourse on the identity crisis needs to be reconsidered. They believe that a *co-existence model* can be applied by taking into account the forces of modernisation and at the same time responding to the traditional elements in the society. Kuwait and Riyadh might be good examples to reflect co-existence models. However, Mahgoub (2007a) argues that in many developing countries architectural identity can hardly be localised since in many

[22] The first four strategies were originally suggested from (Broadbent, 1973)

places identity entails composite patterns with more than one identity. Derakhshani (2012, p.31) agrees with this and questions: *"How can multiple layers of identity be located within architecture? How can the architecture of each society become the true representation of its complexity?"*. Therefore, to explore and analyse these identity models it seems inadequate to explore only the 'local architecture' as it does not reflect the dynamic nature of the emergence of local identities in those contexts (Tzonis and Lefaivre, 2003). Therefore, Derakhshani (2012) chooses a more 'inclusive' approach, rather than an 'exclusive' approach to exploring architectural identities which can successfully represent the plurality in these contexts. In this sense, he classifies the approaches to local identity as:

- Reclaiming the local: through careful borrowing of elements from rich architectural traditions and reuse them to re-create the 'new local'.
- Inventing new identities: in newly emerging cities, which might not have rich traditional architecture, through strong, place-specific buildings to represent the country internationally.
- Appropriating the local: when the public and users reinterpret projects in a manner that is different to that which the architect had in mind and find other merits in the architecture (*ibid*).

With architecture playing a key role in expressing both the socio-cultural and political identities through its spatial, physical and representational dimensions (Bandyopadhyay and Montiel, 2013), Derakshani's approaches represent both of these roles by including the shaping of both the political-institutional architectural identity as well as the vernacular-residential architectural identity. The latter, however, is where the socio-cultural dimension mostly manifest compared to the earlier.

While the review of this literature has highlighted that exploring the architectural identity in Khartoum has to be in an inclusive approach that would accommodate the extreme plurality of the community, the case of KCC determines to focus only on the political-institutional approaches. Therefore, the next section could be regarded as an overview that interprets then classifies the various approaches for the production of the current political-institutional architectural identity in Khartoum generally and KCC specifically. This will be based on the approaches of the architects and how they link their architecture to the surrounding place.

4.4. Architectural identity of KCC: A centre with a rootless character?

Khartoum, the capital of Sudan, is a postcolonial city that although became independent 60 years ago, the path of its architectural identity is yet to be defined. Reviewing some recent practices and debates on similar contexts of Arabic and African cities (see Section 4.3.1) has emphasised this and highlighted that this situation is similar to most countries in the Middle East and Africa. Salama (2005) argues that the cultural uniqueness in those countries has made identity a tough quest. While Norberg-Schulz (1980, p.137) has exuberantly described the genius loci of the place Khartoum (see Section 2.1.1), he criticised the architecture of the late 1970s arguing that: *"the impact of the forces of 'modern life' starts to make itself felt…without slightest understanding of the genius loci".* The situation later became even worse; the period of the 1980s witnessed an opening up of the country following the new-found oil wealth resulting in bringing foreign interests in the country by the 1990s who brought foreign materials with them and an alternative language and scale of buildings (Osman et al., 2014). Therefore, the authors went even further to declare that: *"Architectural production in the country is today characterized by imitation and a rootless character"* (*ibid*, p.10). This new architecture has been defined in this research as the Contemporary Paradigm (see Section 2.3.4).

Based on this, the present researcher thought to examine firstly: why there appears to be something missing in Khartoum's contemporary architectural spirit and the general reasons behind its so-called *"rootless character".* Apparently, this issue seems to be almost neglected and has not been convincingly studied in recent architectural research in Khartoum, especially of the period from the 1990s to the present. Nevertheless, findings from the interviews have re-emphasised this rootless character and identified the main gap in Khartoum's architecture as; the *lack of appreciating and comprehending the role of the architecture in concretising and enhancing its place*. Therefore, this research continues the exploration of Khartoum's architecture by tackling the issue of its architectural identity. Architectural identity in this sense was chosen because of its role on the place and especially if this place is a postcolonial one that endeavours to create its postcolonial identity (see Section 4.2).

One early notable finding about architectural identity in Khartoum was that architects had different interpretations of the issue of '*Sudanese* architectural identity' in the current contemporary architecture of KCC and thus, they had different

representations. While some consider that it should be a local *Sudanese* identity with elements derived directly from *Sudanese* local culture(s) and traditional architecture, others consider it should be an Islamic one and others believe that it should be an international identity that responds to forces of globalisation. Paradoxically, within each of these three opinions, there were other interpretations of how these approaches to identity could be achieved (see Table 4.1). This highlights that Khartoum's architecture lacks the collective voice of architects to construct local *Sudanese* contemporary institutional architectural identity. Evidently, it was found that efforts to create local architecture were individualistic and minimal as only three out of the 26 architects are holding on to create an identity that is derived from traditional architecture. Nevertheless, the exploration will consider that forces of globalisation are inevitable and unavoidable in a rapidly urbanising context like Khartoum.

Table 4.1: The various representations of 'Sudanese architectural identity' in the current contemporary architecture of KCC according to interviewed architects.

Local Sudanese Identity: Could be obtained through	**International Identity: Could be obtained through**	**Islamic Identity: Could be obtained through**
A few local residential patterns such as (Qotiya houses in western Sudan or houses of Suakin in eastern Sudan)	Using new imported building materials	Arches, domes, vaults
Choosing materials that are suitable for the weather	Green architecture	Green colour
Applying ornamental patterns (such as Nubian patterns) in building facades	Renewable energy architecture and adopting new technologies	Ornamental Islamic patterns
Or/ Does a Local Sudanese Identity even exist? Is it a Pharaonic architecture? Or Meroitic architecture from Meroe kingdom in North Sudan?	New aesthetical qualities which were not there before	

This finding was then followed by a notable common perception: that identity in Sudan will always remain an unsolved issue due to the cultural plurality of the country

(see Section 1.2.2). While this fact is true, the perception is rather over-pessimistic, as a common quote was shared by many architects who were surrendering to the belief that: *"we are living in a dilemma of a lost identity".* As a result, this perception had affected the practice of the architects in their approach to design and oriented it towards an exploratory manner, with a considerable disregard to the cultural symbolism, especially, at the external form and its impact on the surrounding place.

While multiple interpretations of the issue of identity is a common norm, reflecting that architecturally requires some controlling. However, it is with regret that issues such as the pervasive negative perception about the government,[23] as well as the rapid urbanisation are considered far more serious problems than searching for a local identity or controlling the existing approaches to contemporary identity.

Nevertheless, the next sections will analyse then categorise the existing approaches to achieve the contemporary institutional architectural identity in Khartoum in a slightly similar classification to Derakhshani's (2012) categorisation (see Section 4.3.1) as follows:

4.4.1. Imposing new identities

International style and globalised architecture are currently the norms in the contemporary architecture of KCC. It has been promoted by the government as its new image (KPP5, 2008) and (Interviews F & M, 2017) as a replacement for the Islamic authentication one. Coupled with economic limitations, responding to market requirements, client preferences, and the immature exploratory architectural practice (see Section 4.2.1) this has resulted in an uncertain contemporary architectural identity and an architecture that is based on an obsessive search for 'newness' (Pallasmaa, 2012). This excessive modernity represents an implicit denial of the country's past evident in a series of 'naïve *attempts'* to completely wipe, neglect and reformulate the country's history (Osman, 2002). As Osman (2000, p.2) adds*: "this 'western' commercial centre –referring to KCC- is obviously in decay through neglect"*

In addition to the governments' image, this excessive newness is also supported by people who copy new visions from different places and paste them in their architecture such as investors and developers. In a way, they are imposing their dreams on the architects under the label of promoting Khartoum to the global market. Therefore, they end up requesting projects that are either excessively modern or

[23] During this research, revolts and protests busted in Khartoum from December 2018 requesting the end of the National Islamic Front regime, which successfully happened in April 2019.

incorporate architectural features borrowed from other cultures. However, it could be argued that those newly introduced structures do not always provide a coherent urban structure at the same rate of change in people's tastes and values. Therefore, *"the speed of transformation in society has led to a disjoint; shifts in tastes and values have introduced new forms of commercial and retail structures"* (Derakhshani, 2012, P.30).

Consequently, the architectural transformation in KCC reflects a relatively dishonest transformation as it is mainly driven by the imposed image on the architecture rather than a true representation of the tastes and values of the local people on one hand and a response to the place on the other hand. With this in mind, architects started to easily disregard the surrounding urban context and rarely pay attention to it in the design process. Thus, architects are designing an institutional architecture with the intention of being aesthetically striking, regardless of the physical context. While Adam (2012, p.176) argues that *"architects are the agents of the symbolic visual markers of identity and, at the top of their profession, have been instrumental in major changes in the built environment"*. This role is yet to be implemented in Khartoum as its current built environment represents an uncertain architecture as the majority of architects are seeking their self-identification, gratification and expression at the expense of their actual responsibilities to their context. Within this, it is possible to find a common belief amongst architects that the architectural identity is not an important consideration and that they are free to impose any identity in their buildings. Thus, instead of dealing with architectural identity collectively, architects are considering it as a single-identity/per building. This could be considered as another pressure on the architects, that is to think more artistically in order to save their reputation as Dovey (1990, p.6) argues: *"a parallel core belief is in the idea of artistic autonomy wherein the architect's reputation is strongly identified with, and judged upon, the image of the building".*

However, architects are not the only players in this. Planners -representing the government through urban planning and building regulations- are also responsible as well as the public. There is a considerable lack of awareness about the importance of the public realm from all those parties. Evidently, there is a lack of investment in the public realm by the government and consequently, the public does not have the awareness of sustaining and respecting what is existing. Consequently, when the contemporary imposed architectural identity of KCC is compared to the unique architectural identity of both the Colonial and Modern paradigm architecture, it reflects an identity that is nascent and still developing.

Within this, it was interesting to collect some examples of the opinions on how researchers and architects interpret this newly imposed architectural identity and its impact on the place. On one hand, some viewed it negatively and with a pessimistic impression. A representative quote for this is by architect X (2017) who described the current contemporary architecture of Khartoum as being*: "a little bit chaotic with a juxtaposition of different schools and ideas without a proper link. If you tour in Khartoum you do not feel any happiness; contradicting buildings and very ugly, it is very disturbing".*

On the other hand, Architect G (2017) had a contrasting opinion on the current identity. He believes that the current situation is a period for searching for the identity of Khartoum and that all architect's trials currently are helping in shaping the base of Khartoum's architectural identity. He attributes this to the fact that Khartoum is a newly emerging city that was established as a centre only 120 years ago. He thus described that as if architects are *"shopping for identity".*

Despite the fact that what architect X is arguing is largely true, the future of the architecture of Khartoum requires a more optimistic approach to interpret the current identity. A vision that is more related to Architect G's interpretation; considering it as a period of transition during which the identity is still under construction. This will allow for a more objective approach to interpreting the identity, which will be discussed in the following chapters.



Figure 4.6: A contemporary scene of KCC. Source:
https://www.pinterest.co.uk/pin/482800022528213215/

4.4.2. Reclaiming the local: A different promise?

This approach to architectural identity relates to the efforts of architects who are attempting to revive a sense of local identity in the contemporary architecture of Khartoum. The term 'reclaiming' is adopted from Derakhshani (2012) who described it as the careful borrowing of elements from traditional architecture and their reuse to re-create the 'new local'. In Khartoum, the interviews with architects revealed that attempts to reclaim the local are minimum. Only three out of the 26 interviewed architects expressed a consideration to achieve a local architecture by showing considerable sensitivity to the surrounding place and its particularities. Their approaches to reclaiming the local are either by direct borrowing from traditional architecture to deliver an explicit symbolism or an abstraction from traditional architecture to deliver an implicit symbolism, i.e., a metaphor. They, moreover, overlap in certain approaches such as the use of local materials and low-rise architecture. Those architects highlighted a different way of thinking that was absent from the majority of architects and that provided a new promise to what this research considers as efforts to deliver a local *Sudanese* identity.

The approaches of those three architects are as follows:

I. Responsive approach to local architecture

The leader of this approach is architect Hayder Ahmed Ali. In order to achieve locality, he commences his designs by capturing the spirit of the place he would like to design and aims to reinterpret that and reflect it in his architecture. He thus, visits and interacts with the local society and sometimes mingles with them in order to understand their cultures, their needs, the characteristics of their place and their local available materials. Through this, he was able to appreciate the richness of natural resources in Sudan, which can be used as local materials, from timber to bricks to different types of stones in different parts of Sudan. Consequently, he started to emphasise these distinct local materials and use them extensively in his architecture, aiming to represent the philosophy that: *"the expression of materials is the visual symbol of the building"* (Interview 2016).

Despite Hayder's humble beginnings in the use of local materials -which he applied in residential buildings only at first- his later discovery of the abundance of different types of local materials in Sudan had encouraged him to expand to other building types including institutional architecture. Within this, he started to think in a more liberal way by designing institutional buildings that are built from local materials and at the same time more open to the environment. This had reflected a new way of

thinking in the contemporary urban fabric of Khartoum by achieving an authentic local spirit in a contemporary way. In this regards, Osman (2002, p.14) recognised that: *"Hayder is more courageous than his peers in the play with form, and to some extent, ready to take risks with construction and structures".*

Other characteristics of Hayder's architecture include simplicity of forms, linearity, strong indoor/outdoor spatial integration, incorporation of contemporary structural materials (viz,.steel) with local materials, and shading and protection of elevations using small or shaded openings (see Figure 4.7). However, in one of the architect's institutional buildings, Hayder followed a rather unusual approach to achieve locality (see building D in Figure 4.7) by borrowing colonial arches used extensively in the University of Khartoum buildings in KCC (see Figure 4.8). Khalifa (2018) classified this building's influence as Neoclassical, which depends on inspiration from historical architectural elements and allows for a certain level of borrowing. Khalifa praises Hayder for this approach and highlights that he succeeded in adopting the colonial arches in a creative new way that, certainly, will attract the admiration of those who celebrate and reminisce about colonial architecture. Nevertheless, the use of arches is questionable. It could be argued that Hayder wanted to safely guarantee a strong image for his educational building and in order to execute that, he adopted the essence of the colonial architecture –represented by the arch- and employed it in his building. Regardless of those two opposing arguments, an architecture like this, undoubtedly, stems from the place and reclaims the local, even if this local is *colonial* architecture, which highlights an interesting paradox.

Nevertheless, with every newly emerging approach, there are associated challenges. Hayder highlighted the difficulty in convincing some clients about the importance of an architecture that reflects its place. He noted that, in many cases, it was a difficult task to change people's perspectives and beliefs about considering the positive role that their architecture could play in its place. However, he emphasised that it inevitably remains the absolute role of the architect as a leader in his society as he argues: *"you need to lead if you want to create a real and a responsible architecture"* (ibid). Moreover, another challenge is the weakness of the building regulations which, unfortunately, do not provide proper guidance to the architects in their explorative endeavours to reclaim a local architecture that successfully concretises its place.

A



B



C



D



Figure 4.7: Reclaiming the local through the Responsive approach ; Buildings **B** & **C** (Football Academy & AlSlamabi School) are characterised with simplicity of forms, open ground floors, small openings and designs that are more open to the environment. Building **A** (Saudi Bank) however, is more solid as a requirement of the function of the building as a bank. As for building **D** (Ahfad University – School of Psychology AUSP), it represents a different approach with pointed arches borrowed to represent certain symbolism. Source: The Author & Hayder A.Ali Architects.

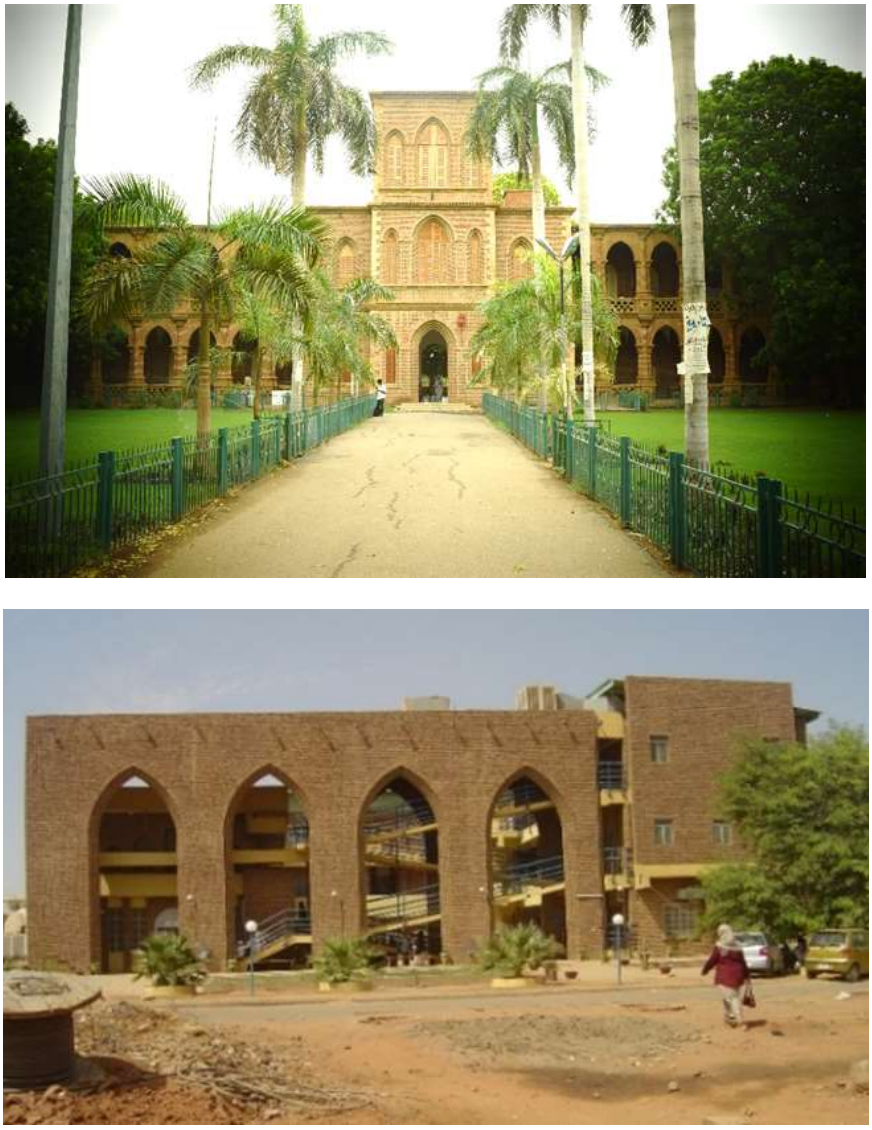


Figure 4.8: Adopting Arches from the colonial architecture of the University of Khartoum (Upper picture)-to reclaim the local by Hayder A.Ali in Ahfad University School of Psychology (lower picture). Source: Author's archive and Hayder A.Ali Architects

II. Abstractive approach to local architecture

The leader of this approach is architect Mohammed Elmisbah. However, his approach could be considered as a descendant from the previous approach as the earlier architect –i.e., Hayder - was his mentor during his early architectural practice career. Elmisbah started his practice in the early 2000s with free experimentation as he calls it: *"a non-balanced explorative architecture"* (Interview 2017). This was in line with the common trend –adopted by the main architectural education institution– University of Khartoum- that called for freedom of architectural composition (see Section 4.2.8). Elmisbah, acknowledged that he was saturated with this approach

and as a result, his early experiments were not stemming from the place, rather, he was focusing on creating an impressive architecture to build his reputation.

While such experimentations should be guided by the building regulations, the latter is still not well-sophisticated to address the particularities of the place. Despite this, the architect realised his responsibility towards the urban fabric of Khartoum. Inspired by the famous Japanese architect Kengo Kuma[24], Elmisbah started to explore an architecture that stems from the place. Similar to Hayder, he began his exploration with local materials, especially with stone. He describes it as *"a journey with stone"* (ibid). He applied stone as the main construction material which symbolised a new use that is different from its commonly known uses in Khartoum, namely: for decoration or cladding. Therefore, Sudanese people reacted to his utilisation of stone reluctantly. In addition to stone, the architect used other local materials such as stabilised, compressed soil, bamboo and hay which is known locally as *Hassir*.

Nevertheless, the real essence of this approach is manifested in the abstraction of the local forms of the traditional Sudanese house (see Figure 4.9). He abstracted the cubical units of the houses and utilised that as a module to compose his forms either as masses or as openings. He adopted this in the majority of his designs, whether residential or institutional buildings (see Figure 4.10). Despite these efforts to reclaim locality, Elmisbah stated that he received a lot of criticism on those cubical forms describing them as rigid and as "*matchboxes*". However, in an attempt to deal with the refusal of the use of stone as the main construction material and the cubical forms, Elmisbah started to combine contemporary materials with stone, he emphasises: *"I came to know that old with new is better than purely contemporary or purely old. The mix is beautiful and vital" (ibid).* Moreover, he used those new materials to create semi-shaded areas or walls that could break the rigidity of the cubical forms.

[24] Kengo Kuma is a contemporary Japanese architect. His design philosophy relies on expressing the emotional content of materials, connected with their intrinsic characteristics in construction and with the teachings of Japanese tradition. He also integrates his buildings with their surrounding place (FLOORNATURE 2018).



Figure 4.9: Typical scene in traditional vernacular neighbourhoods in Khartoum (left) and rural areas (right) with the houses as simple cubical forms. Source: Gamal Hamid's archive.

However, it was noticed from the exploration of KCC's architecture that both of the Responsive and Abstractive approaches are absent from its urban fabric. It could be argued that those approaches if adopted, can give the opportunity to reconstruct missing links to the traditional architecture as well as raising general awareness about the importance of considering the spirit of the place in the design. They present a new promise for a contemporary *Sudanese* architecture that has a strong response to place. And, if applied in KCC, they could provide a better amalgamation with the existing Colonial and the Modern fabric due to their nature of adopting the same local materiality used in both Colonial and modern architecture. Despite those apparent benefits, a set of important questions are to be highlighted to allow for further future investigation on the contemporary architecture of KCC. As follows:

- *Why are these approaches absent from KCC?*
- *Why such approaches are only representing private projects and not governmental projects?*
- *Why these approaches are not being promoted properly?*

In order to conclude this section, both approaches can be labelled as efforts to Modern Regionalism or Regional Modernism, which Salama (2005, p.82) defines as: *"the incorporation of regional visual attributes into modern technology, where the interpretation of the past takes place to form a contemporary image"*. Ozkan (2007) also explains the term and from his definition, one can fairly emphasise that on one hand, such efforts are related as Modern because they respect the qualities of building materials and present functional justifications for forms that constitute buildings. On the other hand, they relate to Regionalism because in essence they utilise the regional qualities in their architecture and are unlike Internationalism

which demands to reduce the building to skin and bones (*ibid*). According to Ozkan (2007, p.109), these approaches could be labelled *"Abstract Regionalism",* which he asserts: *"mainly incorporate the abstract qualities of a building, for example, massing, solids and void, proportions, sense of space, use of light and structural principles in their reinterpreted form".*

Inevitably, through these approaches, cultural revival and place attachment could be manifested through the architecture, which is yet to be achieved in Khartoum.

A





Figure 4.10 : Reclaiming the local through the Abstractive approach to local architecture; Building **A** (commercial) represents ElMisbah's first experimental designs. As for buildings in raw **B** (private houses) represent the utilisation of stone in residential architecture and the abstraction of the traditional residential architecture into simple cubical forms used as the modular system for this approach. Buildings in Raw **C** (educational building, Alwaqaf library and a commercial building), represent the utilisation of stone in institutional architecture. Source: Octantis Architects (2017)

B







C







III. *Eclectic approach to local (Sudanese) architecture*

Led by architect Jack Ishkanes, this approach adopts the philosophy of reviving the Sudanese heritage in contemporary architecture. He believes that in order to revive history in the architecture and to *establish a sense of belonging* to a Sudanese architectural identity, it is acceptable to eclectically borrow elements from the Sudanese architecture in different parts of Sudan and to employ them in contemporary buildings.

Similar to the previous architects, Ishkanes started his practice with an experimental but eclectic tactic to search for a Sudanese architecture that stems from the local heritage. Therefore, he began his search by adopting the Nubian style as his main approach. [25] He achieved this by borrowing the triangular symbolic ornaments of the Nubian architecture and applied them in his architecture (See Figure 4.11). This style, later, resembled the essence of his architecture which he became associated with.

However, borrowing features from Northern Sudan and applying them in Khartoum at the heart of Sudan, was perceived at the beginning as an odd style. In order to convince fellow architects and to attract clients to his way reviving the Sudanese heritage, Ishkanes designed and built his own house in a Nubian style. Through this, he aimed to deliver a meticulous and sophisticated architectural design, which he executed uniquely from local materials and building methods. He was, moreover, aspiring to display for generations to come the possibility to revive their history. Even though the Nubian style could be considered as neutral to the place in its adoption of local materials and respect to environmental conditions, only a few people were convinced. Thus, his style *was embraced mainly by his* friends and relatives in their own houses. Nevertheless, the architect strongly believed in this style and managed to apply it in a few institutional buildings.

In addition to the Nubian style, and under the banner of preserving the architectural features that are in danger of extinction, Ishkanes went on adding, eclectically, more elements from the traditional architecture around Sudan such as:

- Arches and columns borrowed from the colonial architecture of Colonial Khartoum.
- *Mashrabia*[26] as a feature borrowed from the architecture of Suakin[27] resembling the Eastern part of Sudan.
- Some elements from the architecture of the famous Egyptian architect Hassan Fathi; specifically domes and vaults that were used extensively in his project 'Architecture for the poor'. The architect in an interview with Abid (2006) describes

[25] Nuba is a tribe and a village in the Northern part of Sudan. It is famous with colourful and decorative vernacular architecture.
[26] Mashrabia: is an architectural element that characterises Arabic architecture. It is a wooden decorated bay that encloses the windows externally to provide privacy.
[27] Suakin: was a port city in Northeast Sudan. Now marked as a heritage site

him as the: *"Godfather of the Nubian architecture who provided it with its universality"* (see Figure 4.11).

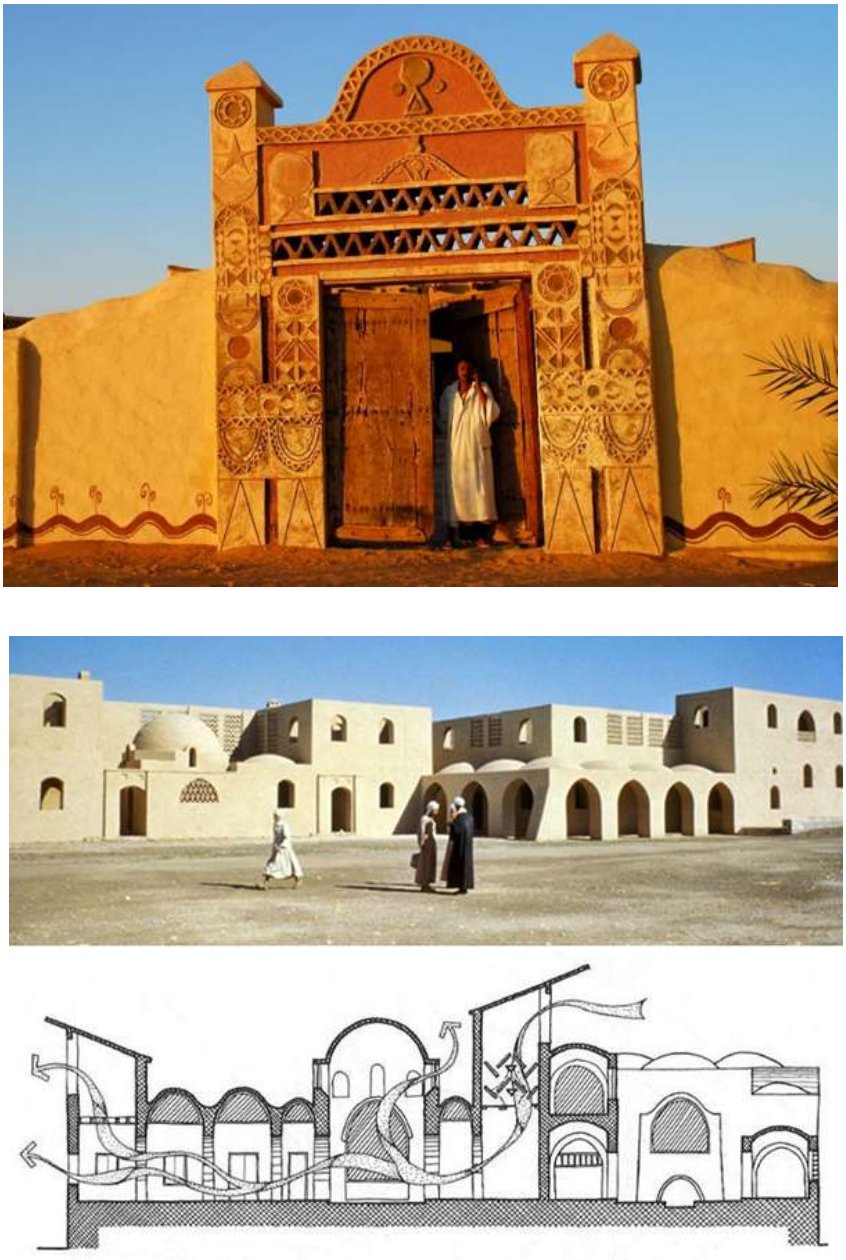


Figure 4.11: Sources of inspirations for Ishkanes's approach to achieving the Nubian style: Nubian architecture in Northern Sudan (Above) and Hassan Fathi's architecture of the poor project (below) Source: http://www.italtoursudan.com/struttura/nubian-rest-house/and https://www.arch2o.com/islamic-architecture-contemporary/

Ishkanes explained his eclectic approach stating that in his designs:

> *I apply some touches of modernity and I then sweeten the building up by touches from our old heritage. For example, we designed regional architecture in Kasala where we took elements and features*

> *from the main local mosque there.*[28] *We also designed a building in Portsudan where we used the gate of Suakin. I also used the Mashrabia and the internal courtyard concept in my designs* (Interview L, 2017).[29]

This approach could also be labelled as what Salama (2005, p.81) calls "*Historicism or Historical Revivalism",* or as what Ozkan (2007, p.104) calls "*Vernacularism".* The latter defines it as *"bringing a new and contemporary existence to vernacular forms and spatial arrangements"*. Surprisingly, Ozkan highlights that one of the main contributors to *Vernacularism is* Hassan Fathi, who, as mentioned before, was one of the main sources of inspiration for Ishkanes *(*See Figure 4.11).

While a considerable number of the interviewed architects considered this approach as a negative endeavour and criticised its extreme eclecticism, Osman (2002,p.14) considers it as a positive endeavour. She argues that Ishkanes *"is one of the few who is in a process of searching for a true Sudanese architecture by searching for environmental, cultural and historical clues".* Nevertheless, the applicability of Ishkanes's approach in institutional architecture seems to be controversial as the validity of borrowed historical features in a contemporary institutional building is rather more debatable. This became evident in Ishkanes's latest institutional buildings in which he freed himself to create ultra-contemporary designs with some decorated with cliché elements copied from here and there (see Figure 4.12 rows B & C).

To conclude, the Eclectic approach is different from the Responsive and Abstractive approaches to reclaiming the local in that it depends more on copying and pasting regional architectural features as they are without abstraction. Yet, its degree of success varies depending on whether the architect created a unique spatial and architectural experience or whether s/he limited his buildings to what Ozkan (2007, p.105) calls *"mere stage-set with pastiche"*; which will be judged, eventually, by the users.

[28] Kasala: is the capital city of the estate of Kasala in Eastern Sudan.
[29] PortSudan: is the capital city of the estate of Red Sea in Eastern Sudan

A





B





C









Figure 4.12: Reclaiming the local through the Eclectic approach.Buildings in row **A** (Private house and Ishkanes's personal house) reflect his influence by Hassan Fathi's Nubian architecture. Buildings in row **B** (Bitar Company Headquarters and Blue Nile Mashreq Bank/Sajana) which present Ishkanes efforts to apply his eclectic approach in institutional buildings through borrowed arches and colonial decorations. As for the buildings in row **C** (Ariab Mining Company, Blue Nile Mashreq Bank and a private house) they represent recent designs of Ishkanes in which he seemed to free himself and create ultra-contemporary buildings. Source: http://jackishkanes.com/work-avenue/

4.4.3. Islamising the Sudanese architectural identity:

The act of Islamising the Sudanese Identity in Khartoum can be classified into genuine attempts and naïve attempts. The distinction between the two was noticeable during the series of walks in KCC. As for the genuine attempts, they comprise the efforts of the architects who designed "Islamic" buildings and mosques with the aim of creating a local Islamic architectural identity. They employed the "Islamic" identity properly and creatively and succeeded in combining that in harmony with the peculiarities of the place which eventually resulted in a regional Islamic architecture in Sudan (see Figure 4.13).


عمارة إسلامية فى صيغة حداثية

قاليرى العمارة

Figure 4.13: A caption from an article in a local newspaper showcasing the unique regional Islamic architecture in Khartoum. Source: http://drhashimk.com/8383-2/, Author: (Khalifa, 2016)

Nonetheless, it could be argued that this innovation was not courageously extended beyond religious buildings, as if architects were reluctant to spread the "Islamic" style beyond those buildings. Within this, the naïve attempts became more noticeable in comparison to the genuine ones as they started to flourish as a representation of the notion of Islamic authentication. This notion was forced by the government who realised that it is extremely difficult to achieve an architectural identity in such a plural community like Khartoum. Therefore, they chose Islam as the shared accepted factor that can be imposed to unify the architecture, yet superficially on the external elevations of the buildings (see Section 4.2.5). Within this, the most common feature to impose this identity is the Arch, which can be found randomly, added as openings,

boundary walls or gates of the institutional buildings). Castells (2011, p.8) labels this act as *"legitimizing identity"* which he describes as an approach introduced by the dominant institutions of society to extend and rationalize their domination. This is now present as a phenomenon not only in KCC but in the capital as a whole (See Figure 4.14). Consequently, the interviewed architects highlighted some claims about this phenomenon, one of which was that any architect who utilises those "Islamic" features is highly likely to be a pro-government architect fulfilling the Islamic authentication vision.[30]



Figure 4.14 Naive attempts to impose an Islamic architectural identity in KCC following the Islamic authentication notion by the current government. Source: The Author

Paradoxically, within these different approaches of identity in Khartoum, some architects questioned the necessity of defining a *certain* Sudanese institutional architectural identity. Others argued that having a defined identity through certain urban and architectural character can be extremely rigid. Hence, those architects believe that the question of identity is no more valid. However, it could be argued

[30] Unfortunately, due to the lack of comprehensive documentation on the state of the architectural profession in Sudan, it was difficult to get an actual proportion of pro-government architects to private architects.

that the importance of architectural identity manifests in the need for identification in one's own city and recognition amongst other cities in the world where s/he can always refer to a sense of belonging.

Nonetheless, those later queries coupled with the previous literature review (see Section 4.3) have highlighted an important finding in this research that the topic of identity was not simple to explore, rather it was ambiguous. Thus, with the inductive approach of the research, a review from the literature to discuss and triangulate this outcome was crucial.

4.5. Ambiguity and complexity of the issue of architectural identity

Identity is a complex issue because it stems from numerous determinants such as those from social and political order (Zarzar, 2008). Those determinants are continuously changing; thus, identity becomes continuously evolving and not static. Within this, it was important to triangulate this with Sudanese writers and intellectuals who discussed the issue of identity in the context of Sudan. Ali (2014), a Sudanese sociologist, on the contrary, argues that identity, in general, is about abstraction, stability and essence. It is unified and does not get affected by time or history. Therefore, he believes that it is not proper to be utilised as a tool to describe social, political or cultural phenomena such as the nation or to understand the society in general (*ibid*). It is wholly an ideological, political, non-scientific and above all an ambiguous tool which he does not encourage to be used in scientific terms. Rather, and in this matter, similar to Norberg-Schulz, he prefers the term 'character'.

Consequently, Ali (2014) went on and investigated the illogical attempts of Sudanese government officials to re-interpret the Sudanese identity. He emphasises that the current period of the government is the period of inability to solve difficult and real problems, and thus they are escaping the reality to what he calls: *"artificial issues"* such as identity, which he eventually describes as a *"delusion".*

However, the situation with architectural identity is slightly different as it cannot be easily claimed as an artificial issue. This is because architecture is the mirror that reflects the state of the government whether in flux or stable and prosperous. Yet, the findings from the interviews highlighted the ambiguity of the issue of identity. The more the interviewed architects were unable to find interpretations of what could

represent a local architectural identity in their architecture, the more ambiguous the discussion about it was. Therefore, it became important to address the ambiguity of architectural identity in order to propose important answers for the future of contemporary architecture in Khartoum.

Moreover, it was noted that in the experience of Norberg-Schulz in Khartoum, although in essence, he described the architecture of the place, he avoided mentioning the term 'identity' and preferred to use simpler terms such as *'character'* to describe the physical characteristics of the place and the *'genius loci'* to describe its spirit. He narrated that the genius loci of a place *"is determined by what is visualised, complemented, symbolised or gathered"* (Norberg-Schulz, 1980, p.58). Thus, the more the place allows for human identification, the more distinct it becomes.

Within this, it could be argued that Norberg-Schulz's avoidance of the term identity resulted from his background as an architectural theorist and his deep realisation of the ambiguity of the issue of identity. Moreover, it could be related to the fact that he is an outsider who is unlikely to express the architectural identity of a place in which he is a foreigner. This is because identity strongly relates to the culture, which is difficult to be fully grasped by a foreigner. This was emphasised by Relph (1976b) who confirms that identity is difficult to be interpreted by an outsider. He clarified that: *"the process of identity construction appears to consist of a complex and progressive ordering and balancing of observations with expectations, a priori ideas with direct experiences until a stable image is developed"* (*ibid,* p.59)

This finding coincides with Salama (2005, p.78) who deconstructed identity in certain issues as he argued: *"the discussion of the issue of identity in general and in the Middle East, in particular, would be irrelevant if concepts such as imageability, legibility, critical regionalism and environmental meaning are not debated and somehow theorized".*

Hence, it was helpful to search in the literature for the definition of those topics to come closer to identity. Kevin Lynch has introduced the two terms: imageability and legibility in the early 1960s. On one hand, he interprets legibility as the apparent clarity of the cityscape and the legible city as a city *"whose districts or landmarks or pathways are easily identifiable and are easily grouped into an over-all pattern"* (Lynch, 1960, p.3). On the other hand, he defines imageability as *"the quality in a physical object which gives it a high probability of evoking a strong image in any given observer"* (*ibid*, p.10). Therefore, he argues that a highly imageable city would seem well-formed, distinct and remarkable. However, he noted that imageability

does not necessarily imply something that is *"fixed, limited, precise, unified or regularly ordered, although it might sometimes have these qualities. Nor does it mean apparent at a glance, obvious, patent, or plain"* (*ibid*). Therefore, imageability is the quality of both the identity and the structure. As for regionalism; Ozkan (2007) agrees with Salama (2005) that identity is related to Regionalism. The earlier even stresses that it is very hard to talk about identity without going into Regionalism.

Originally, the notion of critical Regionalism emerged as an alternative to Postmodernism to reintroduce the historical knowledge and cultural issues in design (Tzonis and Lefaivre, 2003) or *"a reaction specifically to internationalism or implicitly to Modernism"* (Ozkan, 2007, p.103). It called for rethinking architecture through the concept of the region. It is complementary rather than contradictory to trends toward higher technology and a more global economy and culture (Tzonis and Lefaivre, 2003). Kenneth Frampton in his essay 'Towards a Critical Regionalism: six points for an architecture of resistance' -originally published in 1983- defines the fundamental strategy of critical Regionalism as: *"to mediate the impact of universal civilisation with elements derived indirectly from the peculiarities of a particular place"* (Frampton, 2002, p.21). Therefore, Regionalism is strongly tied with the characteristics of each particular region, which include aspects of society such as culture, aspects of life and prevalent modes of expression, and the natural environment, which includes climate and topography (Ozkan, 2007). Ideally, Regionalism is a theory that resists the various forms of hegemonic, universal or otherwise standardising structures that would diminish local differentiation (Canizaro, 2007). It argues that the response to local conditions is more likely to be by necessity and not by choice. Therefore, it is a living concept that must grow and change just as regions must be continually re-described (*ibid*).

In this regards and within these different scopes of literature highlighting the ambiguity of the issue of identity, it was relevant to assimilate that with the argument of Madanipour (1997) about urban design, in that it is a complex and at the same time ambiguous issue. He argued that the ambiguity of urban design stems from the fact that there are many disciplines and professions involved in it, which inevitably overlap with each other. Although some might argue that a degree of ambiguity offers a wider scope for innovation and development, others would argue that by clearly defining a subject we have denied it some flexibility (*ibid*). Therefore, he argues that it is difficult to claim to be engaged in urban design without properly defining it. Hence, he highlights that in the search for the meaning of urban design it is important "*to remember to separate complexity from ambiguity"* (ibid, p.364). He adds "*we*

should be able to address complexity but we should also do our best to clarify ambiguities" (*ibid*).

Hence, this research utilises the same analogy to describe the issue of architectural identity. It argues that it is substantially important to define the architectural identity of a place instead of neglecting it. Individual efforts from architects are not enough, as it should also be at the planning and building legislation levels. Within this, the complexity should be addressed, and the ambiguity should be confronted and clarified. Thus, it could be highlighted that confronting the complexity and ambiguity of architectural identity can be achieved by simplifying it, or more accurately, deconstructing it to simpler issues as those adopted by (Norberg-Schulz, 1980) (Salama, 2005) (Ozkan, 2007) and (Ali, 2014).

Nevertheless, it was found that the issue of architectural identity becomes more complex when applied to a certain place as opposed to exploring it in an abstract way. It becomes representative of that place with its peculiarities including all tangibles and intangibles. The exploration of this research about Khartoum's architectural identity is an example of that. The complexity of its architectural identity became evident from interviewing different parties in the city including architects, planners, architectural students and members from the public. However, there was a huge gap in confronting it. The issue appeared to the majority of the participants as something undefined, contested and debatable. Architects, however, realised the problem of architectural identity in Khartoum, but they felt handicapped in trying to confront it.

The architectural identity of KCC, however, proved to be more complex due to the different historical layers that the centre has witnessed. Paradoxically, the identity of colonial architecture, instead of being rejected, it was to some extent celebrated and reminisced. In addition to colonial architecture, there common debates about what could represent the *Sudanese* identity in architecture; listed as areas of confusion and ambiguities as follows:

- Is it an "Islamic" image following the notion of Islamic authentication? or;
- An Arabic identity? or;
- An African identity? or;
- An identity that could represent the architecture of a certain part of Sudan: either Northern, Western, Eastern or Southern Sudan? or;
- A Colonial identity? or;
- A Modern identity? or;
- A totally new Contemporary identity?

A thorough examination of each of those areas can help in coming closer to a definition of the architectural identity of KCC. Yet, those areas still are largely subjective and debatable. Thus, the more practical way is to explore architectural identity by deconstructing it in simpler issues that are easier to explore and discuss; including one of or all the following depending on the size of the research: *genius loci*, character articulation, spatial organisation, imageability, legibility, environmental meaning and regionalism. However, within those issues, there are still some areas of subjectivity as some of them are determined based on the psychology of the perceiver; his/her experience of the place and his/her cultural background. Hence, to eliminate this subjectivity, this research will introduce a more objective approach to confront the ambiguity of the *Sudanese* architectural identity in the next two chapters.

4.6. Conclusion

This chapter has presented an exploration of the current contemporary architecture of KCC as a postcolonial place and the architectural identity that is being shaped. It has investigated this in two parts. The first part explored how Khartoum's contemporary architecture is being shaped by interviewing a series of practising architects as well as academicians involved in architectural education. The investigation has highlighted the uncertain path, which Khartoum's contemporary architecture is going through as a result of the rapid pace of development coupled with government ideologies of both Islamic authentication and the subsequent internationalisation. This has brought an unimaginable impact on Khartoum's architecture, culture and the built environment. A situation that is common in some developing countries that are rising from their colonialism. Moreover, the findings have identified the main overarching factor in shaping Khartoum's architecture as; the *lack of appreciating and comprehending the role of the architecture in concretising and enhancing its place*.

Following this, the second part explored the issue of KCC's contemporary architectural identity and its role in the postcolonial place. A review of research in similar contexts to Khartoum has singled out Khartoum in terms of its plurality and cultural diversity, which has highlighted the need to explore its architectural identity more inclusively. However, with the place being predominantly institutional, the inclusivity entailed investigating the approaches of shaping the *institutional type of identity* only, leaving other approaches for achieving identity in residential and vernacular architecture for future research.

Within this, the different approaches to achieving institutional identity were explored and categorised into Imposing new identities, Reclaiming the local and Islamising the Sudanese identity. Moreover, it was highlighted that Khartoum lacks the collective voice of architects to construct a local architectural identity. Hence, Reclaiming a local identity approaches were rather minimal and were classified as Responsive, Abstractive and Eclectic approaches to local architecture. Those approaches, however, could be considered as successful efforts to achieve a contemporary *Sudanese* regional architecture.

Nevertheless, the chapter draws a rather bold conclusion that the issue of architectural identity will remain ambiguous and complex. However, it argues that in order to aspire for a defined architectural future and find a way to solve these identity conflicts in Khartoum and similar newly emerging cities, it is important to address the complexity of identity and at the same time confront its ambiguity. It proposes a way to that confrontation through introducing a theoretical tool to investigate identity more objectively in the next two chapters with a broader aim of contributing to the general studies of architectural identity by suggesting a new way to explore and interpret it.

Chapter 5: An interpretive pattern language tool

5.1. Introduction

The previous chapter of the thesis reviewed, explored and investigated the current contemporary architectural paradigm in Khartoum. It aimed to fill an evident gap in the current literature about Khartoum's contemporary architecture and ultimately an important source for similar future studies. Within this exploration, an overarching factor in shaping the architectural practice was found that is: *the lack of appreciating the role of the architecture in concretising and enhancing its place.*

Thus, and with the postcolonial background of Khartoum, the issue of identity came to the fore as an important issue to commence the exploration with, due to its direct impact on the image of the new postcolonial place. Yet, the complexity and ambiguity of the issue highlighted the need `to deconstruct it to simpler issues such as architectural character and *genius loci* which ultimately deal with the relationship between architecture and place and how they impact each other. However, a theoretical anchor to guide and inform this relationship was needed in order to pave the way for exploring identity in relation to both architecture and place in the subsequent chapters.

Hence, literature relating to the *genius loci* of places and their architectural character was reviewed. Within this, two theories were found to be relevant to the context of this research and the findings from previous chapters. This is because they are theories that link between architecture and place and they will be used together to shed light on and investigate the identity. The first is Norberg-Schulz's theory of the *genius loci* published in 1980 in his book; *Genius Loci: Towards a Phenomenology of Architecture.* This theory defines the architectural character in the context of place and through the experience of that place arguing that *"place is space plus character"*

(Norberg-Schulz, 1980, p.18). Norberg-Schulz illustrates his theory through descriptive and photographic narratives of three cities, which he believes have reflected unique qualities of places and characters. Interestingly, one of these cities was Khartoum.

The second theory is the Pattern Language theory published in 1977 by Christopher Alexander and his colleagues. It provides a language of regional, urban and architectural patterns that they propose to be used as a design tool or a reaffirmation of a tradition of architectural design (Sime, 1986). This tradition is a quality that endows places with unique characters. Alexander named this quality as 'the timeless way' or a 'quality without a name' in his book; *The Timeless way of Building* published in 1979 in which he argues that *"it is not possible to create great buildings or great towns, beautiful places, places where you feel yourself ….except by following this way"* (Alexander, 1979, p.7). He thus uses the analogy of language to delineate the patterns that are not only physical but also experiential that ultimately lead to the creation of places (Sime, 1986).

Interestingly, both theories were published around the same time in the late 1970s. The authors, although the first is Norwegian and the other is American, shared part of their education at Harvard. On one hand, Norberg-Schulz practised architecture in the 1950s and 1960s when he became dissatisfied with the practice and as a result started his architectural theorising (Oxford reference, n.d). He was among the first to attempt to translate Heidegger's phenomenological approach in architecture (Haddad, 2010).[31] As a result, he became well-recognised as a central figure in the architectural phenomenology movement in Europe and the Americas. Moreover, he is *"the key theorist in elucidating the concept of genius loci, which he explores in several works*" (Jive´n and Larkham, 2003).

Alexander, on the other hand, is an Austrian-English architect and design theorist, born in Austria, raised in England and studied in America. He has designed and built over 200 buildings on five continents, many of which lay the groundwork of a new form of architecture that aspires for the future and has roots in ancient traditions. (The Pattern 2000). Hence, his role as a practitioner is significantly influencing his books (PPS, 2008). Therefore, the authors' slightly different backgrounds have influenced the approaches of their theories; The Pattern Language is more scientific while the *Genius Loci* is less scientific and depends on the consciousness as experienced in places based on Norberg Schulz's own experience. The explanation of

[31] Martin Heidegger could be considered as one of the founders of the theory of Phenomenology -after his mentor Edmund Husserl (1859-1939). Heidegger's most important book in phenomenology is *Being and time* published in 1927.(Auret, 2018)

utilising these theories in this research will be analysed in more details from the following section.

5.2. Links between the two theories in the literature

Sime (1986) linked the two theories in that they could be considered as the early stages of academic maturity in the concept of place. On one hand, Norberg-Schulz mentioned 'place' explicitly and argued that the existential purpose of building (architecture) is to make a site become a place and to uncover the meanings potentially present in the environment (Norberg-Schulz, 1980). On the other hand, Alexander did not use the expression 'patterns of place' but he used the term 'place' frequently in several patterns. Moreover, Sime establishes an association which he considers as a potential strong link between the two theories; that "'*the quality without a name' is undoubtedly akin to the 'spirit of place'*" (Sime (1986, p.52). In other words, the quality that Alexander could not find the name to describe it; is the spirit of that place manifested in the architecture that concretises the place's natural characteristics and consequently its genius; both as qualities that strive for linking people with their places.

Later, Edward Relph in a book chapter titled *Modernity and the reclamation of place* also found a link between the two theories in considering them as romantic visions. He argues:

> *This may be an impossibly romantic vision both of the past and for the future, but it persists nonetheless. It can be recognised in Gordon Cullen's writing on townscape (Cullen, 1961), in Christian Norberg-Schulz's account of genius loci (Norberg-Schulz, 1980), in Christopher Alexander's "Pattern Language" (Alexander, 1977, 1979) and in Kevin Lynch's place utopia (Lynch, 1981)* (Relph, 1993, p.25).

This romantic vision develops from people's familiarity with their places and that they feel a responsibility for maintaining the nameless qualities of these places with their intricate townscape and distinctive architectural styles (*ibid*). He stresses that: *"these ideals and images are valuable for a modern world rapidly being overwhelmed by the renitent landscapes of rationalism"* (*ibid*, p.25). Accordingly, he emphasises that the importance of these theories stems from their ability in achieving the sense of place which the current multinational corporation and universal planning practices consider

it as somewhat nostalgia and obsolete. Relph thus supports those theories because he believes that they have described and explained how to achieve distinctive places that are necessary for a reasonable quality of communal life and psychological well-being (*ibid*).

Seamon (1987) also found a link between the two theories as studies that focus on the notion of place and the designed built environment. He argues that the Pattern Language is a work that can be fairly called an implicit phenomenology of design elements contributing to *genius loci* (Seamon, 2004).They could be considered – together with other theories- as ways in which place can be explored phenomenologically. While the works of (Norberg-Schulz, 1980) and (Relph, 1976b) indicate an *explicit* phenomenological exploration of places, the works of (Alexander, 1975, 1977, 1979, 2002) in the notion of 'Pattern Language' could be considered as an *implicit* phenomenology of design elements which contribute to a sense of place (Seamon, 1987).

5.2.1. Why these two theories?

From here, this link between these theories was thought to enrich the current research in their understanding of the creation of places through the architecture and its physical characteristics and patterns. Interestingly, this same link was captured from the findings of the interviews (see Section 4.2.9), yet as a missing link in the architectural practice and education in Khartoum. Evidently, it was found that architects focus their attention on buildings as visible entities isolated from their surrounding places; and that buildings are not part of the place-making process, hence highlighting an important reason for these two theories being relevant to this research

Norberg-Schulz's theory, however, is of more special interest as it was manifested in Khartoum itself in the late 1960s and early 1970s. Moreover, the theory itself could be considered as a strong influential theory in the notion of architectural phenomenology and *genius loci* (Jive´n and Larkham, 2003, Haddad, 2010). This is because architects were introduced to phenomenology by Norberg-Schulz who, through it, formulated an approach that defines architecture as the making of meaningful places (Auret, 2018). Hence, Norberg-Schulz's theoretical emphasis in architectural phenomenology could be expanded as an inverted triangle with him being at the end influencing everyone at the top. Hence, utilising his theory gave the

inspiration to analyse and interpret the *genius loci* of KCC now *phenomenologically* with the focus on its contemporary architecture as the core interest of this research.

As for the Pattern Language, its relevance to the research has emerged from its rejection to the contemporary architectural language that people have today, which seems to become brutal, fragmented and not based on human or natural considerations. This coincides with the findings on the shaping of the contemporary built environment of KCC which emphasised a shared perception about a brutal and fragmented contemporary architecture that was difficult to explore and interpret. Moreover, another aim of using the Pattern Language theory was based on the motive that Alexander called for; as he suggested the future need to *"improve these patterns"* and to find more profound and true patterns by encouraging people to become more conscious of their own architectural patterns in their context. He suggests: *"it is possible that each person may once again embark on the construction and development of his own language –perhaps taking the language printed in this book, as a point of departure"* (Alexander et al., 1977, p.xvii). Inevitably, by taking this proposal for future research forward, this theory acted as an important theoretical base for many studies (see Section 5.4.1) including this research. For the latter, specifically, it acted as the point of departure to explore KCC's contemporary place and its architecture and to develop its existing pattern language. Ultimately, the outcome of this will be a new utilisation for the original Pattern Language theory and a local Sudanese pattern language.

While the next two sections will give a detailed commentary of the two theories, the chapter will conclude by synthesising the two theories to create an *interpretive pattern language tool* which is proposed to interpret the three angles of the research architecture, place and identity of KCC.

5.3. Genius loci: towards a phenomenology of architecture

Phenomenology owes its main start to Edmund Husserl and Martin Heidegger. While Husserl launched the phenomenological movement in philosophy with the intent of developing it into a method of detailed philosophical investigation and comprehensive new science, it was his student Heidegger who took it into another direction and turned it into one of the main philosophical movements of the twentieth century (Haddad, 2010). Norberg-Schulz, however, could be considered within the first to

attempt to translate this phenomenological approach in architecture *(ibid).* [32] He achieved this based on the philosophical writings of Heidegger (translated 1962, 1971) and consequently *"espoused a theory of place which emphasizes the quality of a person's existential existence or 'being in the world'"* (Sime, 1986, p.51). He argues that architecture should direct itself to the 'meanings' as well as the physical properties of the environment. Norberg-Schulz (1976, p.7) thus emphasised that phenomenology is in fact,

> *A" new approach to the problem of architectural space", attempting to "develop the idea that architectural space may be understood as a concretization of environmental schemata or images, which form a necessary part of man's general orientation or 'being in the world'".*

He then expands his theory by classifying place into two distinct types: Natural place and Man-made place. While the natural place is the natural landscape, man-made place, on the other hand, is the architecture and urban places that visualise, complement and symbolise man's understanding of his own environment. The latter thus has structure and embodies meanings.

Within this, Norberg-Schulz introduces the concept of *genius loci*. Genius is a term that the Romans were the first to introduce, referring to the *'guardian spirit'*. On the other hand, *loci* is the Latin word for "place" Thus, the term *Genius loci* is the 'guardian spirit' of a physical location which is *"determined by what is visualised, complemented, symbolised or gathered"* (Norberg-Schulz, 1980, p.58). Haddad (2010) emphasised that *Genius Loci* was perhaps the most influential of Norberg-Schulz's writings. This is because *"it came out at a time when questions of meaning, history, and mythology assumed greater importance in architectural discourse, in a post-modernist climate that gave back credibility to these themes"* (*ibid*, p.92). By this term, Norberg-Schulz aims to stress that it is the role of architecture *"to concretise the genius loci"* which he explains: *"this is done by means of buildings which gather the properties of the place and bring them close to man".*

Moreover, Jive´n and Larkham (2003, p.7) commented on the *genius loci* as a term that represents *"the sense people have of a place, understood as the sum of all physical as well as symbolic values in nature and the human environment".* They argue that Norberg-Schulz's analyses range from visual impressions of the built

[32] Phenomenology is thus adopted as a research method as Creswell (2014, p.14) summarises it as: *"a design of inquiry coming from philosophy and psychology in which the researcher describes the lived experiences of individuals about a phenomenon as described by participants".*

environment to the lived or experienced realm by users of that place. Jive´n and Larkham (2003, p.7) then capture four thematic levels that are recognised in Norberg-Schulz's description of the *genius loci* and his own use of the concept as:

- *"The topography of the earth's surface;*
- *the cosmological light conditions and the sky as natural conditions;*
- *buildings; and*
- *the symbolic and existential meanings in the cultural landscape." (ibid).*

Within the theory, Norberg-Schulz moves on to compare the *genius loci* of both the vernacular man-made place and the urban architecture place. He argues that, while the man-made *genius loci* of the traditional vernacular architecture usually correspond closely to that of the natural place, the *genius loci* of the urban architecture should be more comprehensive. Unfortunately, it could be argued that, nowadays, the direct relationship between the natural environment and urban settlements and towns is weakened or almost lost and many urban forms are brought together with roots in other localities. To be comprehensive, it has to comprise the spirit of the locality to get roots, but at the same time, it should gather contents of general interest which have their roots elsewhere and have been moved by means of symbolisation (*ibid*).

Norberg-Schulz then summarises the genius of man-made place arguing that: it *"depends on how these places are in terms of space and character, that is, in terms of organisation and articulation"* (*ibid,* p.69). Consequently, he identified what could define space and character with the following:

- Material and colour
- The degree of "openness"; the inside-outside relationship constitutes the essence of architecture; manifesting in examples such as zones of transition between the inside world and the outside place of either natural or man-made environment and openings as they affect the inside-outside relationship and shape the architectural character.
- The making; as an aspect of articulation that relates to the kind of construction used.
- Form as it *"determines how a building stands and rises, and how it receives light"* (*ibid,* p.66) (see Figure 5.1).

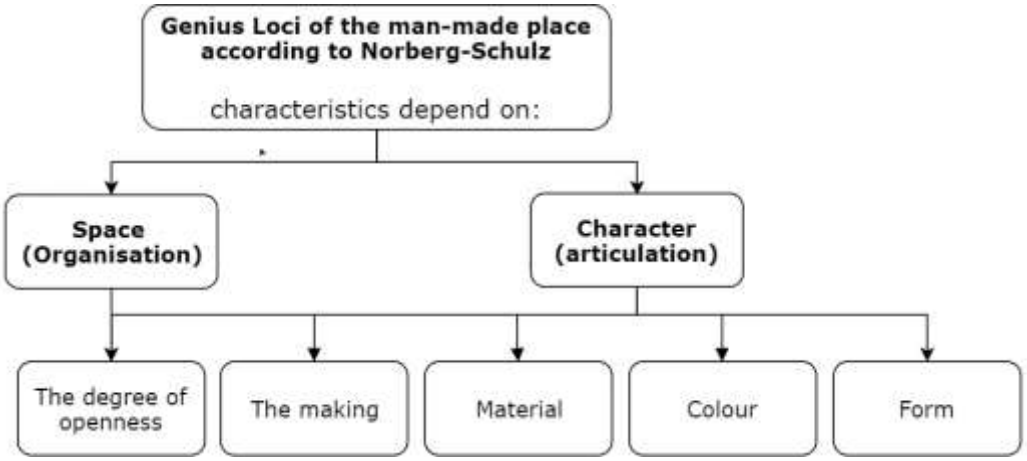


Figure 5.1: Characteristics of the *genius loci* of a man-made place according to (Norberg-Schulz, 1980)

Nonetheless, Norberg-Schulz stresses that the distinct character of a man-made place is realised when it allows for human identification as he narrates: *"when a town pleases us because of its distinct character, it is usually because a majority of its buildings……constitute a genius loci which allows for human identification"* (*ibid*, p.65). However, he highlights that natural environment, alone, does not satisfy the basic needs of identification. The man should add his own features that might, for example, reflect certain messages -that could stem from the social, cultural or psychological way of living– to ultimately identify his architecture and craft it as an artificial world of his own (*ibid*).

On the other hand, other theorists such as Relph (1976a) defined *genius loci* -he calls it the *spirit of place*- as the singular qualities of a particular landscape or environment that infuse it with a unique ambience and character. Relph (1976, p.106) describes it as:

> *The spirit of a place involves topography and appearance, economic functions and social activities, and particular significance deriving from past events and present situations—but it differs from the simple summation of these. Spirit of place can persist in spite of profound changes in the basic components of identity.*

Hence, Relph considers it as an attribute or a component of the identity of places that serves to link and embrace all other more tangible components *(ibid)*. Hence, *genius loci* is a lived quality that radiates from the physical environment toward the experiencer (Seamon, 2012).

In relation to the wider research on the place, the social constructionist perspective dominates in defining *genius loci* (Bell, 1997) and they consider it as a human projection, a metaphor, referring to the associations that an individual acquired in relation to a specific place (Rigby, 2003). Nevertheless, Seamon (2012) rejects the subjectivist, social-constructionist interoperation of *genius loci* and, instead, argue for its phenomenal reality as that reality is encountered and interpreted by the people of that place. Seamon, thus, focuses on the quality of the *"lived intertwinement"* which is invoked in the phenomenological account of human-being-in-the-world (*ibid*, p.11). This agrees with Rigby (2003, p.110) who described *genius loci* according to the phenomenological interpretation as "*something that arises in the in-between of atmosphere, neither in the (Adam) objectively, nor in the head, subjectively, nor in language discursively, but in the coupling of physical manifestation and sensuous perception".* He adds:

> *The 'spirit' of a place becomes something at once material and dynamic, tangible yet ephemeral, changing with the seasons, weather, time of day, presence or absence of particular other beings, and with the particular sensory apparatus of the perceiving subject (ibid*, p.11).

Seamon and Sowers (2008) stress that some places have a powerful *genius locus,* while others have little or none. This manifests in the types of different places that people encounter during their daily experience in the city, such as modernist buildings; historical buildings, low-density, auto-dependent suburban environments; big-box shopping malls; or deteriorating cities. Consequently, the stronger the *genius loci* of a place, *"the more robust and interesting that place is in terms of daily goings on (*i.e.*, the more numerous and stronger its manifestations of place interaction) and the more fondness and concern people have for that place (*i.e.*, the stronger the presence of place identity and attachment, both for "insiders" and "outsiders")" (ibid,* p.12).

5.3.1. Scholars perspective on the *genius loci*

Sime (1986, p.52) critiqued the very *subjective* phenomenological narration of Norberg-Schulz and his description of the *genius loci* of three cities including Khartoum. He attributed this criticism to three reasons. Firstly: *"features of the physical environment are cited as aspects of the environment which give 'meaning' to the places and are viewed favourably by the author".* While this is noticeable in Norberg-Schulz's narration of Khartoum and his favouring of its traditional

architecture, the labyrinthine fabric of Omdurman and the colonial architecture in KCC (see Section 2.1.1), it is highly likely that this became apparent because most of his examples were showing examples of *"Romantic Architecture"* which he defines as an architecture that is *''distinguished by multiplicity and variety'', ''irrational and subjective''*, *''fantastic and mysterious but also intimate and idyllic''* (Norberg-Schulz, 1980, p.69) . Secondly. because *"there is no clear reference to the behaviour and experiences of the people who inhabit and visit these places or evidence that they would necessarily view them in the same way as the author" (ibid).* And thirdly, because *"architecture and the 'creation of places' is conceived of as an artistic endeavour and not one which by definition can or should be studied scientifically".* It could be argued that this artistic way relates to the first reason in that these Romantic man-made places instigated the astonishment in Norberg-Schulz -probably relating to him as an outsider- in experiencing something different from his Nordic architecture in his home town. Hence resulted the subjectivity in narrating features favourably and away from any scientific reference, including the architectural drawings.

Haddad (2010, p.93) agrees with this latter point and explains that this might be because Norberg-Schulz's personal religious sympathies played an influential role in the formation of his ideas and *"thus, it is not only landscape in general that stimulates a phenomenological understanding of the world, but specific sanctuaries within the landscape that create a favourable condition for ''intimate dwelling''"*. or *''sub-places''.* Popovic (2016, p.7) also critiqued the theory, emphasising that it is *"largely based in romanticism with an integral sympathy towards pre-industrial life"*. Hence, one could argue that in a contemporary setting that searches for maturation in the technological globalised era, these theories may appear invalid Yet, *"it acts as a reminder of the importance of sensitivity and soulful contemplation throughout the act of city making"* (*ibid, p.7*).

Consequently, this research agrees with Sime (1986) and Seamon (2012) in rejecting the subjectivist interpretation of *genius loci* and the emotional, artistic and romantic interpretation of Norberg-Schulz. It rather, suggests that in order to describe this quality of the built environment it needs to be integrated with another theory to gain an experiential narration that is not only subjective but also more objective and scientific.

5.4. A pattern language

Salingaros (2000) describes 'patterns' as the empirical rules that represent regularities of behaviour. Those empirical rules result from observing the cause and effect of the world around us and from documenting recurring solutions obtained under different conditions. Thus, visual patterns are the simplest expression of the concept of patterns (*ibid*).[33]

Christopher Alexander and his colleagues realised the importance of patterns that recur in the built environment and thus they documented them and published 253 solutions or design 'patterns' that appear in the built environment: forming the 'Pattern Language' theory. This theory aims to capture the nature of the building process and translate it into a language of patterns that is universal and not linked to a certain place. Alexander et al. (1977, p.x) claim that it is *"an entirely new attitude to architecture and planning"* that has a *'timeless'* quality that has been lost in the modern architecture today. Alexander thus named it as *"the quality without a name"* (Alexander, 1979, p.19).

The essence of the patterns lies in their sequence and order because it is a language and thus, each pattern should be connected to other patterns larger and smaller than it. The patterns are ordered from regions and towns, then neighbourhoods, clusters of buildings, buildings, rooms and alcoves to the details of construction. Moreover, this language is a design tool that calls for using patterns in this sequence because in order to build a thing it cannot be built in isolation but ultimately it should repair the world around it, or in other words, to enhance places they are being introduced or built-in. The authors have written each pattern separately, stating the problem of the pattern and its solution. However, they claim that the solution is being written in an abstract way explaining that: *"we have tried, in each solution, to capture the invariant property common to all places which succeed in solving the problem"* (Alexander et.al, 1977, p. xiv).

Thus, the key argument of this theory is the invariant property that not only enhances bad places to good places but also is common to all places. It could be argued that, here, Alexander is reassuring the universality of his pattern language. Yet, paradoxically, in the introduction of the book, the authors called for improving their

[33] In every day usage 'pattern' is often conceived as: *"an arrangement or design regularly found in comparable objects" or "A regular and intelligible form or sequence discernible in the way in which something happens or is done"*(Oxford dictionary, 2018)

patterns by finding more profound invariants. They suggested that this could be achieved by applying the language to certain places; hence, creating a new improved language to each place. Thus, it is likely that the authors had doubts about the universality of the patterns, and they saw that the only way to improve their language is by applying it to a certain place. It is no wonder, that they highlighted their patterns as continuously evolving, tentative and consequently, they should be considered as free as possible and more of design hypotheses. However, there is some contradiction between the main concepts of 'universality of patterns' and the 'invariant property' while proposing the patterns to be 'ever-evolving' and 'as free as possible'. It is likely that this contradiction within the theory itself is either a matter of choice of words, or it was real doubts. Apparently, however, it seems as a real doubt about the concept of 'universality' which certainly disappears when the patterns are applied to a certain place. Hence, came the emphasis by Alexander to improve these patterns.

Moreover, the authors' goal is not to rely on this one Pattern Language but for societies to become more conscious about their own pattern languages and continue to improve them. Unfortunately, the contemporary architectural languages of today seem to pay less attention to the nature, local climate and people of the place. This is why Alexander et.al (1977, p.xvi) described them as *"so brutal, and so fragmented"* languages. Therefore, they suggest that the essence of their patterns is: *"archetypal – so deep, so deeply rooted in the nature of things that it seems likely that they will be a part of human nature, and human action, as much in five hundred years, as they are today" (ibid,* p.xvii*).* However, there appears to be another contradiction here. *If the patterns were considered as ever-evolving and as free as possible, how will they be as much in five years as they are today?*

In summary, what the theory suggests is that: Pattern Language is as the archetypal core of all possible pattern languages because it can make people feel alive and human. He defines it as: *"there is a central quality which is the root criterion of life and spirit in a man, a town, a building, or a wilderness. This quality is objective and precise, but it cannot be named"* (Alexander, 1979, p.19). Additionally, Salingaros (2000) explained it as the quality that links to human beings either visually, emotionally, functionally and facilitates their interactions and activities. Thereafter, Alexander goes on to stress that patterns give a certain building, or a certain town, its character*: "the total pattern, space and events together, is an element of people's* ***culture.*** *It is invented by* ***culture****, transmitted by* ***culture*** *and merely anchored in* ***space"*** (*ibid*). [34]

[34] Bold emphasise is by the present Author

In short, Alexander highlights that the features that one remembers about a place are the recurrent characteristic features; for example in the case of KCC; its colonial buildings with their transitional verandas. These verandas are *'the qualities'* which make KCC a special place. Alexander, thus, labels these qualities as patterns*: **"the qualities** in any environment which give it the character you like it for –are its patterns"* (*ibid,* p.96). That is*, "of course the patterns vary from place to place, from culture to culture, from age to age; they are all manmade, they all depend on culture"* (*ibid*, p.100).

Consequently, *"each building gets its character from just the patterns which keep on repeating there"* and similarly*; "each neighbourhood is defined, too, in everything that matters, by the patterns which keep on repeating there";* such as the kind of streets, the size of the buildings, the layout of the building…… *"and it gets its character from just those patterns of which it is made"* (*ibid*, p.95 & 105). However, Alexander questions the difference between towns and buildings that are full of life and those that are not. Within this, he classifies patterns to good patterns and bad patterns. On one hand, bad pattern in our environments, "*constantly reduces us, cuts us down, reduces our ability to meet new challenges, reduces our capacity to live, and helps to make us dead"* (*ibid*, p.115). On the other hand, *"the corresponding 'good' patterns, when they are correctly made, help us to be alive. As we encounter them, we are always fresh, in the face of new encounters, new problems… and we are continuously renewed and made alive"* (*ibid*). Therefore, *"good patterns are good because to some extent each one of them reaches the quality without a name itself"* and he named them as *"patterns which are alive"* in contrast to the bad patterns which he labelled them as *"dead patterns"* (*ibid*, p.116).

However, the multiplicity of the living patterns also matters in the built environment. On one hand*, "the more living patterns there are in a thing –a room, a building, or a town– the more it comes to life as an entirety, the more it glows…..which is the quality without a name"* (*ibid*, p.123). On the other hand, *"the 'bad patterns' are unable to contain the forces which occur in them. As a result, these forces spill over into other nearby systems"* making other nearby patterns fail as well (*ibid,* p.129). Nevertheless, Alexander called for the balance arguing that:

> *To be in a balance, each pattern must be supported by a situation in which both the larger patterns it belongs to, and the smaller patterns it is made of, are themselves alive" and that patterns form a whole and work as a system* (ibid, p.132).

5.4.1. Scholars' perspectives about the Pattern Language theory

The Pattern Language theory is a theory that was faced with wide criticism and opposition. For example, Protzon (1978, p.194) argues that following this theory *"enforces an unenlightened conformism"* and *"leads to deterioration of intellectual capabilities and of the power of imagination,……it destroys the most precious gift of the young - their tremendous power of imagination and speaks of education".* He clarifies:

> *By staying within the pattern language you will never be able to produce a design that is radically different from the design of any other pattern language user, no matter what the personal desires or what the local conditions are (ibid,* p.192*).*

Ironically Protzon even criticises the theory in that it is more oriented to the past, claiming that things will never be as good as in the old days when people designed unconsciously. By this claim, Alexander's concept of patterns is being romantic and *"belongs to the well-to-do, white population. The pictures which show 'archetypal examples' of the patterns illustrate this point. A great many of them show medieval towns, English cottages, Swiss farm-houses……"* (*ibid*, p.191). Moreover, he argues that Alexander and his colleagues are using evidence to support their patterns, yet the evidence is being taken *"at face value, uncritically and unchecked"* and that *"they only seek evidence which supports the pattern at the expense of excluding potentially contradictory facts or hypotheses"* (*ibid,* p.194). The evidence is largely based on what *"many people will agree with"* (*ibid*).

Other criticism was explained by Bhatt (2010) arguing that it is a theory that is being rejected in the academy because of considering it as deterministic and authoritarian in reducing the design process into more of a diagrammatic language that focuses on pleasure, comfort and ease. However, Salingaros (2000) argues that these criticisms about the theory are valid to some degree. This is because its patterns are too radical and not easily incorporated into contemporary design and planning and that the theory ignores almost all of what is considered important architecture in the twentieth century. [35] Nevertheless, Salingaros highlights that these problems are trivial compared to the important message it offers; that is linking human beings with their built environments.

Nevertheless, other scholars have found a link between Pattern Language and Phenomenology which re-emphasises the choice of the two theories (Pattern

[35] From an American context perspective

Language and Norberg-Schulz's phenomenology of place) in this research (see Section 5.2). Dovey (1990) argued that patterns are derived from the lived world of everyday experience and they gain their power by revealing a direct connection between patterns and the experience of the built environment. He argues:

> *The epistemological base of the pattern language is implicitly phenomenological. The patterns are derived from the lived-world of everyday experience and they gain their power… not by being proven empirically correct, but by showing us a direct connection between the pattern and our experience of the built environment (ibid,* p.4*).*

Moreover, Dovey highlighted what he called the *'enemies'* of the Pattern Language. These enemies are in fact, the current rising aspects of contemporary places –such as city centres- that are witnessing the contemporary paradigm shift. Some of the examples of these enemies that are worth mentioning here are Capitalism and Individualism as Dovey (1990, p.4) argues that:

> *Alexander's work runs directly in contrary to many aspects of the capitalist, consumerist and individualistic societies in which we live. Many of the patterns imply a kind of democratic, participatory socialism which is far removed from current prospects in the east or the west.*

Example of these patterns is *'Access to Water'* which calls for the right of every inhabitant to have direct access to water, even if visual, such as river, sea, lake…etc. This pattern is against capitalist intentions that call for privatising access to water. Capitalist ideology considers the quality of a good life as per individuals, family or a corporate rather than a successful community life. Therefore, the expression of identity in these societies gains meaning mainly as an individual, family or corporate identities. Therefore, places of this ideology are commodified leaving issues such as zoning, building regulations, urban design and landscape design either ignored or debated primarily on their effects on the property value. In contrast to the capitalist context is the individualistic ideology which interprets the built environment into individual ownership and appropriation of land and individual expression of identity (*ibid*).

Those issues can be found expressed in areas where public sense and interest of place is not a prerequisite and shared issue thus people lack the awareness about their responsibility to their built environment. Thus, Dovey (1990) believes that those

issues cannot be solved by formal patterns only, rather they require a comprehensive design process.

Another example of the enemies of the Pattern Language is Postmodernism as Dovey (1990, p.6) argues that Postmodernism "*is based on the notion of designing meaning into buildings"*. It has an avowed concern for decoration of buildings, often a concern for semiotics or architecture as a form of quasi-linguistic communication, and often a strong historical content (Jencks, 1986). Therefore,

> *Postmodernism is an enemy of the pattern language largely because of the manner in which it achieves the separation of architectural form from the social content of both its production and use. Postmodernism reduces the experience of quality in the built environment to the signification of meaning through pastiche or collage of formal images* (Dovey, 1990, p.6)

While one might argue that Postmodernism has some references to social context, vernacular forms or a real reflection of the economic situation, it is limited total freedom to choose between various images rather than modes of architectural production (*ibid*). Therefore, for Dovey, Pattern Language in a postmodern context is neutralized through being considered as one more option within the multiplicity of choices. This results in forgetting the deeper aspects of Pattern Language such as the integration of patterns with local culture and everyday life and the potential for user's participation (*ibid*).

In addition to the above criticisms, this researcher adds another criticism that the Pattern Language focuses mainly on spatial patterns and somewhat excludes form articulation patterns. Apparently, for the authors, the form is considered as a by-product that will result from following the sequence of the patterns, the site and the designer's own instincts (Alexander et al., 1977). Thereafter, they call for working with the people from the site who will be using the place, and by following all that, the form will grow gradually beginning as something very loose and amorphous till becoming more complicated and more refined. But an important question to be raised here is that*: Is this level of complication and refinement enough to endow the place with certain unique form character?*

The answer to this question, according to the theory, is certainly positive as Alexander and his colleagues suggest patterns in the scale of construction. They propose that those construction patterns present a physical attitude to construction that is intended *"to provide an alternative to the technocratic and rigid ways of*

building that have become the legacy of the machine age and modern architecture" (*ibid*, p.936). This rigid way of building stems from the standardisation and globalisation of architecture from the overall scale of the building to the scale of construction details. Therefore, the authors claim that construction patterns will lead to unique buildings that are tailored to their place and endow it with a unique character. However, it could be argued that this argument is completely valid in vernacular and regionalist architecture, as the way of construction always stems from the place and reflects the available natural resources and means. However, it is different from globalised and standardised architecture, where everything is ready-made, prefabricated and is applied everywhere. Unless the contemporary building is stemming from the place and is responding to it, the concept of the construction patterns providing the unique charter will not be valid. Consequently, it is important to highlight here that the details of construction, alone, are unlikely to fill the gap in the theory of Pattern Language –about the exclusion of form patterns and focusing merely on spatial patterns.

However, it could be highlighted that all the above arguments against the Pattern Language are based on it being a design tool. Yet, Salingaros (2000) acknowledges that and suggests that this might be because it is difficult to design from a complete catalogue of patterns. Thus, Salingaros contributes to the theory by proposing simplified connective lists which cluster patterns into groups of about five or fewer on each level of scale. Therefore, when designing, the designer should pick patterns that are most relevant to his design problem, then choose not more than about a dozen related patterns from the Pattern Language. By this, he claims that this method can effectively improve the utilisation of Pattern Language.

Moreover, other scholars have praised the theory. For example, Bhatt (2010, p.712) stressed that patterns will help in creating *"a system of knowledge that would help to blur the distance between professional designers and every-day users".* This is especially important in the current time as *"according to Alexander, the rise of modern aesthetic and a specialised architectural profession had contributed to the failure of modern architecture to relate to the deep psychological needs of users"* (*ibid*).[36] Moreover, Bhatt argues that the importance of the Pattern Language lies in its recognition that the patterns allow for *"unconscious cognitive relationships with space"* which *"aims to bring conscious awareness to the patterns that human beings unconsciously relate to space, providing a practical language for everyday users"*

[36] Even later theories coincide with Alexander in criticising Modernism such as Kenneth Frampton's theory of Critical Regionalism, which highlights the importance of appreciating the local context with its traditional knowledge, cultural meanings, topography, climate and tactile qualities (Frampton, 2002).

(*ibid*, p.711 & 712). This agrees with Park (2015, p.593) who emphasises that Pattern Language*: "had focused on unconscious, intuitive, and user-friendly design processes to create 'good places'".* Or what Bhatt (2010) explained as a long-term benefit for builders and contractors who use it mainly as a self-help practice (see Figure 5.2).

To conclude this section, this research agrees with Dovey (1990) and Seamon (2007) that there is a link between Pattern Language and phenomenology, and with Relph (1976a), Sime (1986) and Seamon and Sowers (2008) who linked the Pattern Language with Norberg-Schulz's phenomenology of place. These links thus, provide the content explanation for introducing them in this research. However, this research strengthens this link by theoretically synthesising these two theories resulting in creating an *interpretive pattern language tool* as a tool that utilises patterns for interpreting existing places, through the experience of users of those places.

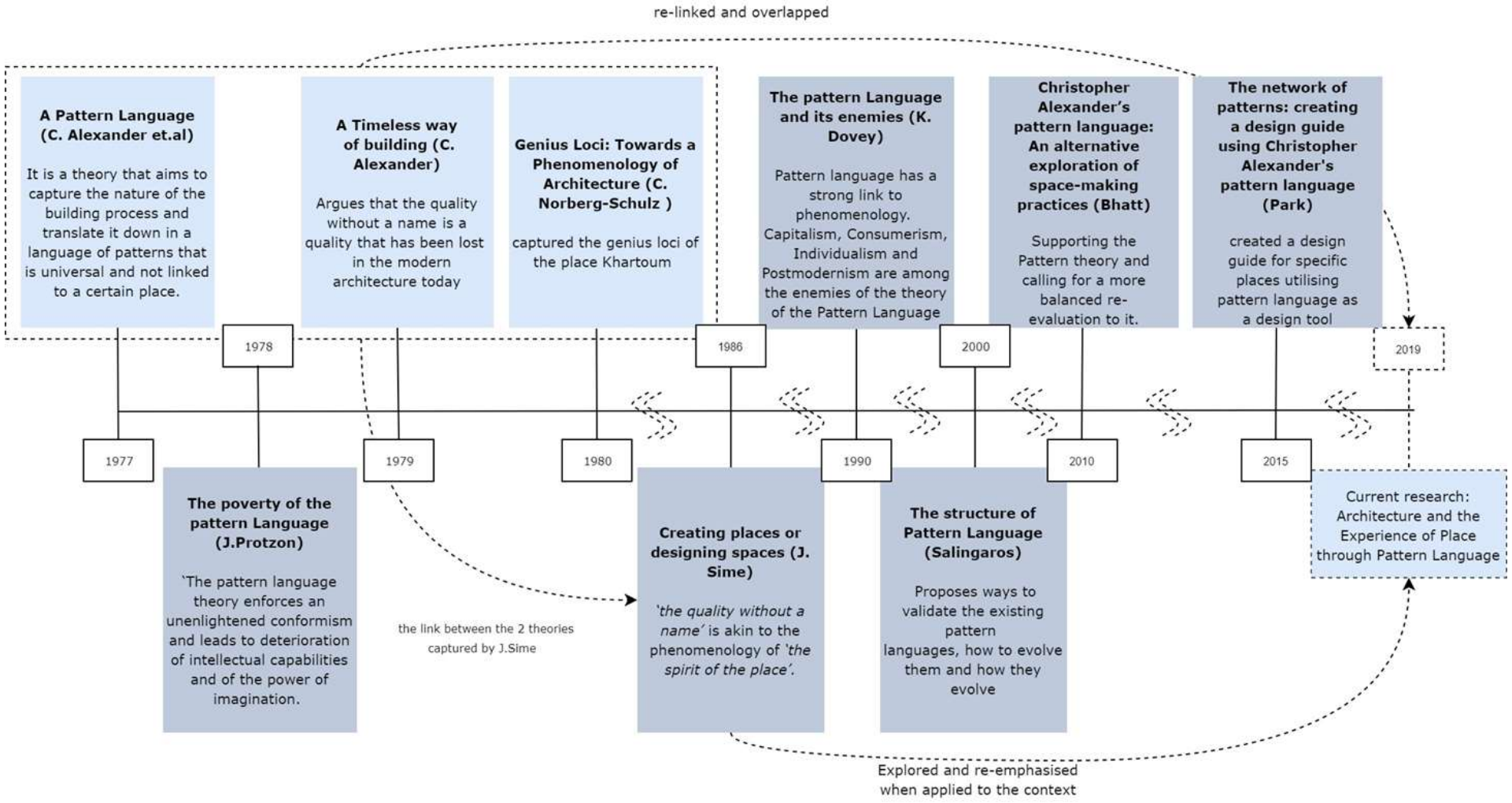


Figure 5.2: A timeline reviewing the various writings about patterns, identifies a link between patterns and Phenomenology and justifies the utilisation of the two theories in the current research. Source: the Author.

5.5. Synthesising the two theories

Before the actual synthesis of the two theories, three points of differences between the two theories were observed as follows:

5.5.1. The point of departure

The two theories differ in their points of departure towards the way the spirit of the place and its architectural formation are achieved. Norberg-Schulz argues that architectural formation stems from the natural characteristics of the place and its climate. Whereas Pattern Language calls for a design approach that does not pay attention to the external form as it considers it to be a by-product that results from selecting the suitable spatial patterns. However, it highlights that those patterns are being invented by culture and transmitted by culture. Thus, patterns will also reflect people's patterns of living and events which are all anchored in space. Hence, the place's *genius loci* is based on mainly spatial patterns and the events that happen there.

5.5.2. The sequence of narrating the patterns/features

By comparing the two theories, Pattern Language demonstrates very clearly that its essence lies in following the sequence of the patterns and the importance of understanding the links and relationships within the network of patterns (Park, 2015). The theory argues that in order to build a project, it cannot be built in isolation but should also repair the world around it through following the sequence of the patterns (Alexander et al., 1977). Park (2015, p.593) maintains that patterns work as a set of related patterns as a connective structure, however, Park's contribution comes in classifying them as essential/core patterns and supplementary patterns, explaining that:

> *The linked patterns reinforce the functions of one another; the patterns can be either essential foundations for the completeness of a particular design, or supplements to those core patterns, or both… This connective structure helps to create a coherent and comprehensive set of design patterns for developing places rather than a design solution that independently functions for limited purposes (ibid).*

Park goes on to emphasise that this connective structure is guided by a connective rule that is created from a problem-solving approach to achieve the best experiences. Thus, following this connective rule, will help to prevent fragmented implementations of single patterns that may result in the incoherent development of places (*ibid*). Similarly, Salingaros (2000, p.150) names this connective structure as *"connective information"* or the *"combinatorial language"* that ultimately provides an understanding of the relationship between patterns.

On the other hand, the narration of the features that endow certain places with unique qualities in Norberg-Schulz phenomenology of the *genius loci* of a place did not follow a certain sequence. Rather, those features –from now on will be coded as patterns- were captured freely depending on the patterns that the eyes of the perceiver capture while walking in the streets of the city. Thus, Norberg-Schulz viewed patterns, starting from the natural environment, to patterns of the vernacular villages of Omdurman and Tuti to patterns of Colonial Khartoum. Ultimately, those captured patterns are the place's unique qualities.

By taking Norberg-Schulz's experience of the traditional architecture as an example, the extraction of the patterns showed the simplicity of patterns of the traditional place in that they are being influenced by the tribal mind of the Sudanese nomadic people when they first inhabited Khartoum. Therefore, the resulted patterns are simple and fulfil basic needs and accordingly they follow a *logical* sequence that is determined by those needs as follows:

I. Narrow streets
II. Boundary walls
III. Enclosed houses
IV. Segregated courtyards (men/women zones)
V. Simple cubical rooms, and:
VI. Some other simple patterns that relate to the form such as small windows, columned porticos and gateways (see Traditional Paradigm in Section 2.3.1).

Thus, it could be argued that, for those existing areas, the sequence of the pattern language could not be exactly applied, as each place will have its own invariant property, which determines a certain logical sequence; depending on the way of living or using the place. Thus, it could be summarised that in interpreting certain built environments, the reader/ interpreter/ perceiver will not follow any sequence, his/her interpretation will unconsciously follow his/her past experience, background, culture and if s/he has place attachment to the place being interpreted.

5.5.3. The essence of the architecture

It could be argued that, in considering the scale of the architecture, the way that Norberg-Schulz described its essence was more focused on the visual form articulation, i.e., form patterns. Internal spatial patterns were not documented and were rarely addressed in his experience reflected in the absence of the use of plans and two-dimensional diagrams. This might be because he experienced Khartoum in a short time that was not enough to capture and study the implicit qualities of the internal spatial patterns. Nevertheless, he gave more emphasis to the exposed patterns that were truly endowing the place such as the wide streets in Colonial Khartoum and the arcaded porticos in colonial architecture. The overall *genius loci* of the place thus incorporated an *implicit* categorisation of patterns that were narrated *gradually* from the urban spatial patterns, to the transitional patterns and to the architectural form patterns.

As for the Pattern Language theory, and because it was put as a design tool, it described the essence of architecture in a more systematic way, including patterns starting from the group of buildings together to the scale of construction. However, it is noticeable that form patterns were marginalised and considered as a by-product that results from the realisation of other patterns.

5.5.4. The synthesis and the formation of the interpretive pattern Language tool

It could be argued that those previous points -in addition to the previous reasons to include these two theories (see Section 5.2.1) and findings from the interviews (see Chapter 4), have paved the way to synthesise the two theories. Moreover, by theoretically abstracting this *synthesis* it was possible to form *the interpretive pattern language tool.* This abstract tool aims to provide a theoretical anchor that can aid further exploration of the three angles of the research: architecture, place and identity in KCC in a more objective way. Although this tool was crafted for the exploration in this research for the case of KCC, it could inevitably be applied in any existing places.

While Pattern language seems to provide a clear and more tangible structure to design in any place, Norberg-Schulz's experience of the *genius loci* of Khartoum provides a more hermeneutic experiential interpretation of the built environment. Therefore, Pattern Language could be regarded as more scientific and more objective compared to Norberg-Schulz's experience which is more romantic and artistic.

Whereas Norberg-Schulz incorporated both form (articulation) and space (organisation) as the two main determinants of the place's genius (see Figure 5.1), Pattern Language focused on the spatial patterns mainly.

To give more details on this synthesis, the role of each theory will be explained separately. While Christopher Alexander and his colleagues provided suggestive diagrams as elements for a practical open-ended language that will allow them to actively engage in the design process (Bhatt, 2010), the resulting tool from the synthesis suggests using the theory to interpret existing built environments. Moreover, Pattern Language tends to formulate patterns in three possible layers: that of a problem, solution and construction, in an attempt to provide a common vocabulary to express key concepts and optimum solutions (*ibid*, p.715). Yet, the utilisation in this research will extract the existing patterns, sketch them in diagrams as actual documentation of existing repeated patterns at different scales ranging from the architectural to the urban then evaluate them in order to pave the way for the design stage (see Table 5.1).

Moreover, Alexander's theory focuses on spaces rather than places, as he believes that when human beings share a vibrant and rich community life, spaces will transform from being merely functional to being social and vital, and hence in such settings lie possibilities for learning and cognition that are spatial, emotional and effective (Alexander, 1979). On the other hand, the application of the synthesised interpretive tool suggests paying attention to the whole place, with a special focus on the physical form. This is because physical patterns endow the place with its visual characteristics and are thus part and parcel of that learning and cognition. They link people emotionally and physiologically to their places and result in either negative or positive place attachments depending on the quality of those characteristics. Cullen (1961) agrees with this as he adds that the perceived visual experience of the built environment has a direct influence on people's sense of a particular place. Hence places here transform from being merely functional to visually pleasant and representing the *genius loci* of the place (see Table 5.1).

Table 5.1 A comparison between the application of Pattern Language theory as a design tool and the proposed utilisation of the interpretive tool in the present research.

Alexander's pattern language	**Application of the tool**
Universal pattern language	Local (place-specific) pattern language
A design tool	An interpretive tool (when a place experienced phenomenologically)
Suggestive design diagrams	Diagrams of a real interpretation of an existing built environment
Spatial patterns	Patterns of the whole place with special focus on the physical patterns
Aim: *"to bring conscious awareness of the patterns through which human beings unconsciously relate to space"* (Bhatt, 2010, p.712).	Aim: provide conscious awareness of the existing repeated patterns through which people, architects or planners consciously or unconsciously apply in the built environment
Practical open-ended language	Practical documentation language that interprets architecture, place and identity.
Relates to the deep psychological needs of users	Relates to the deep psychological needs of users + highlights cultural, historical, economic, social or political references that participants will continuously relate to or reflect an attachment to.
Formats the patterns in three possible layers: that of a problem, solution and construction, in an attempt to provide a common vocabulary to express key concepts and optimum solutions	Formats the patterns into: 1. Absent patterns that need to be established, 2. Patterns that require emphasis and; 3. Patterns that need to be re-evaluated according to users' experiences and their social and cultural backgrounds.

Nevertheless, one could argue that the Pattern Language is originally proposed as a design tool for designing in new places and not for an assessment for existing problematic places such as KCC. However, those problematic places inevitably need to be re-assessed and improved before designing new places. Thus, the utilisation of the Pattern Language as a design tool in existing contexts will not be of effective use

since what already exists in a context needs to be interpreted and evaluated to help pave the way for any future designs. Hence, the act of re-assessing problematic places is as equally important as any new designs. Consequently, the Pattern Language theory seemed like an appropriate theory that could help in deconstructing KCC's as a place, its architecture and its identity into patterns to re-assess them. Inevitably, this re-assessment could be regarded as a stage that precedes the design of new patterns, which then the original role of the theory as a design tool could be implemented.

At this specific point, comes the role of Norberg-Schulz's phenomenological experience of the place and the identification of its *genius loci* as the experienced patterns are then re-assessed, evaluated, discussed, listed, and categorised according to the phenomenological experience of KCC by the research participants (see Figure 5.3). In this way, the essence of the theory is the result of the synthesis; while the Pattern Language gives the idea of patterns, the phenomenological experience of *genius loci* provides the experience of existing places. The latter, however, will highlight rich interpretations and meanings that result from people's experience such as cultural, historical, economic, social or political references that participants will continuously relate to or reflect an attachment to. Sime (1986) agrees with this and emphasises that the experience of the receipts of the design is as equally important as that of the designers.

Hence, the use of the theoretical tool will interpret KCC's architectural character, place and identity in patterns and from an experience point of view. This specific contribution thus *concretises* the main benefit of synthesising the two theories in providing the existing local pattern language of KCC that is being interpreted and evaluated through the experience of its people. In general, applying the interpretive pattern language tool in certain places, will not only provide a *local* pattern language but it will also provide conscious awareness of the existing repeated patterns through which people, architects or planners consciously or unconsciously apply in the built environment.

Within this, the extracted patterns will differ according to the experienced places, the buildings' functions in those places and consequently the meanings that people consciously or unconsciously attach to those buildings. Findings of the interviews have stressed this; for example, in residential architecture, clients were attached to their internal spatial patterns more than to the external urban patterns. Whereas in city centres or business districts clients and place users were more attached to the urban patterns and to the architectural patterns of the buildings more than to those

internal spatial patterns. Thus, the current application of the tool will list the extracted patterns, categorise them, investigate lacking patterns that need to be established, recognise positive patterns that require emphasis and patterns that need to be re-evaluated; all according to people's attachment to them and their experiences of them.

Inevitably, this synthesis contributes to both theories and helps in filling a theoretical gap within each of them. As for Norberg-Schulz's theory, the interpretive tool will provide a new way to interpret places in a more scientific objective way in patterns compared to the mere artistic and emotional approach of Norberg-Schulz. As for the Pattern Language, however, it provides a new utilisation of the theory as an interpretation tool that should precede its use as a design tool in order to assess the existing places before designing new ones. This was emphasised by Bechtel (1977) and Heimsath (1977) who noted that analysis of the patterns should help to nurture a greater synthesis between the design and research of buildings that are in use. Sime (1986) expands on this and explains:

> *The patterns still need to be evaluated against the criteria Alexander recommends and, where possible, criteria which have been used in researching patterns of behaviour in, and the experiences building users have of physical settings. Agreement amongst a design team about what constitutes a pattern does not guarantee that it would be one for the building users. In this respect, the design and research of existing places need to be more closely integrated.*

Inevitably, the proposed interpretive tool fills a gap in the theory which assumes that all designed places and buildings should follow the original patterns in order to achieve the *'timeless quality'* and avoids mentioning any kind of research and assessment of existing patterns. Ultimately, it could be argued that not all planners, architects or even lay-people achieve this quality in their designs, and they may be far from achieving it. Hence, it is equally important to re-assess and improve the existing problematic places with their existing pattern languages before adding new designs. Hence, the theory might need to be updated to suit the 21st century contemporary needs by studying each place's specific patterns.

With Sime (1986) establishing a link between Alexander's patterns and Norberg-Schulz's phenomenology of place (see Section 5.2), this research re-emphasised this link. However, it could be argued that Sime's link is based on the place being a universal man-made place, and with this research being an already existing place, it is possible to contradict Sime in that the invariant property changes and becomes

more specific to the place. Hence, this research contributes to the link between Norberg-Schulz's phenomenology of place and Pattern Language by redefining place as being no longer a universal one but rather a specific one which is a totally distinct and specific with its unique properties. These new properties will be reflected in a new set of patterns that are specific to that place (here Khartoum).

Thus, the suggested use of the synthesised interpretive pattern language tool considers the properties that are specific to the place being studied. Thereafter, the process for this interpretation can be achieved through three main steps as follows:

> *Step 1*: Documenting the existing architecture (from available literature)
> *Step 2*: Extracting the existing patterns (from participants' experience of the place).
> *Step 3:* Evaluating the existing patterns according to participants' experiences, researcher's own interpretation and observations, the extent to which patterns reflect the spirit of the place and whether they have succeeded in reflecting its invariant features (see Figure 5.3).

In order to explain the utilisation of the interpretive pattern language tool in KCC, and across the three angles of the research: architecture, place and identity, the utilisation will start by comparing the outsider's and the insiders' experience of KCC in the following sections (see Sections 5.6 & 6.2).

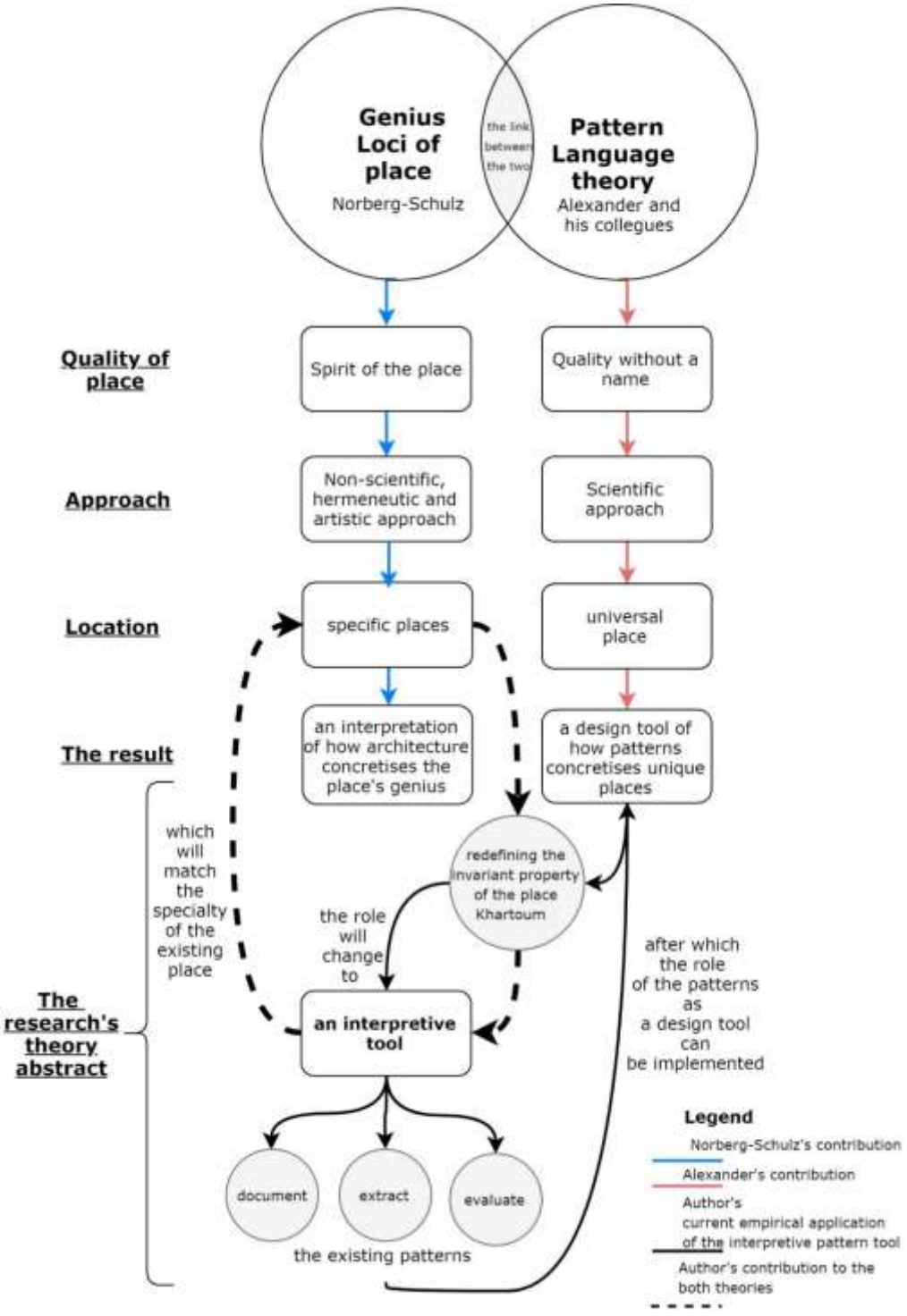


Figure 5.3: The synthesis between the two theories and the development of the research's abstract theory: the interpretive pattern language tool. Source: the Author

5.6. The application of the interpretive pattern language tool in KCC: Norberg-Schulz's (the outsider's) experience

This section applies the interpretive pattern language tool firstly on Norberg-Schulz's experience of Khartoum, as a background experience by an outsider. This will help in extracting existing architectural and urban patterns experienced by him and which he believes endowed the place with its distinct *genius loci*. This could be considered as an early application of the tool: based on the literature as a secondary resource. Secondly, the tool will then be utilised on the current built environment of KCC to extract the current emerging patterns in the contemporary architecture based on the observations and experiences of participants and the current researcher as potential insiders in Khartoum (see Section 6.2). This will allow giving insights on the current patterns, such as which patterns were/are dominating? And why? Which were/are lacking? And which of them should be enhanced? This could thus be marked as an empirical application of the tool from primary data which will be analysed in the next chapter as the core of this research.

Interestingly, the two theories might show some overlap, as Norberg-Schulz narrated his experience of the place Khartoum, sometimes, capturing the unique architectural and urban features, *which are in essence 'patterns'*; as features that concretise the genius of the place. Interestingly, some of these features already exist in the Pattern Language theory – could be found in the same name or other names. This might be because both theories promote the core concept of designing better places by responding to their peculiarities. Moreover, using patterns as an interpretive tool in KCC, with the background of Norberg-Schulz's experience in the 1970s, will illuminate interpreting the contemporary architecture of KCC today. In this sense, the change or development of patterns between then and now will be highlighted and labelled in new patterns. For example:

Table 5.2 An example of a comparison between patterns in Norberg-Schulz, Pattern Language and KCC existing contemporary architecture

Patterns from Norberg-Schulz's experience	**Alexander's patterns**	**Current contemporary architecture extracted patterns**
Arcades in the colonial architecture of KCC give a transition space between the exterior and the interior	▪ Arcades ▪ Entrance transition	▪ Isolated buildings ▪ Isolated elevations

5.6.1. Core and supplementary patterns:

Norberg-Schulz perceived the character of Khartoum as a uniform and simple character. For him, this simplicity is mainly manifested in residential architecture, which resembles a simple and introvert architecture in the form of enclosed buildings. This character resulted from the direct response to the severe weather conditions. Apparently, considering the external world and the urban life surrounding the house was not the nomadic man's concern.[37] In his mind, architecture was reduced to its true essentials with what he could achieve with the limited available resources. To interpret this using the interpretive pattern language tool and applying Park's (2015) classification of patterns (see Section 5.5.2), those true essentials could be coded as core patterns and any other patterns outside those essentials are more of supplementary patterns or accessories. While core patterns resemble the basic spatial patterns, supplementary patterns were as follows:

- Transitional patterns: which are patterns that reflect the relationship of the building to other buildings adjacent to it and the relationship between the building and its surrounding urban site; and
- Form patterns resembling patterns that represent the physical characteristics of the building (see Figure 5.4).

This is the interpretation of traditional residential architecture into patterns, as experienced by Norberg-Schulz, yet, it could be argued that he was over-romanticising the vernacular architecture of Khartoum by not criticising it. Ideally, it should have the supplementary architectural patterns, for instance; on one hand, transitional patterns might have created more liveable streets, more vibrant urban environments and better utilised traditional courtyards. On the other hand, form patterns could have given Sudanese traditional architecture a stronger identified image. Nevertheless, this example of interpretation will be treated as an indication of the general approach of interpretation: from the general perceived character of the place to patterns.

[37] Before the formation of Khartoum as a centre, the Sudanese people resided in it as nomads who were impressed by its perfect location for grazing and agriculture.

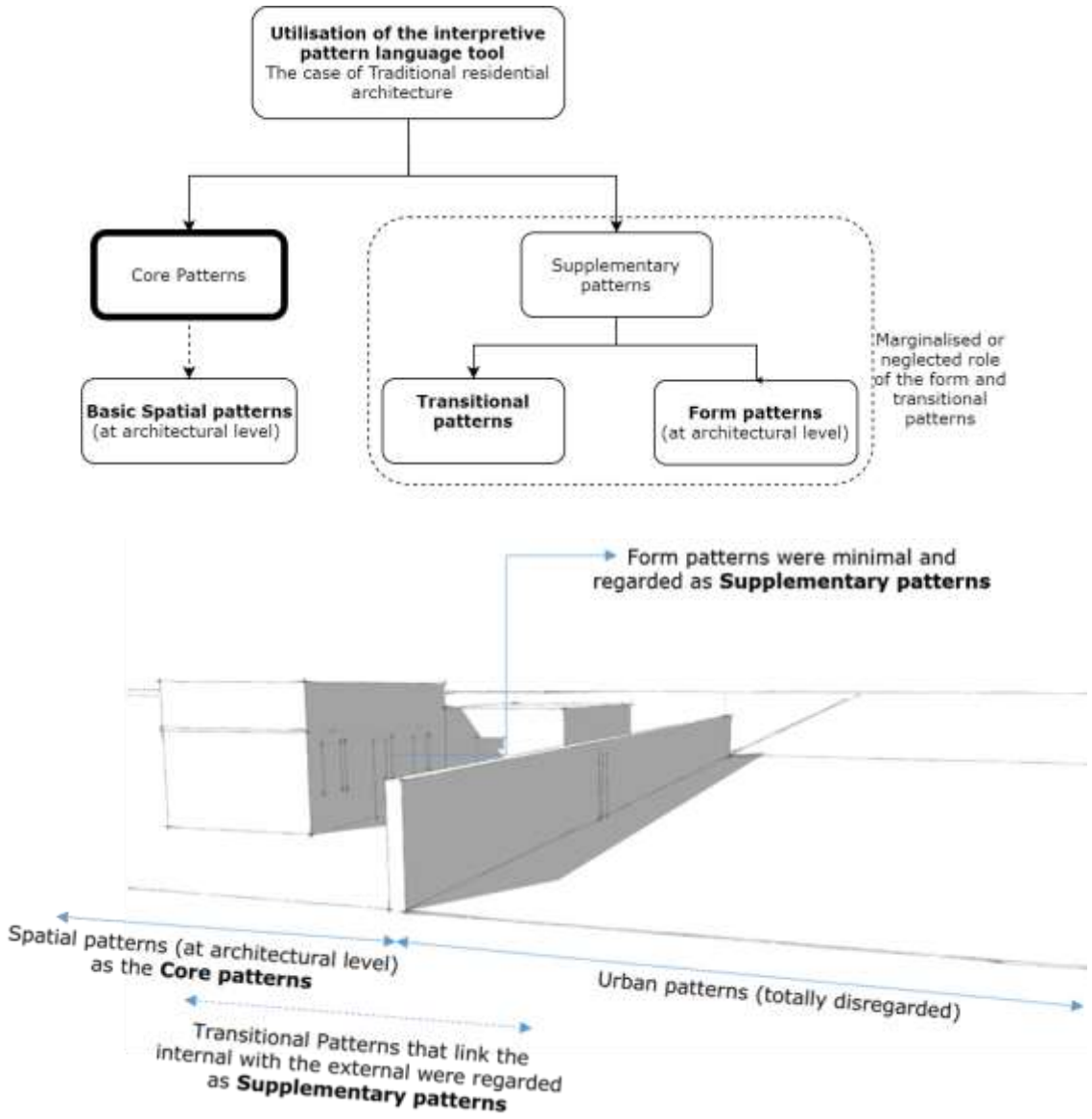


Figure 5.4: The concept of classifying and coding patterns into core and supplementary patterns in residential architecture utilising the interpretive pattern language tool. Source: the Author.

Moreover, Norberg-Schulz narrated the general character of Colonial Khartoum and described the features/patterns that gave the place its unique qualities as follows:

- The "imageable" and meaningful spatial organisation represented by *'wide streets'*[38]**.**
- The combination of grand external relations and true "interiority" that gave the feeling of intimacy through *'verandas and arcades'*, which give an interaction between the urban space and the volume of the building. He

[38] Italics here to indicate patterns

identified this as a quality that strongly expresses the character of public buildings.

- *'Arches'* in the main elevation presented a fascinating form of articulations in different colonial buildings
- The introduction of vegetation in streets as a *'natural portico'* along the Blue Nile Embankment as a completely new introduced pattern to Khartoum, which is not well-known in the desert environment.

Similar to traditional architecture, Norberg-Schulz celebrated colonial architecture by providing logical justifications to the newly introduced patterns. As for the *'wide streets'*, although they were foreign to the place, the introduction of arcaded porticos and trees provided new possible ways of living and walking in the severe weather conditions of Khartoum. However, his real celebration came in his emphasis that the facades' articulation with arcaded porticos is represented fascinatingly as they were applied in different forms and different articulations. However, being imported from different places around the world, those arches nowadays became more controversial. Norberg-Schulz, however, *assumed* that they are certainly not European import and neither can they be related to the *"regular repetition of intervals which distinguishes Islamic architecture"* (Norberg-Schulz, 1980, p.134).[39] Thus, he interpreted them as being African –more specifically Egyptian- and accordingly, he regarded them as being successful in giving the imported forms a local stamp. This point of view specifically highlights the limited ability for an outsider -who has a natural distance from the place and consequently a cultural difference- when it comes to interpreting features that have a religious and cultural dimension. Nevertheless, this does not prevent the outsider from reading the place and have valid interpretations.

While it could be argued, subjectively, that colonial architecture is foreign and will remain an imposed architecture; thinking objectively -in patterns- can change this perception. Notably, patterns of colonial architecture comprised all architectural (spatial and form), transitional and urban patterns, showing a more comprehensive architecture. Moreover, it reflected qualities that responded to the local climate and natural landscape. Thus, interpreting architecture objectively into patterns can lead to a different exploration of architecture and find new interpretations that can enhance the current contemporary architecture (see Figure 5.5).

[39] Norberg-Schulz emphasised that this is an assumption because of the lack of historical research that provides a secure interpretation of the use of the Arch in colonial architecture in Khartoum

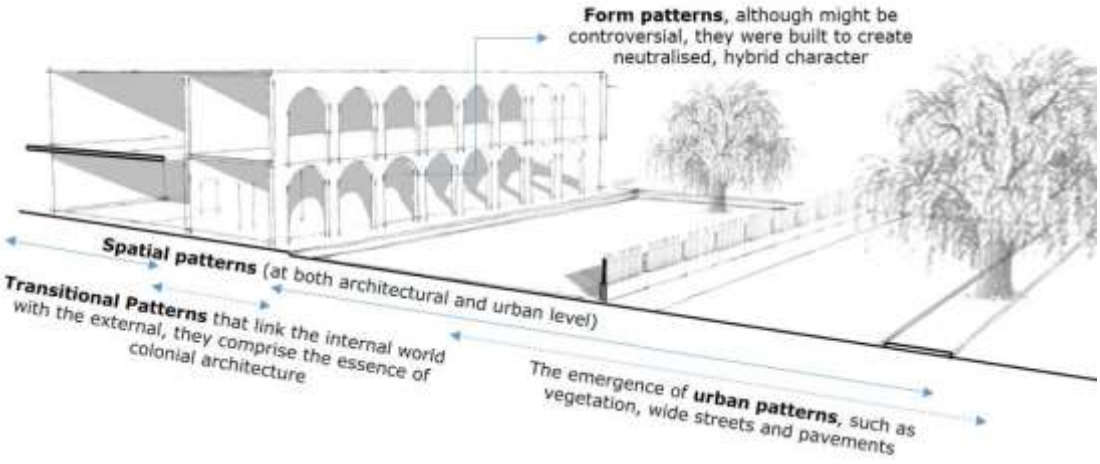


Figure 5.5: Colonial architecture reflecting more comprehensive architecture as spatial, transitional, urban and form patterns all exist. Source: the Author

From traditional architecture to colonial architecture, the experience of Norberg-Schulz of the place Khartoum ends. It inevitably provided a reading of the place and its architecture from a perspective that is different from the normal insider's perspective. Nevertheless, with the scarcity of architectural research for the postcolonial period, architectural features –here patterns- of the Modern Paradigm were only mentioned in few writings by some Sudanese architectural critics (see e.g. Osman (2005), (Osman et al., 2011), (Bashier, 2012) and (Bashier, n.d.)), leaving those of the Contemporary Paradigm unexplored. In addition to this, the general character of the place KCC with the juxtaposition of its colonial, modern and contemporary architecture remains unexplored and uncaptured. These are some of the research gaps that the present research aims to fill through the empirical utilisation of the interpretive pattern language tool starting from the next chapter.

5.7. Conclusion

This chapter acts as a core chapter in this thesis as it helps in moving away from the preliminary fluid exploration of the architectural identity of Khartoum (see Part 2, Chapter 4) and tries to deconstruct it into simpler issues, such as the *genius loci* and architectural character. In order to achieve this, a theoretical intervention that synthesised the two theories of Norberg-Schulz's *genius loci* of place and Alexander's Pattern Language theory has been introduced. This theoretical synthesis has thus resulted in forming the interpretive pattern language tool as a theoretical abstract tool to be applied to interpret existing places in patterns and based on peoples'

experiences of those places. The result is thus a whole new set of patterns that interpret that place and are unique to it resulting in a local pattern language as inevitably, a key contribution to the original *universal* Pattern Language theory.

The application of this tool on Norberg-Schulz's experience of KCC in this chapter had helped in extracting patterns of the late 1970s which then provides the possibility to track the development of patterns through the different architectural paradigms that Khartoum has witnessed. When this interpretation is coupled with the concept of classification to core and supplementary patterns, it gives a further interpretation of the transformation of patterns and the change of their priorities through the years during the different paradigms. Through this, a more *objective* interpretation of the architectural character of KCC became possible. Within this, a strong relationship between patterns and character of a place can be highlighted in that character can be interpreted and coded into patterns, which allowed for exploring architecture differently. Nevertheless, with a link already bounding character and architectural identity, patterns can similarly give a more *objective* interpretation of the architectural identity of that place. This objective interpretation includes extracting patterns at different scales, analysing them and classifying them into core and supplementary patterns. Yet, for a more meticulous study of architectural identity, other issues must also be included –in addition to patterns- such as culture, social background and religion.

The next chapter will be the empirical application of the interpretive pattern language tool through participants' experience of the place KCC as an attempt to extract its local pattern language and to advance the exploration of the place in a new way.

Chapter 6: Extracting an existing local pattern language

6.1. Introduction

While the previous chapter developed the theoretical intervention and the formation of the interpretive pattern language tool, this chapter will be the empirical implementations of the tool through participants' experience –as insiders- of the place KCC.

With the absence of comprehensive architectural research from an insider perspective for the postcolonial period, the utilisation of Norberg-Schulz's interpretation of the *genius loci* of KCC and consequently his phenomenological approach in describing the link between place and architecture (see Section 5.6) became more logical. This is because it paved the way for triangulating his experience with the experience of the current users of the place which has certainly enriched the exploration of KCC and increased its validity. Hence, focus groups were conducted with different categories of participants including planners, architectural students and the public in order to empirically apply the interpretive pattern language tool in the place KCC today, explore its *genius loci*, then work with them to extract the existing local pattern language. Inevitably, this tool will give answers -in a more objective way- to the three angles of the research: place, architecture and identity in the context of KCC today.

6.2. An empirical application of the interpretive pattern language tool in KCC: an insider's perspective.

On one hand, the utilisation of the interpretive pattern language tool in the context of Khartoum through the experience of place by Norberg-Schulz has given the analysis of the place in the late 1970s and thus the extracted patterns narrated that time (see Section 5.6). On the other hand, this section will give the interpretation of the same place but in the present time by empirically applying the tool. While the earlier provides the outsider's perspective, the latter conveys the insider's perspective. This results in an interesting dialogue between the two perspectives as a conclusion of the chapter.

Moreover, both interpretations result in extracting the local pattern language of KCC as an existing place, which is, in essence, an inevitable contribution to the theory of Pattern Language. However, interpreting KCC in the same approach of Norberg-Schulz's interpretation, commencing from the general essence of the place to its architectural and urban features will instantly give the impression of the fragmentation of the built environment. The findings of the interviews reiterated this impression as a fact about KCC. However, this is merely a general perception that is similar to Norberg-Schulz's artistic endeavour. In order to avoid that, the empirical interpretation aims to propose a more objective and scientific endeavour. Thus, the approach of interpretation, here, will commence -after defining the invariant properties of the place- with documenting the existing situation, extracting the existing patterns then utilising them to interpret and evaluate the general essence of the place, the character of the contemporary architecture and the issue of identity (see Figure 6.1). Through this, the aim is to distance participants from any subjective preconceived ideas and allow them to engage with the concept of patterns.

By utilising the interpretive pattern language tool in KCC, the invariant properties will no longer be common to any place; rather, they will be specific to KCC and common only to its people. These invariants are so deep and bonded to the place that they are forming a completely new set of patterns that were not mentioned in the original Pattern Language. In this regard, invariant properties that are specific to KCC can be listed as follows:

- Blue Nile river to the North
- Khartoum's governmental district
- The juxtaposition of architecture from three architectural paradigms: Colonial, Modern and Contemporary.

- Gridiron planning
- The dearth of vegetation (despite a few main streets that were vegetated by the British administration).

Moreover, other general invariant properties for any place in Khartoum can be listed as follows:

- Hot dry climate
- The natural character of the place including the Niles with their dramatic meeting and their division of the city into three towns (see Figure 2.1).
- The flatness of the topography
- Sudanese people with their mixture of Islamic/African/Arabic/international cultures.
- Dramatic historical and political events that the country witnessed

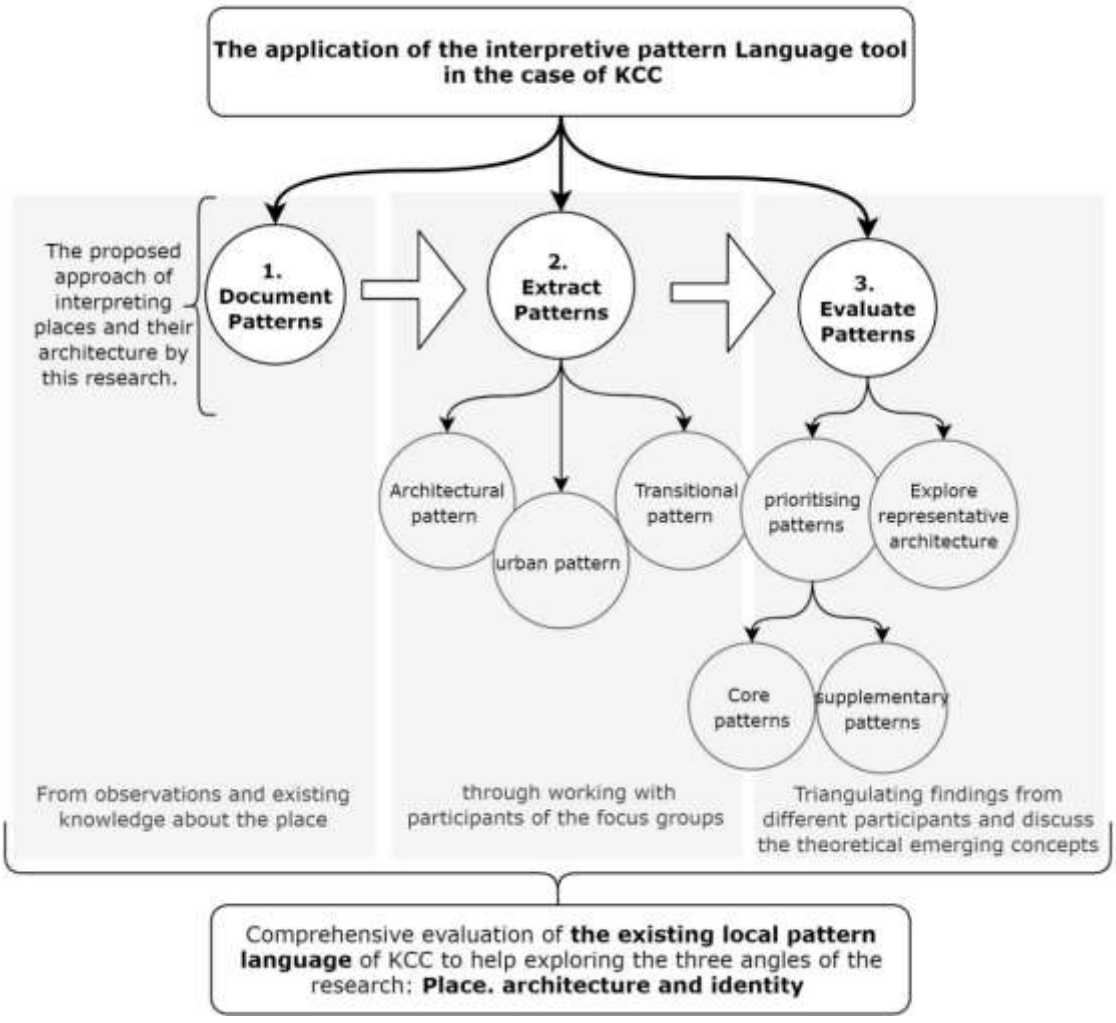


Figure 6.1: the Proposed approach of interpretation of KCC utilising the interpretive pattern language tool. Source: the Author.

With these invariant properties in mind the empirical interpretation of KCC emerges in structured steps as mentioned in (Section 5.5.4) as follows:

Step 1: Documenting the existing situation

This step included patterns that were listed from investigating the existing architectural research –despite being scarce- as secondary data on KCC or Khartoum in general (see Chapter 2). It, moreover, includes patterns that were visually observed and photographically documented by the current researcher in three photographic tours in KCC between 2015 and 2017. Significantly, this has highlighted that KCC as a case study is big to be explored empirically with participants and that only a representative part of it will be more appropriate to fit within the scale of the subsequent experiment.

Consequently, the central part of KCC was chosen for exploration because it accommodates the majority of the colonial buildings and hence resembles the juxtaposition between the Colonial Paradigm and both the Modern and Contemporary paradigms at its best. Additionally, it comprises rich varieties of functions including educational (University of Khartoum Campus), administrative (headquarters), commercial (Al-Arabi Market including shops along Gamhoria Street), governmental (Colonial buildings) and investment. Moreover, this place comprises three main public spaces where architecture is experienced by most of the place users including the Gamhoria Street, Public space in Al-Arabi Market -in front of Alwaha shopping mall- and the public space in front of the Republican Palace's southern Gate (see Figure 6.2). Users of this part of the city centre experience the place mostly during the day for work and study or during both day and night for shopping. However, the latter is limited only in two places: along Gamhoria Street and in Al-Arabi Market. Thus the centre is almost dead at night except for those two places; which could still be considered as somewhat intimidating areas for shopping at night.

Step 2: Extracting the existing patterns in KCC

This step was based on participants' experiences and observations about the studied part of KCC in steps as follows:

I. Visual incitation experiment: The focus group sessions commenced with visual incitation experiment by displaying panoramic pictures of the main streets in the studied area (see Figure 6.3). Through this, it was possible to stimulate participants to extract generically any element, an entity or a symbol that identifies and characterises the place KCC, whether natural, architectural or

urban, tangible or intangible. The aim here was to interpret the *genius loci* of KCC from an insider's perspective and compare that to Norberg-Schulz's.

Visual incitation experiment is a method that has been developed from similar studies that investigated the built environment to get the perceptual views of its different users see (Groat, 1982, Gospodini, 2004, Malhis, 2004, Tweed and Sutherland, 2007, Abu-Obeid et al., 2008). However, these studies were investigating certain buildings and were drawing conclusions about them. Yet, this part of the focus groups was intended to keep the exploration as open and free as possible to encourage participants to talk about KCC as a *place*, which consequently includes both its architecture and its urban setting. This was then followed by images of certain representative buildings from KCC to make the discussion more targeted (see Section 7.2).



Figure 6.2: Map of the studied part of KCC in the visual incitation experiment showing the functional classification zones, the main public spaces (1-3) and the location of the panoramic pictures (A-H). Source: www.google.com. Edited by the Author.




B


C


D


E


F





Figure 6.3: Panoramic pictures presented to participants(A-H) as part of the image incitation exercise. Source: the Author.

I. The concept of the patterns as an interpretive tool was introduced to participants.

II. Accordingly, the extracted characteristics of KCC were interpreted and coded into patterns forming the local pattern language of KCC. It is important to highlight that here the aim was to extract patterns of KCC by working closely with participants who experienced the place either by studying, working, shopping, approaching certain buildings for civic services or even passing by it daily or occasionally. Through this, it was possible to extract patterns that users of KCC are attached to either visually, emotionally or functionally.

III. Patterns were then classified into architectural, urban and transitional patterns (see Section 6.3). Moreover, their priorities were discussed and classified into core patterns or supplementary patterns.

Step 3: Evaluating the existing patterns of KCC

This is to be achieved by evaluating the extracted patterns through exploring their prioritisation, identifying patterns of distinctiveness and discussing them in relation to the three angles of the research: the place, its architecture and identity.

6.2.1. The *genius loci* of KCC according to participants:

Interestingly, what was unique about the description of the spirit of the built environment of KCC by the participants was that they expressed the insiders' points of view, which adds valuable insights that Norberg-Schulz could never have encountered or conceived (see Section 5.3). In contrast to Norberg-Schulz's experience of Khartoum as a visitor, participants' insights were more substantial as they were based on their daily experiences of the place as well as the stories that they received through generations about the essence of KCC in its 'glorious' past (see Section 2.5.1).[40] Those conveyed stories were largely reminiscing and celebrating the old Khartoum, which was vibrant throughout the day and especially at night. It hosted several cafés that were lively and filled the place with vitality. Yet, cafés and other general entertainment activities are now absent from the centre leaving the place dead at night and during national or religious holidays. This *"disappearance of human quality"* (senior planners, F.G.1, 2017) as one participant described it, arose as an agreed negative experience about KCC that was highlighted repeatedly during the discussions. Another participant of the same focus group emphasised: *"I would expect the centre to be more vibrant than this, this is almost dead"* (*ibid*). Additionally, a third participant explained:

> *In KCC there is a general lack of interaction between people and the urban fabric…. This is because the centre acts as a transportation corridor and a business area only…. Thus, the interactional experience that people get from the place is limited* (ibid).

Another participant reminisced about the old KCC and described it as being 'smooth' due to accommodating all types of vehicles while providing the space for people to walk:

> *When I look at the pictures, you get the feeling that KCC's streets were wider than now as they used to fit people, cars, taxis and buses. Hence, you feel the smoothness of the streets. I wonder and actually, I do not believe that one day this place was Khartoum smooth city centre* (General Public, F.G.7, 2017).

Notably, this reminisce was repeated by several participants during the different phases of the research. Interestingly, the reasons for this reminisce was documented by Ahmad (2000) who emphasised that Colonial Khartoum blossomed into an attractive little town. He explains *"the mere fact that it was a planned town with*

[40] This term is adopted here to indicate how that period was perceived as almost the golden age of KCC.

neatly laid out, broad, tree-lined main streets made it a delight to the Sudanese eye then. It gradually developed its institutions and was filled with employment opportunities and entertainment" (ibid, p.314) (see Figure 6.4).

On the other hand, quotes that describe the current spirit of the place KCC are:

> *I tried to read the pictures,*[41] *and there is nothing in common between them. There is nothing that can unify the city together or its skyline. Each building has its own character and there is no building that can be read with one that is similar to it, nor there is a continuation of colours* (Graduate students, F.G.4, 2017).

Thus, this participant went on labelling this phenomenon as *"a visual distortion"* (*ibid*) (see Figure 6.4). At the other end of the spectrum, one participant had a positive impression about the character of the place when compared to the other two towns of Khartoum: Khartoum North and Omdurman and attributed this to the diversity of land uses and institutional functions in KCC as opposed to the mainly residential functions in the other two towns (*ibid*).

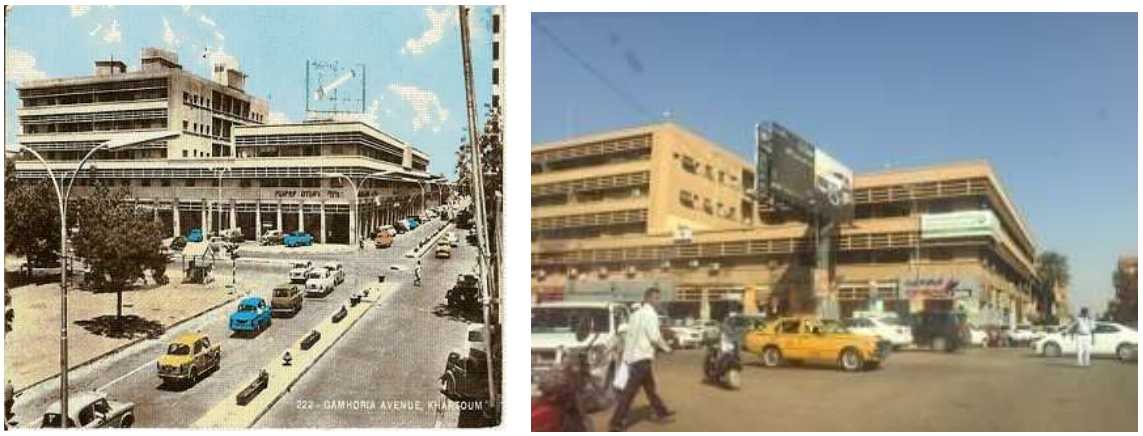


Figure 6.4: KCC then and now and a view at Gamhoria Street. Source: www.facbooc.com/oldSudanphotos and the Author

Surprisingly, within these various views on the spirit of KCC, only one participant grasped the main natural element of the place that endows it with its significant natural quality: the river Nile. Interestingly, this participant when questioned about the reason for their appreciation for the Nile,[42] answered*: "because I adore it"* (*ibid*). This is similar to Norberg-Schulz, despite being an outsider; he instantly captured the Nile as the unique natural feature of the place Khartoum. On the other hand, all

[41] Referring to Figure 6.3
[42] Nile here includes the Nile with its two tributaries: the Blue and the White Niles

participants of the focus groups did not capture or mention this natural essence of the place and their connection to it; rather, they presented a weak interaction with it. This could be attributed to the fact that; although the Nile is the fundamental feature of the natural landscape, it is not physically accessible to people through proper Corniche streets or enough recreational facilities. Its accessibility is limited to visual interaction, due to crossing over it in bridges when reaching KCC from the North and the West. Therefore, people are being physically and experientially separated from it and accordingly do not have a strong attachment to it as if the constancy of the Nile made it mundane.

Despite this finding, there is a common perception in the media, literature, poetry, art, culture and education that the river Nile has its own glory and is one of the precious natural resources of Sudan. Paradoxically, what the data has revealed is quite contradicting to this perception. Yet, it could be claimed that participants' connection with the Nile is at an unconscious level and accordingly they did not properly express that and how the built environment should be integrated with it. Moreover, members of the public did agree with this point and one of them highlighted that: *"we are not commodifying the Nile for tourism. There are neither cafeterias, hotels, tourism facilities on the Nile, nor a Corniche. Instead, the waterfront is used for governmental buildings or some agricultural lands"* (General Public, F.G.6, 2017).

It was noticeable that although only a representative part of KCC was presented in the panoramic pictures, participants captured the real essence of the overall KCC which could be summarised in four main categories as follows:

I. The natural characteristics of the place: including the Blue Nile -although only remembered by one participant- as well as the sandy and barren environment and the very bright sunlight.
II. Buildings with historical references (Colonial buildings): similar to Norberg-Schulz, participants perceived KCC's colonial buildings and celebrated their architectural patterns as one of the unique qualities of the place, despite their history as being imposed by the colonisers. This appreciation could be attributed to their response to the climate, local resources and the place's natural characteristics (Hamid, 2014). Significantly, those of the University of Khartoum were largely the most celebrated and reminisced (see Section 7.3.3).
III. Landmarks: Participants listed a series of landmark buildings that KCC became well-known for such as:

- Farooq Mosque
- The Grand Mosque
- Cornthia Hotel
- Al-Arabi Market porticos specifically those along Gamhoria Street Alwaha Towers
- Abdelmoneim Mustafa's buildings[43](see Figure 6.5).

IV. Main streets with strong characters: Interestingly, KCC in the minds of participants was shorthanded to few main streets, which participants considered as the spirit of the place. Within this, they perceived the architecture that accommodated those streets and described the centre based on the characters of those streets. Those streets are Nile Street, Gama'a Avenue, Gamhoria Street and Qasr Avenue. However, there was one main street -Gamhoria Street- that participants exuberantly described and reflected a strong attachment to. This was across the majority of the groups with participants even claiming that it represents the spirit of KCC. Paradoxically, the three other streets are aesthetically and functionally prominent; Nile Street accommodating the main picturesque colonial buildings, Gama'a Avenue comprising the University of Khartoum main campus and Qasr Avenue -Victoria Avenue before- leads directly to the Republican Palace. Hence, the reason for this strong attachment to Gamhoria street was further questioned. It was found that participants are attached to it because the street is characterised by its unique arcaded porticos which act as shaded walkways that provide protection from the sun. Consequently, with the existence of the shopping facilities along these porticos, maximum commercial and social interaction are facilitated continuously along the Street. (see Figure 6.6). One of the participants declared them as: *"the most comprehensive example in KCC in terms of the interaction between the population and their urban environment"* (Senior Planners, F.G.1, 2017). A character that is different from the other streets with their predominantly institutional characters.

[43] This relates to Abdelmoneim being regarded as the godfather of the Sudanese architecture and hence his buildings are being perceived as iconic and precious.

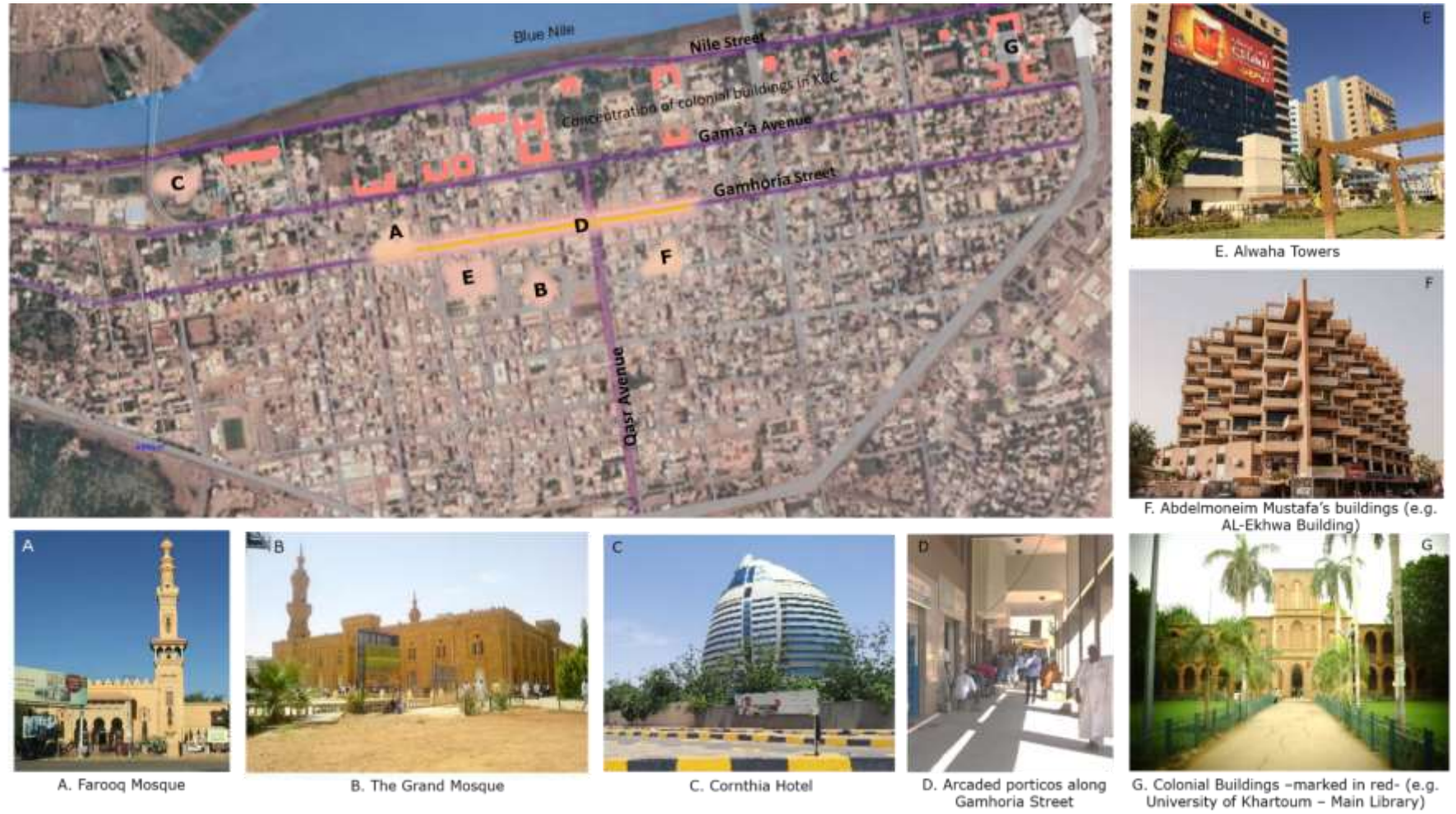


Figure 6.5: KCC map showing the four categories that resemble the spirit of the place as identified by participants: 1. The natural character of the place including the Blue Nile to the North, 2.Colonial buildings (picture G as an example), 3. Landmark buildings of KCC (pictures A-F) and 4. Main streets (highlighted in purple). Sources: www.googlemaps.com, the Author, https://bilderbeste.com/foto/khartoum-mosques-82.html and Abushakeema photograp



Figure 6.6: Part of Gamhoria street map and a series of pictures along the street reflecting its unique qualities starting from Farooq Mosque (A) and the distinctive arcaded porticos and verandas (B-E). Sources: Google maps and the Author

After these general perceptions about the spirit of KCC, participants were given a set of papers to list KCC's built environment characteristics through which they identify the place. This is where the concept of utilising the interpretive pattern language tool was introduced to participants. Thus, the extracted characteristics were interpreted –in situ and collectively by the researcher and the participants- into patterns. Thereafter, these interpreted patterns were categorised by the researcher to architectural, urban and transitional patterns. With participants comprehending the concept of patterns and their categorisation, they became motivated to extract more patterns. This interactive part of the focus group proved to be beneficial as it helped participants to engage with the interpretation of the built environment of KCC in patterns and accordingly extract more patterns, forming the place's existing local pattern language.

6.3. Extracting an existing local pattern language

While Norberg-Schulz's *implicit* categorisation of *the genius loci* of a place into architectural, transitional and urban will be adopted to categorise patterns of KCC (see Section 5.5.3), their sequence within each category will be inspired from Alexander; according to the scale; from larger patterns to smaller patterns. This combined categorisation and sequence will form the essence of the extracted local pattern of KCC.

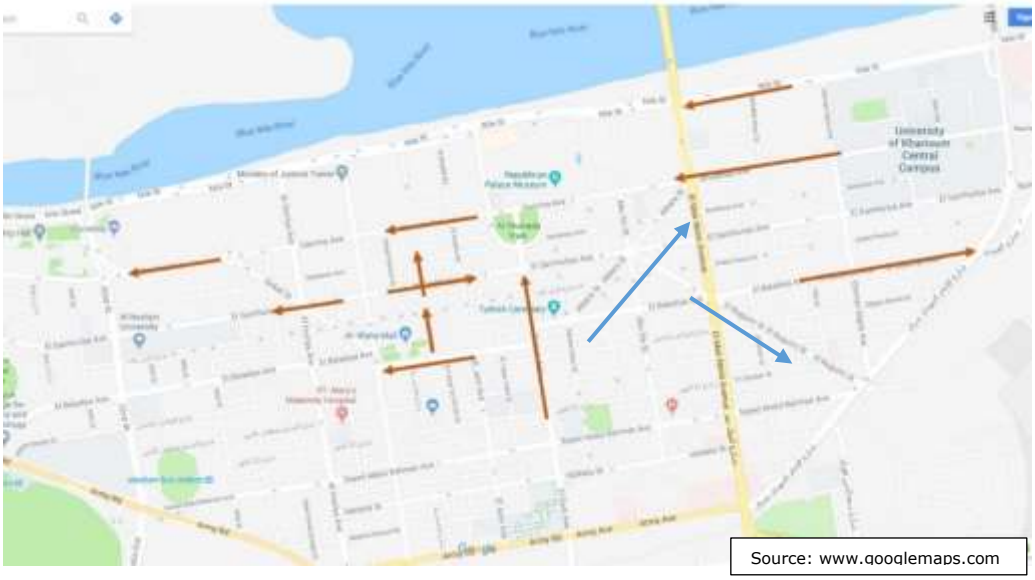
Hence, the existing patterns of KCC that were captured by the participants, documented, and observed by the researcher were listed then illustrated in abstract drawings –by the present researcher- that convey the situation of the patterns as follows:

6.3.1. Urban Patterns

The interpretation of KCC as a place in patterns revealed the almost complete neglect of the role of urban patterns in creating more humane places for their users. On one hand, the gridiron planning of KCC determined the streets to be perpendicular and homogeneous in their layouts which does not create places of inspiration within the urban fabric. On the other hand, the absence of the urban patterns due to lack of investment in the urban realm has undermined the experiential quality of the place. Participants iteratively emphasised this as an aspect that is playing a key role in the negative experience they perceived. Hence, the extracted patterns were either preceded by "lack of" or "absence of" or simply a negative pattern as follows:

1. Perpendicular streets

Is a pattern that results from the gridiron planning and consequently it creates a rudimentary urban fabric that does not spark places of inspiration in the design process. Consequently, this has resulted in in-disguisable geometrical buildings' forms which tend to adopt the same rectilinear lines of the streets and hence the repetition of the rudimentary *'rectilinear building forms'* pattern. Within this, there are few exceptions of a few diagonal streets which have resulted in shaping different building forms that successfully capture the interest through their contrast with the surrounding lines of the urban fabric while responding to their plots.



2. Barren streets

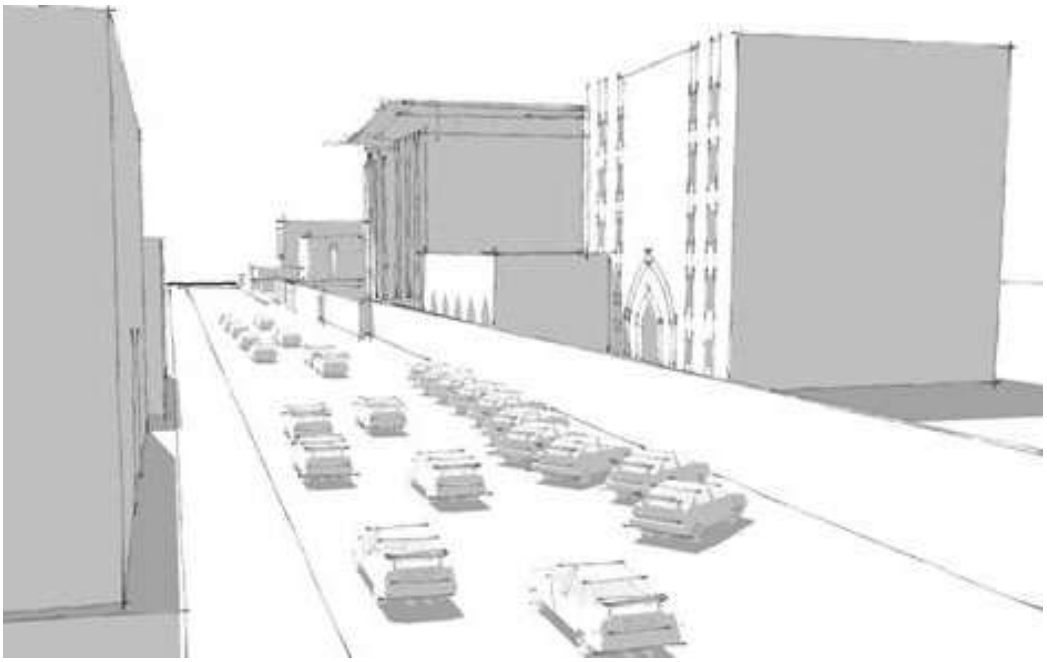
A pattern that results from lack of vegetation and poor urban plants.

3. Un-asphalted streets in some parts of KCC

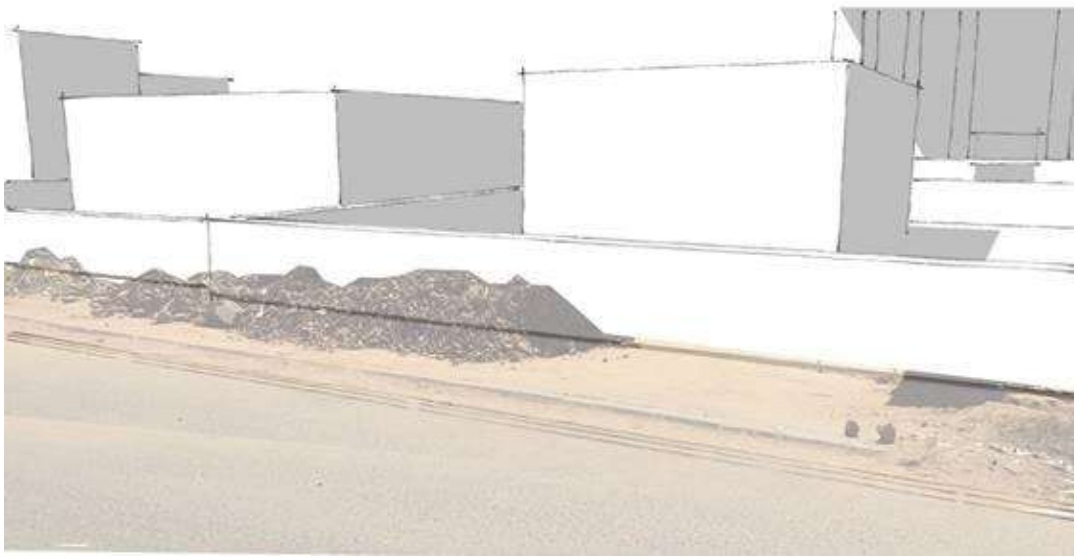


One-way streets

This pattern flourishes in KCC as many streets have been turned into one-way streets due to the pressure on the place being the centre and that the streets' widths were not designed to accommodate the current capacity.

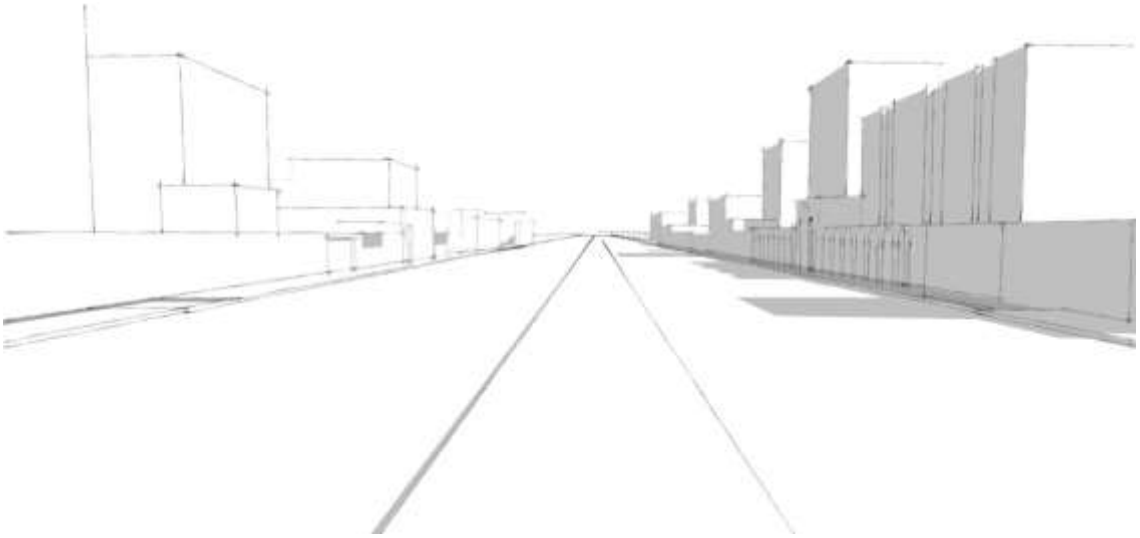


4. Dusty un-asphalted streets



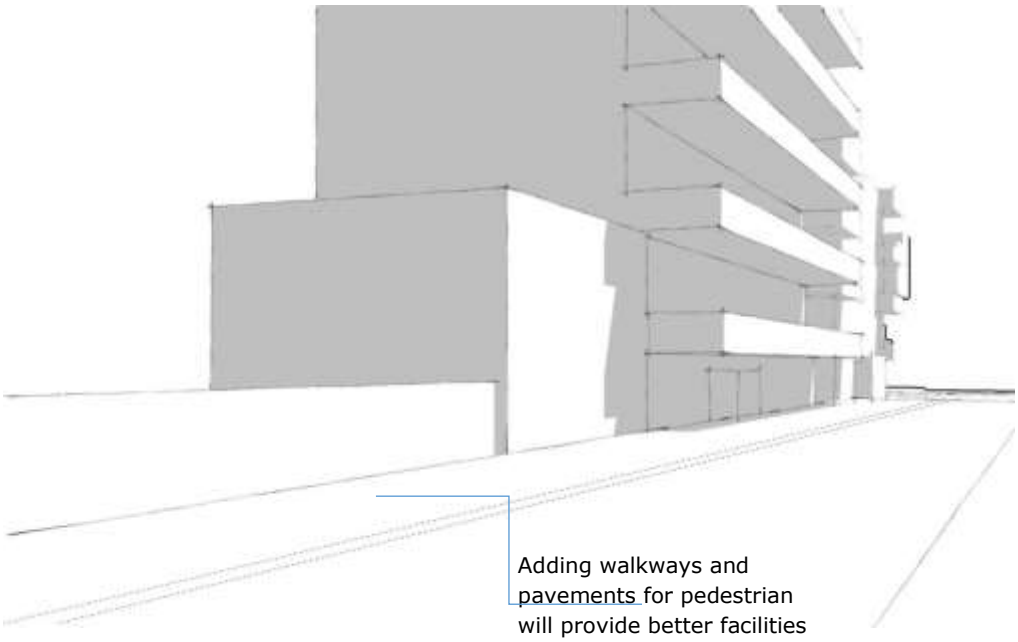
5. Streets with open vistas**

Another pattern that reflects the effect of the rudimentary gridiron planning that does not create streets full of surprise or any innovative spatial organisation.



6. Lack of adequate pedestrian walkways

7. Lack of street infrastructure such as: (curbs, middle islands, plants, pedestrian crossings…. etc.).

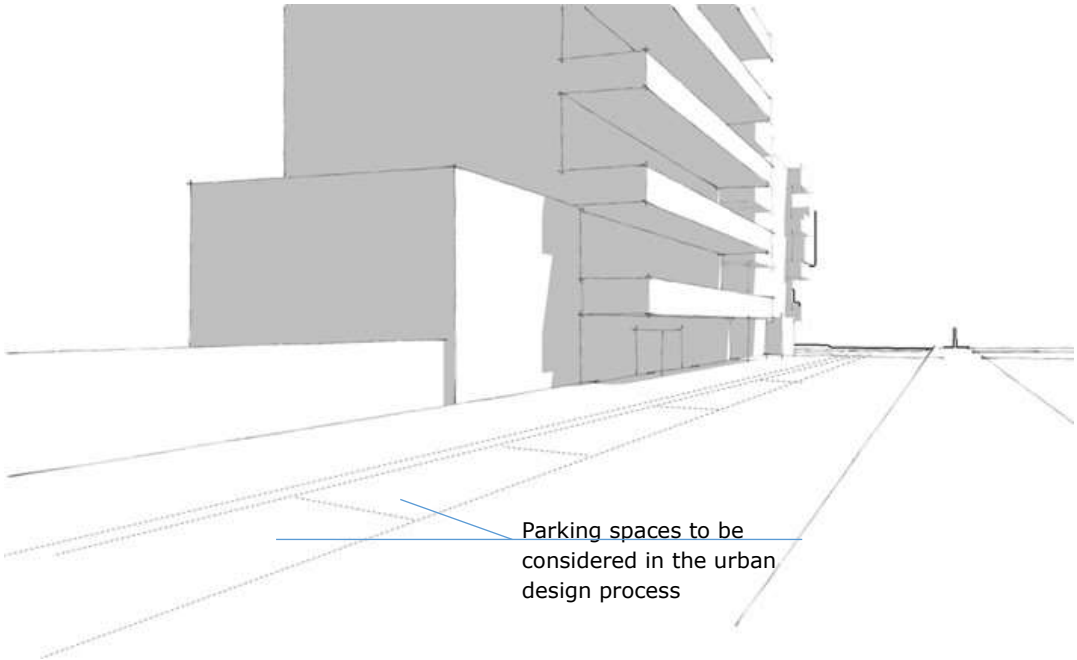


8. Absence of street furniture

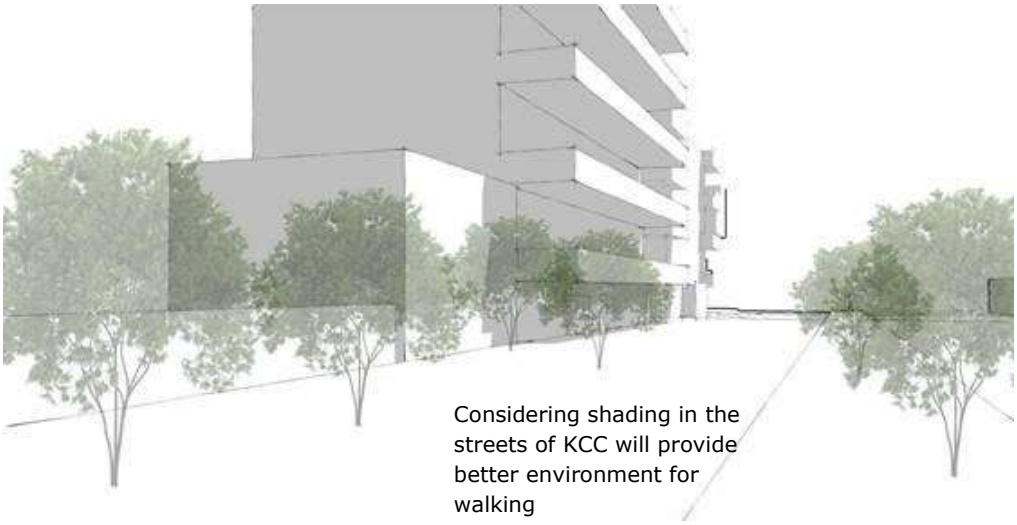


9. Lack of parking lots

As a pattern that lacks in KCC streets due to the absence of urban design efforts to provide parking spaces. Moreover, parking also lacks in most buildings in KCC – number of parking spaces/buildings- as parking requirement as stipulated in the building regulations is not strictly adhered to in the design of buildings.

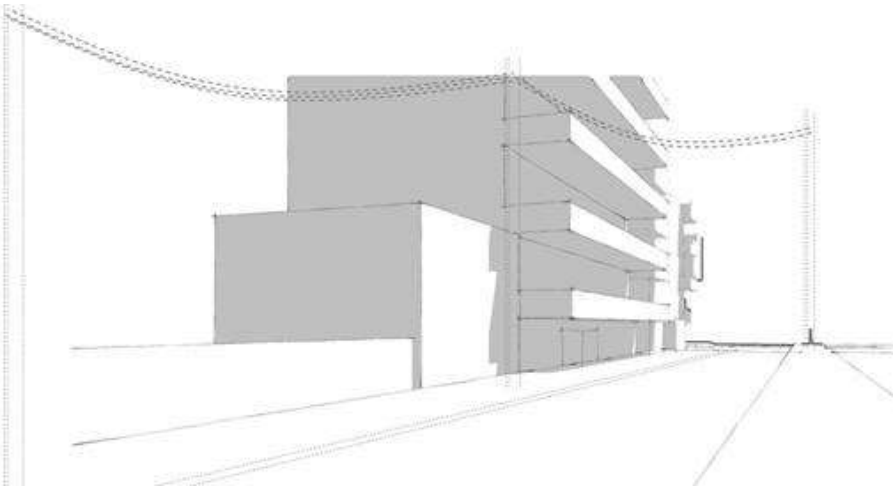


10. Absence of shading means in the streets (such as trees)

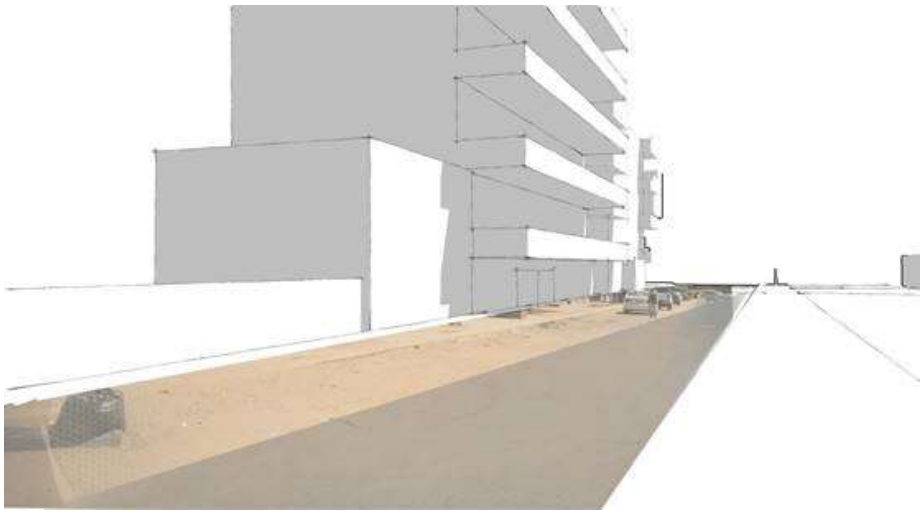


Considering shading in the streets of KCC will provide better environment for walking

11. Random distribution of infrastructure: e.g.: electrical posts

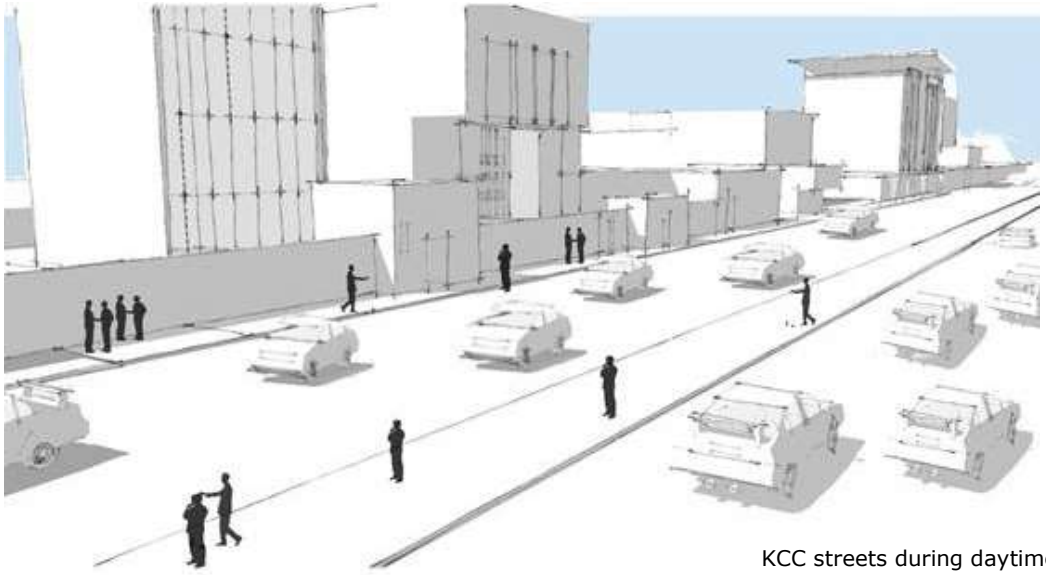


12. Dust accumulation on roadsides that minimises the asphalted parts of the street.

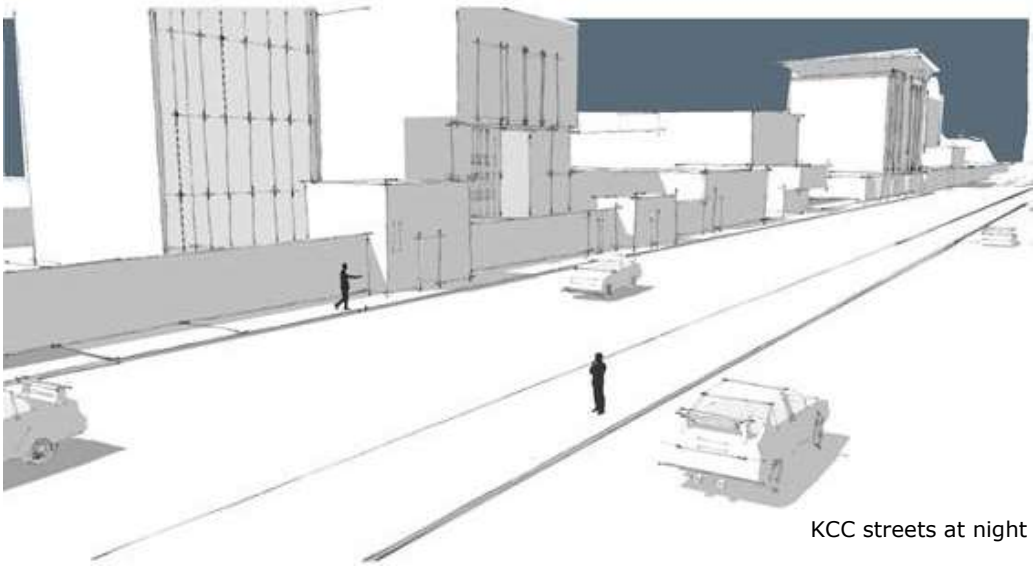


13. Lack of recreational facilities

Such as restaurants, Corniche streets and pedestrian walkways on the Nile, public spaces with convenient thermal comfort……. etc. The lack of these patterns results in the lack of social activities which could have occurred in these recreational facilities and revived the place, especially at night. Thus, the result is that KCC streets are fully occupied during the day and almost empty at night



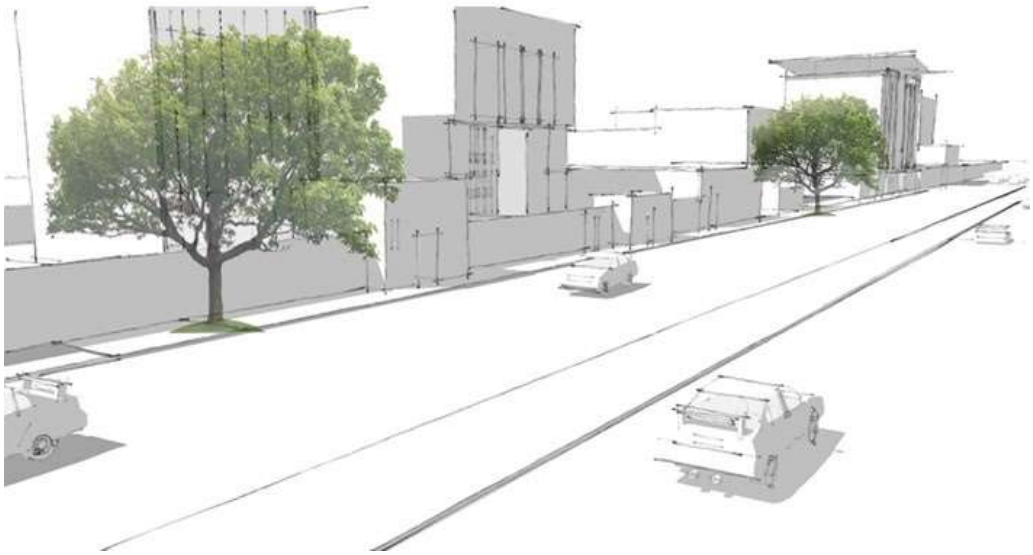
KCC streets during daytime



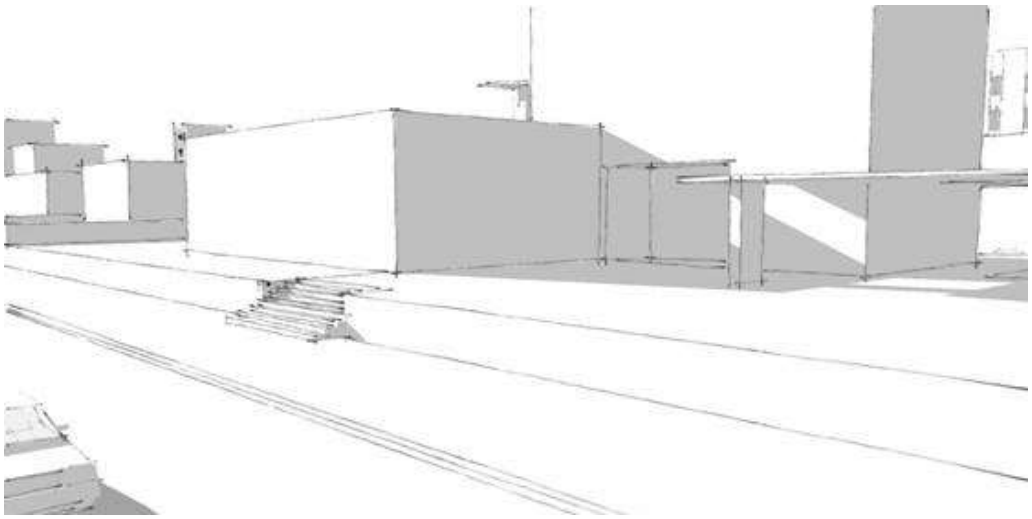
KCC streets at night

14. Big and unique types of trees from colonial times

These trees are an observed pattern that is only manifested in few streets in KCC (viz. Nile Avenue) and is not repeated elsewhere in Khartoum. Unfortunately, these trees are not being well-protected as some of them are suffering from a random cutting.



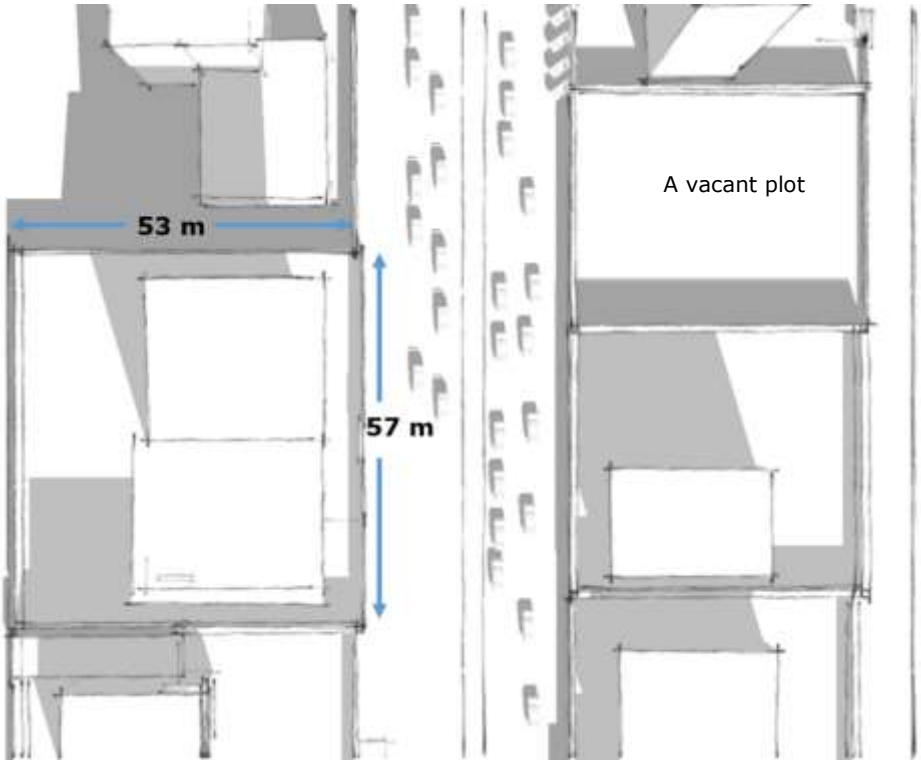
15. Raised ground floor levels (without consideration for people with disabilities)



16. Large plot areas

17. Vacant plots

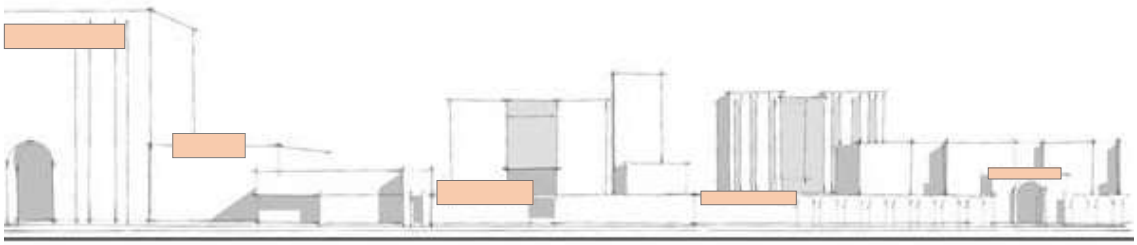
Is a pattern that exists in KCC and elsewhere in Khartoum as building regulations do not strictly enforce building in the plot within a certain period, from the time of owning it. This results in characterising the whole urban fabric as being incomplete.



18. Inconsistent buildings' heights

19. Clutter of signage**

The first is a pattern that manifests in the majority of KCC's streets, with this inconsistency, signage, which is usually fixed to building tops, is loosely controlled and manifests in different sizes and shapes.

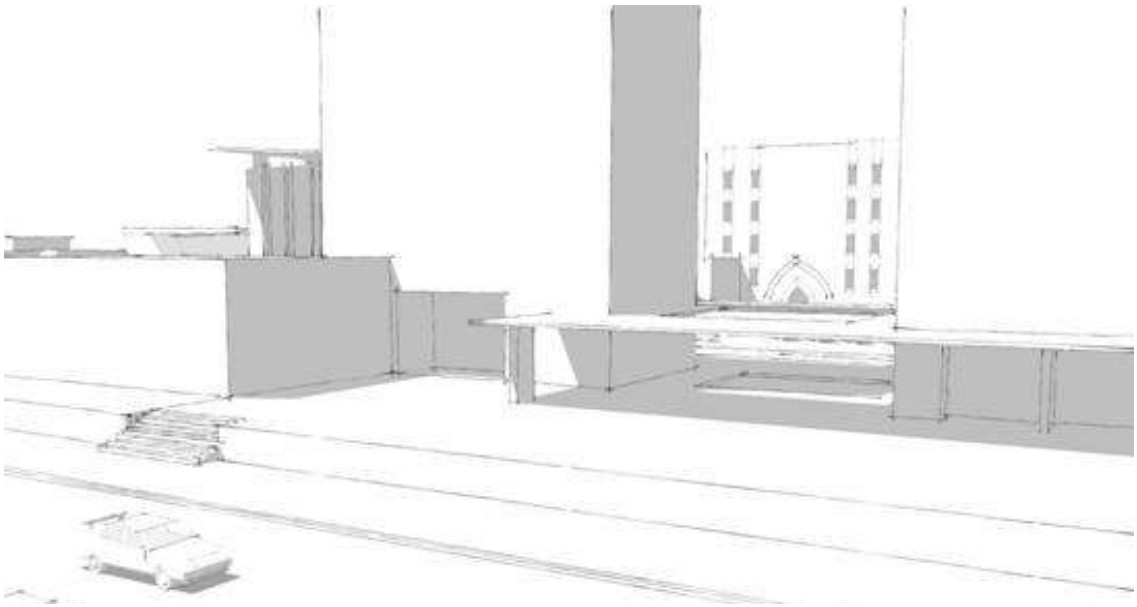


6.3.2. Transitional patterns:

The word transitional has been adopted in this research to indicate the space in between the street and the building where the environment changes from being outdoor to indoor. Hence, patterns that exist in this point of transition are being defined here as transitional patterns. Hence, those which were observed in KCC are as follows:

1. Buildings foregrounds (Urban setbacks)

As an urban space that exists between the building and the street (transitional) for people to visually and experientially interact with the place and its architecture

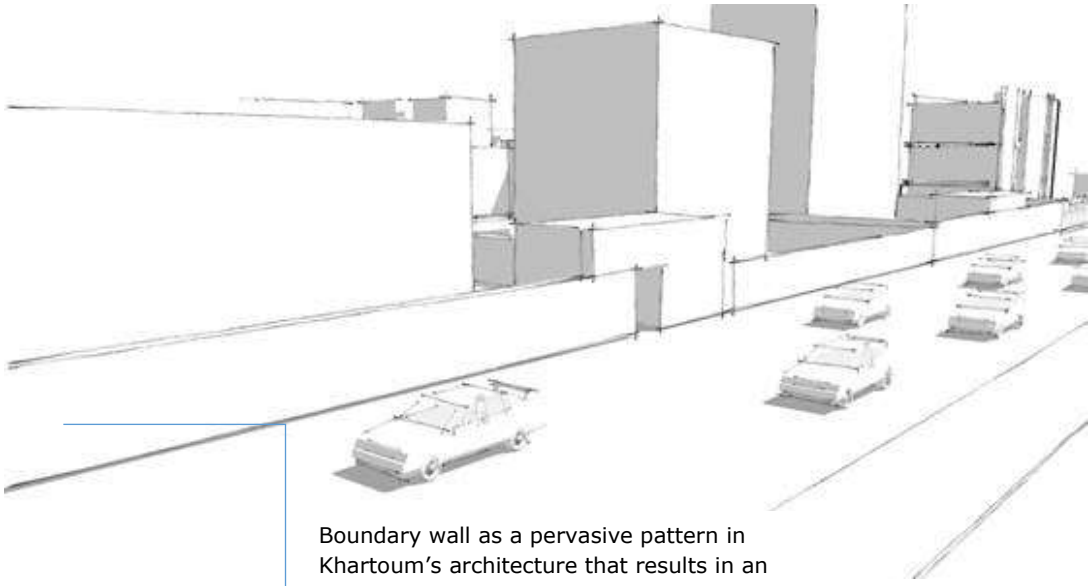


2. Boundary walls

As a pervasive pattern that stands in the transitional space between the building and the street. It isolates the building and undermines users' interaction with the place.

3. Unjustified building edges

This is one of the patterns that are a consequence of buildings being enclosed by boundary walls. An example of this is the absence of recreational facilities such as outdoor seating within restaurants.



Boundary wall as a pervasive pattern in Khartoum's architecture that results in an intimidating buildings' edges

4. Stairs on the face of the building**

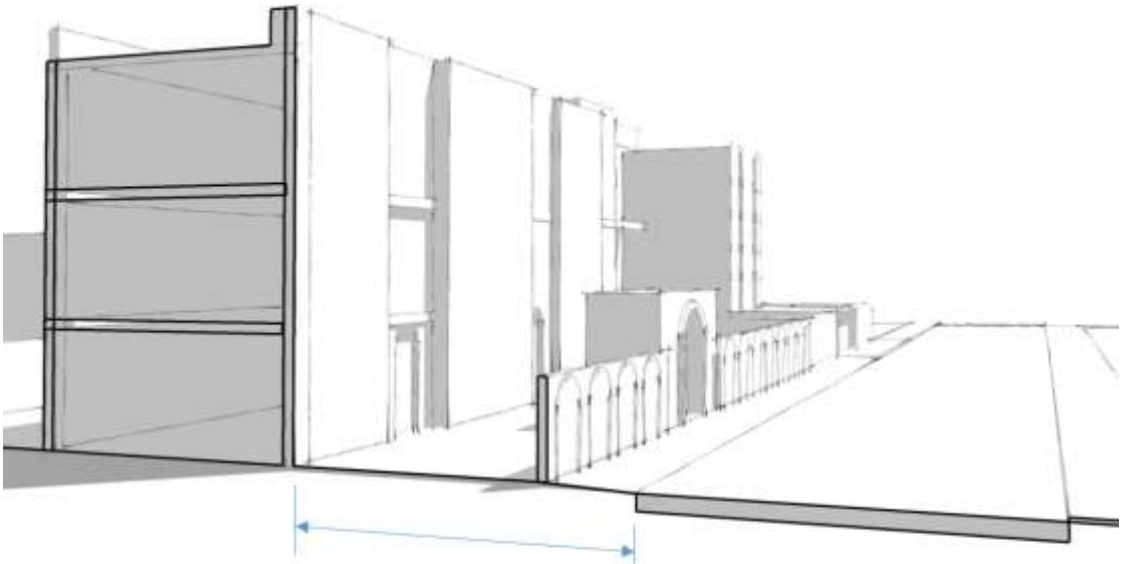
A pattern that indicates stairs being built outside the plot area on the public pedestrian pavement



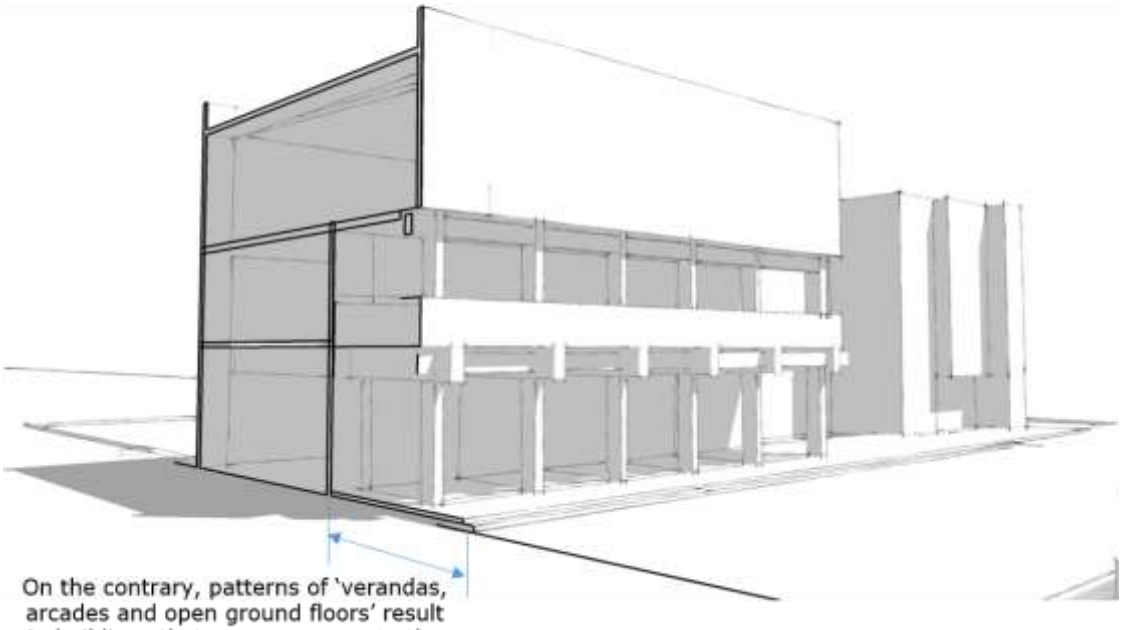
Stairs on the face of the building

5. Verandas[44] / Arcade / Open ground floors

Is a pattern that exists in the architecture of both the Colonial and Modern Paradigm. Interestingly, this pattern has been identified by participants as the essence of KCC.



The existence of the 'Boundary wall' pattern results in the 'unjustified buildings' edges' pattern that act as barriers in the transitional area between the external and the internal realms



On the contrary, patterns of 'verandas, arcades and open ground floors' result in buildings that are more open to the environment and lively buildings' edges

[44] The name Veranda is locally adopted to covered walkways providing access to commercial buildings and to covered outdoor spaces in residential buildings.

6.3.3. Architectural patterns

Participants expressed the development of the architectural patterns in KCC. They observed that they have changed from buildings of 1-2 floors height in the Colonial Paradigm to 3-4 floor heights in the Modern Paradigm to high-rise towers in the Contemporary Paradigm. Moreover, they changed from incorporating the arcaded verandas that represent a more extroverted architecture to isolated elevations that represent an introverted architecture. Accordingly, some participants considered that this inconsistent change causes a visual distortion: *"there is a distortion in the mental image because now there are new heights that are not in harmony with the heights of the existing buildings"* (Graduate students,F.G.4,2017)

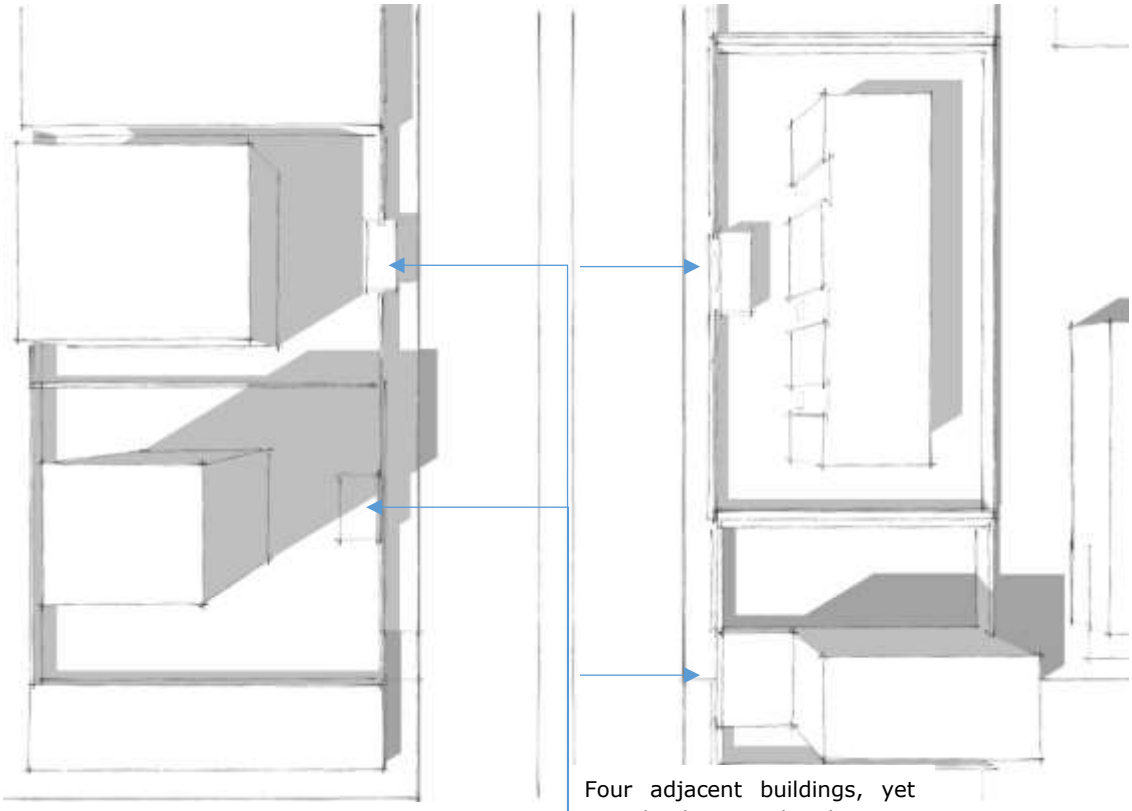
Therefore, one participant considered that this inconsistent development is not easy to fix as investors, clients and architects, who are not controlled by any form-related building regulations, will carry on determining the architectural patterns of the buildings (Junior planners,F.G.3,2017).

1. Buildings enclosed by boundary walls

A pattern that is somewhat inherited from the vernacular Sudanese architecture and copied to institutional buildings, it characterises the place with a general sense of isolation.



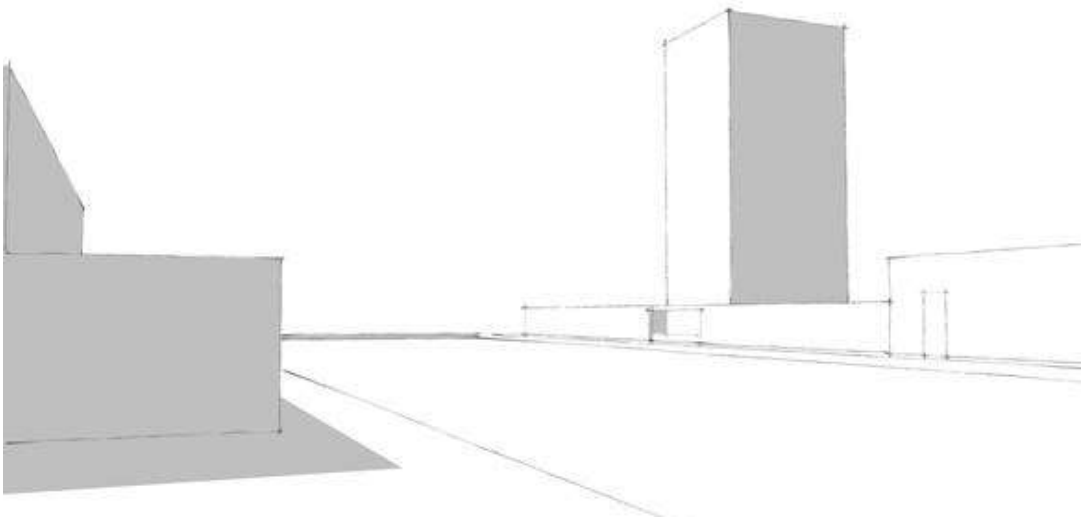
2. Isolated buildings



Four adjacent buildings, yet completely isolated via boundary walls and entrances

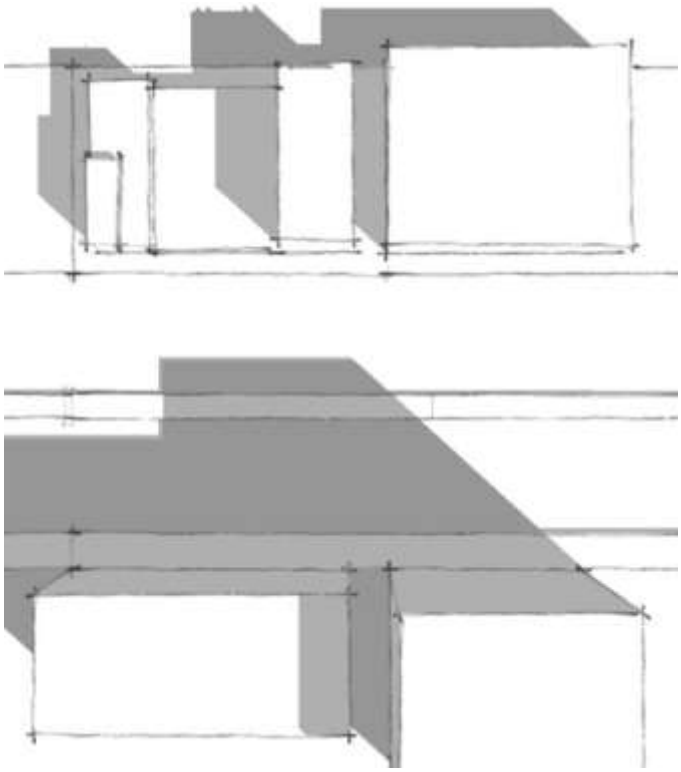
3. Monumental landmark buildings

Indicates the new contemporary towers in KCC that are being built in a monumental scale irrespective of their surroundings.



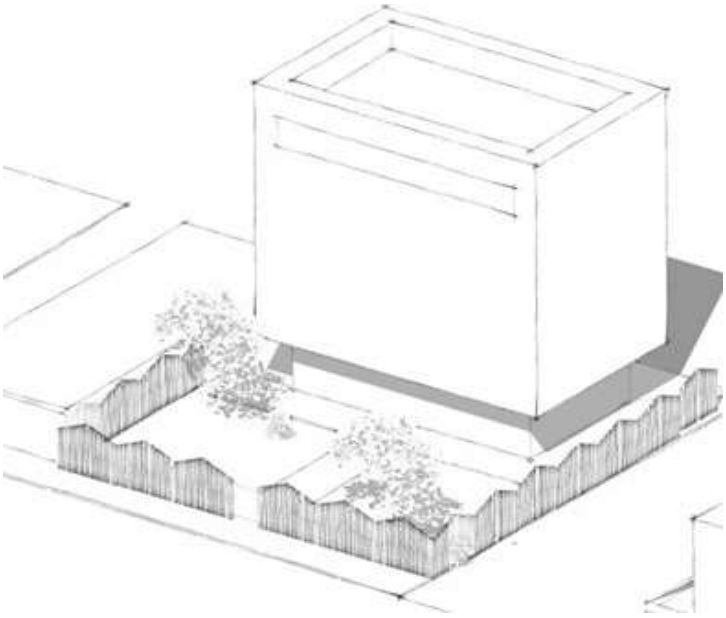
4. Buildings with no foregrounds

This pattern represents buildings that have no foregrounds which could act as the space that allows people to visually and experientially interact with these buildings.



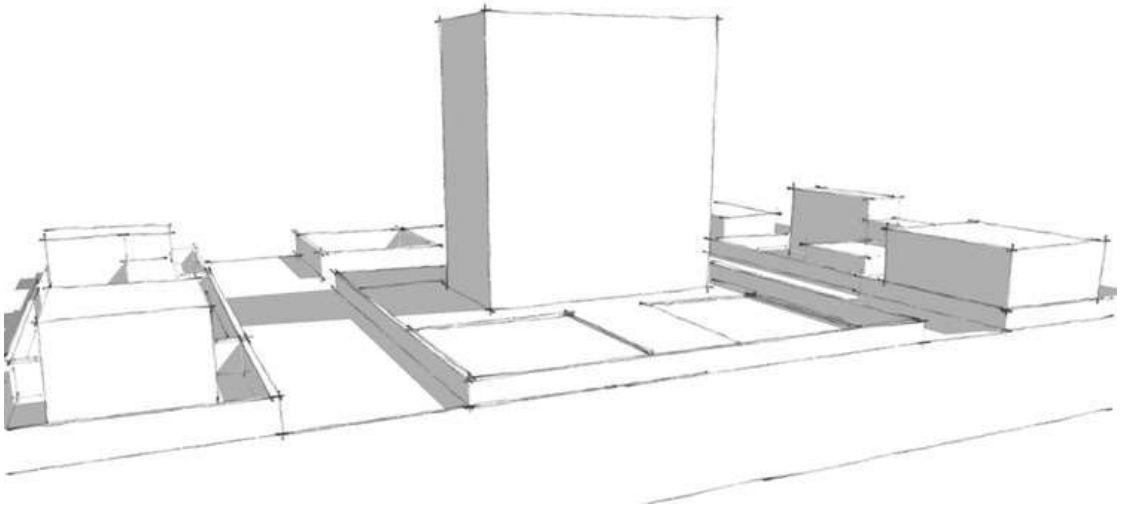
5. Buildings with inaccessible foregrounds

On the contrary, there are buildings with foregrounds, but they are not being accessible to the public because of being enclosed by large boundary walls and gates.



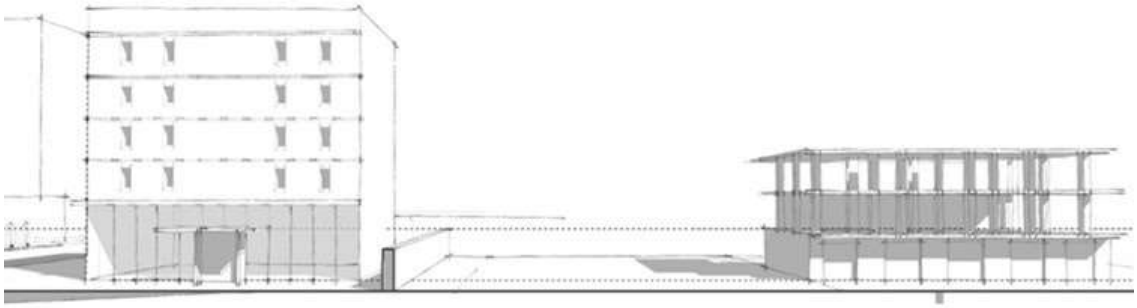
6. Overwhelming buildings **[45]

A pattern that represents buildings that overwhelm their surrounding urban fabric through the unsuitability of their scales and building materials.



7. Incomplete buildings

As a pattern that indicates buildings that have not been finished or left as a skeleton. It manifests all over Khartoum and consequently, it characterises the general city's urban fabric as being incomplete.



A building with its top floors left unfinished to be completed in the future	Vacant plot that is owned by someone is not yet utilised	A building with its top floors left as a skeleton to be completed in the future

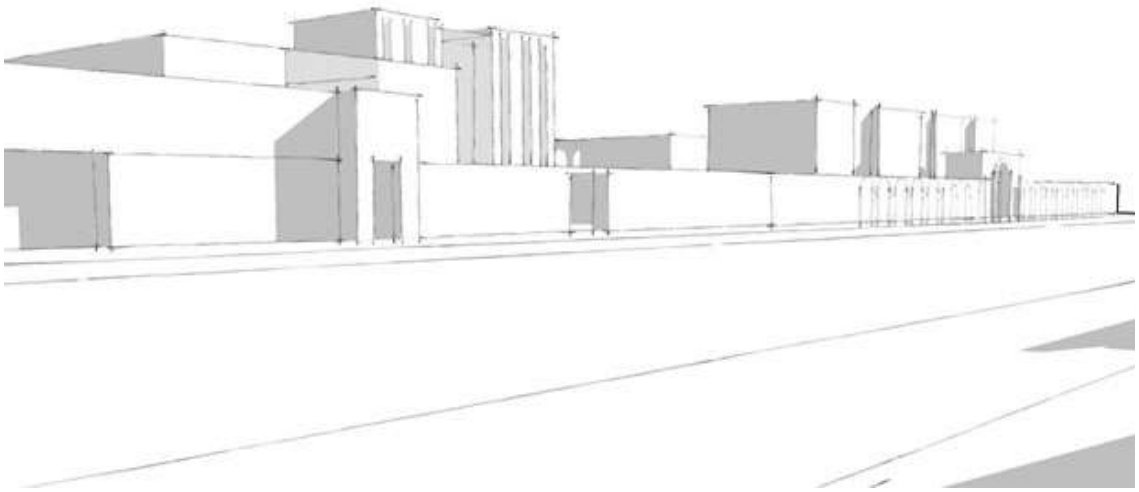
[45] From now on, * indicates a pattern that is adopted from Alexander whereas ** indicates a pattern observed by the researcher

8. Low-rise buildings (+1 or +2 floors)

Although this pattern is now changing to higher buildings, it is still present in KCC but more dominant outside of it.

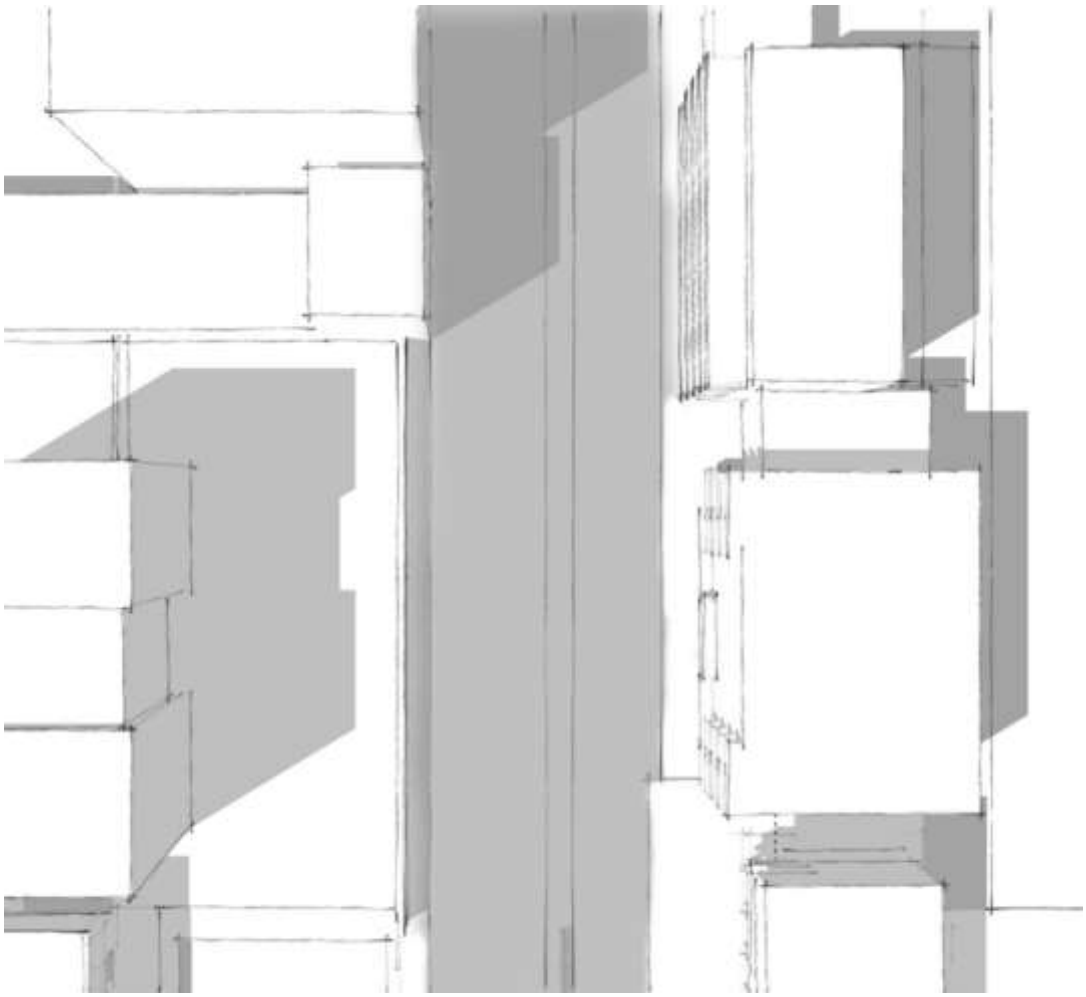
9. Rectilinear building forms

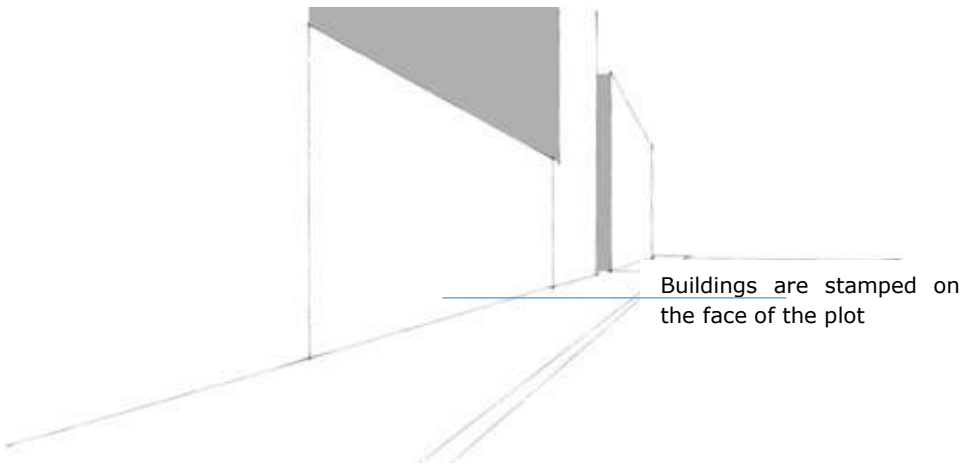
This pattern emerged in response to the gridiron urban planning that resulted in the rudimentary urban fabric and typical rectilinear plots and consequently buildings.



10. Contemporary buildings with %100 coverage

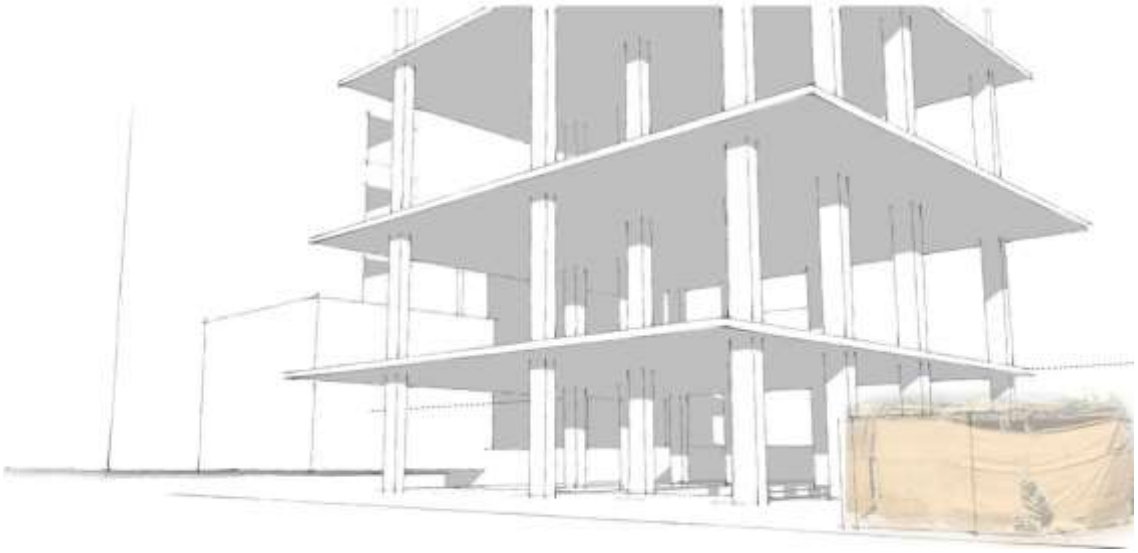
A pattern that indicates buildings that fully occupy their plots. It causes buildings to be stamped on the face of the plot without space at the foreground for people to walk and experience these buildings.





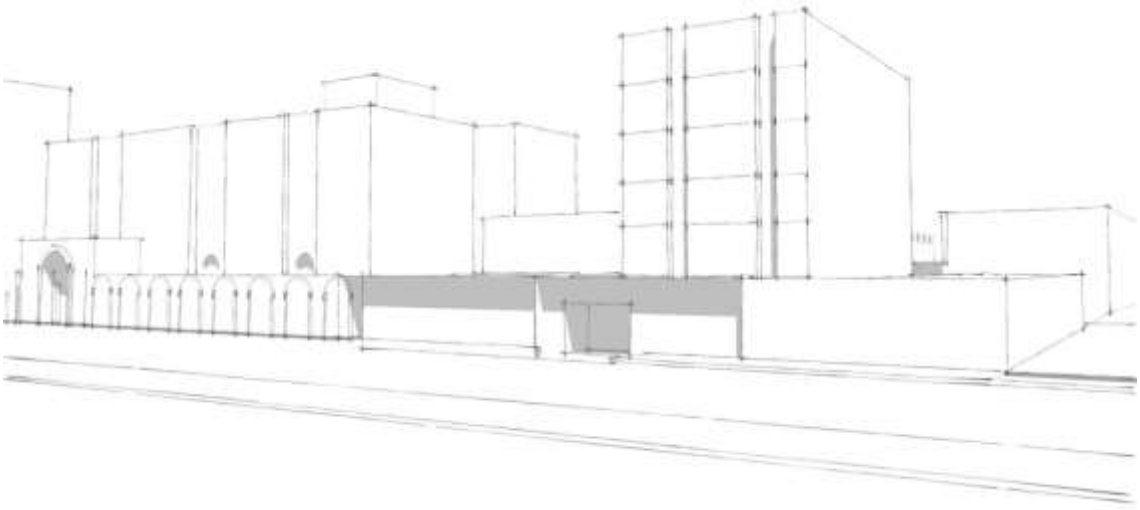
11. Temporary accommodations in construction sites**

As a pattern that flourishes in Khartoum, especially in construction sites and unfinished buildings, to accommodate guards and their families. Those guards are in most cases, poor and displaced people from other parts of Sudan.



12. Minimum connection to the earth*

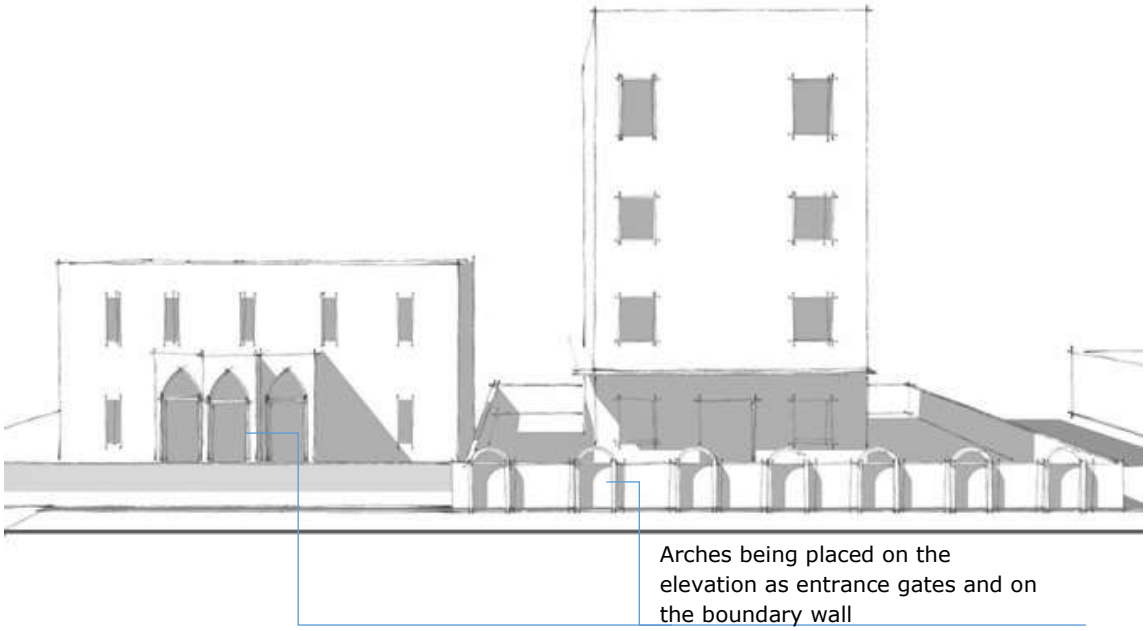
Is a pattern that represents buildings that are disconnected from the earth around them through paths or terraces.[46]



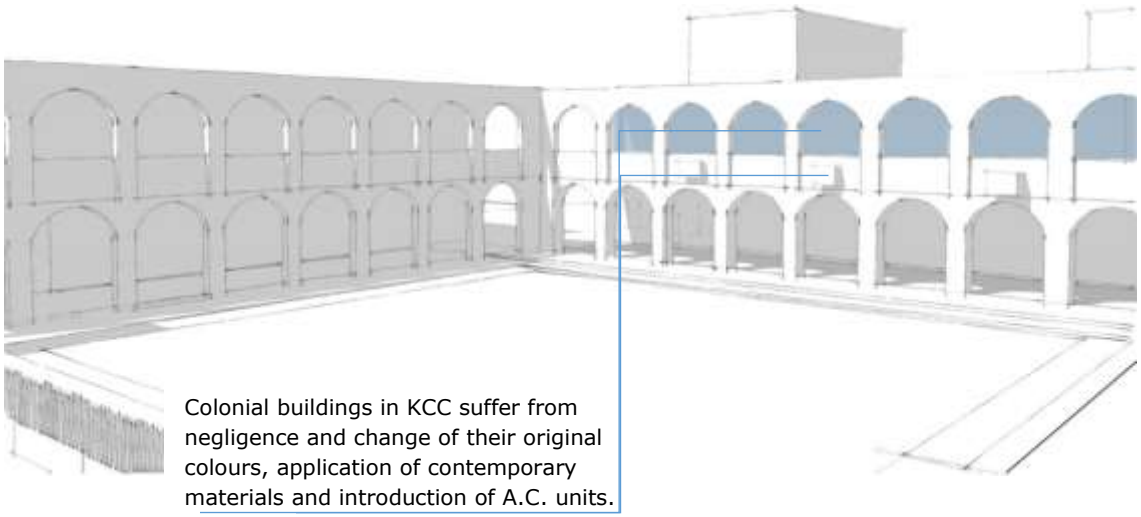
[46] *Is a pattern that is adopted from Alexander as he narrates*: "connect the building to the earth around it by building a series of paths and terraces and steps around the edge. Place them deliberately to make the boundary ambiguous"* (Alexander et al., 1977, P.787).

13. Buildings with 'Islamic' features

A pattern that represents the 'Elemntalisation of the architectural expression' to reflect an Islamic identity, a phenomenon that was identified by focus group participants (see Section 7.3.3).

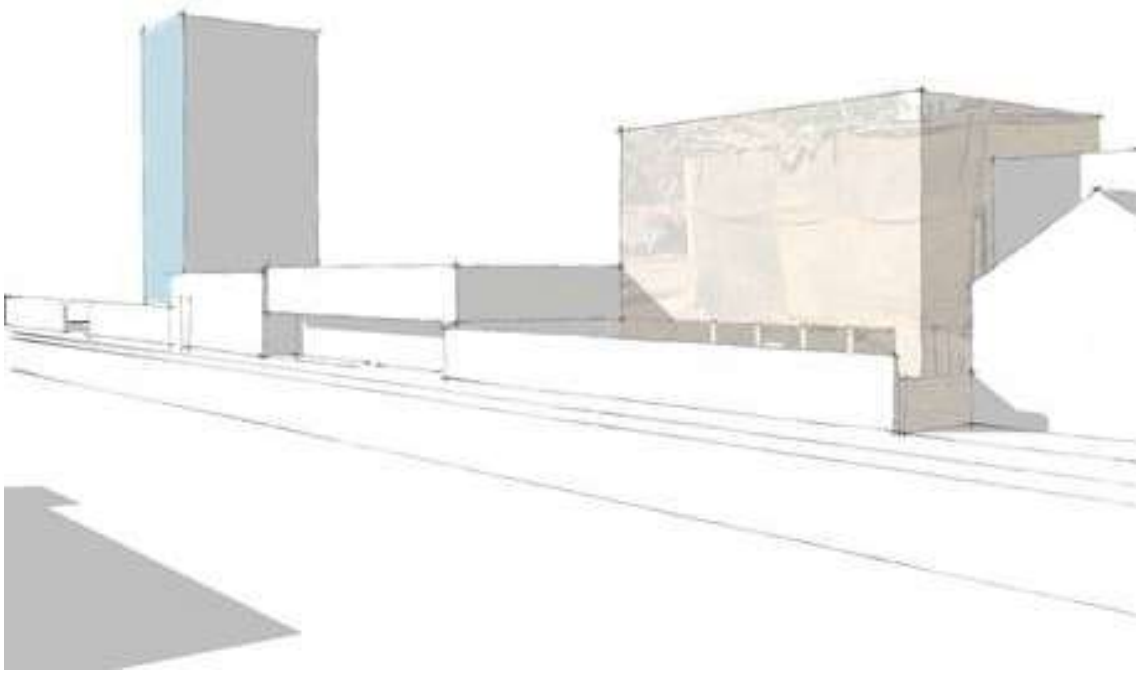


14. Un-rehabilitated colonial/historical buildings



15. Buildings with a patina of age

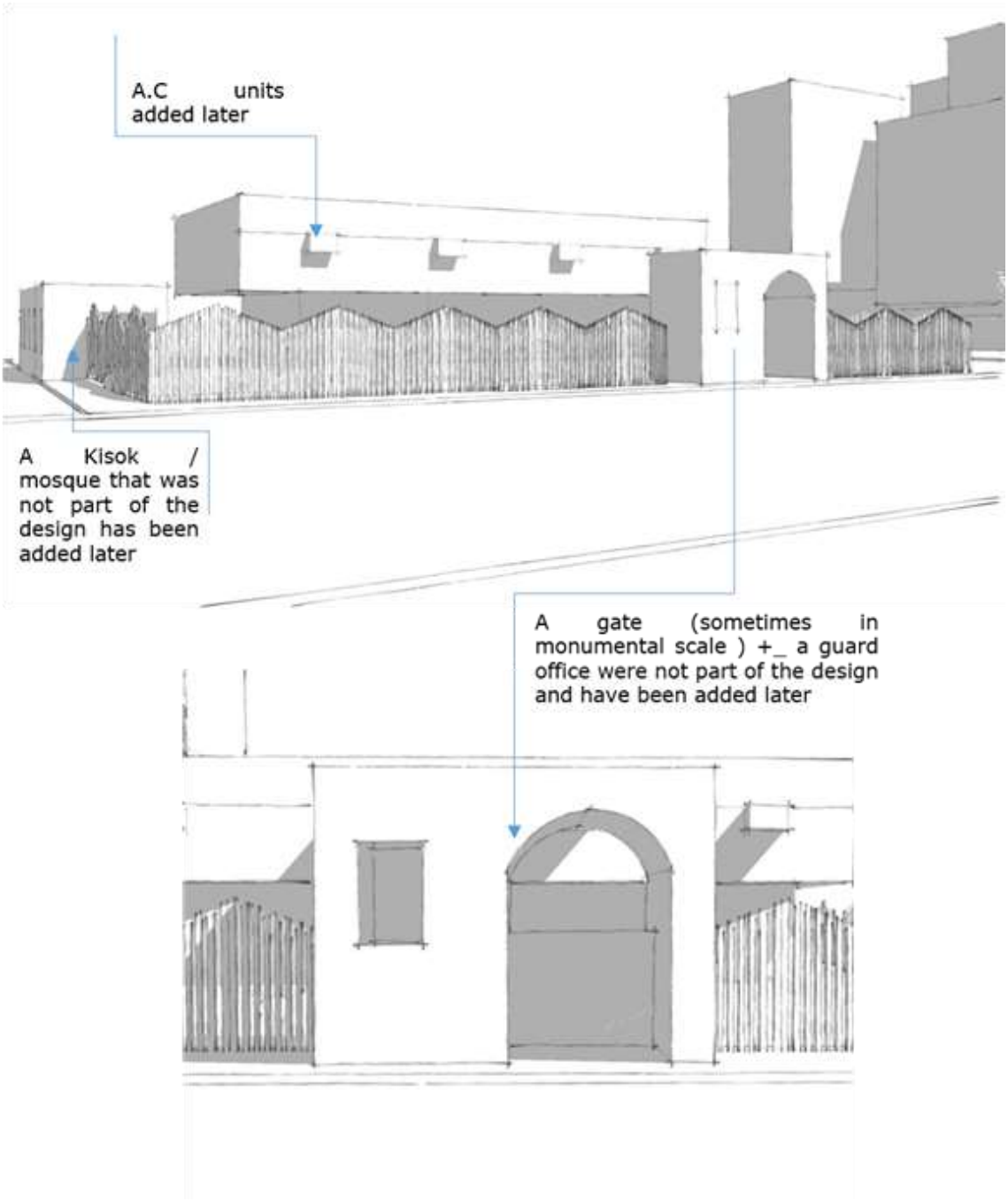
A pattern that represents buildings that have not been rehabilitated for a long time and act as eyesores in the streets of Khartoum. Regrettably, some of these buildings are architecturally unique in their form.



16. Extra-added architectural or urban elements

A pattern that reflects the extra elements that are inserted and added without consideration to the original design (such as A.C. units, prayer rooms, kiosk, gates and guard offices).

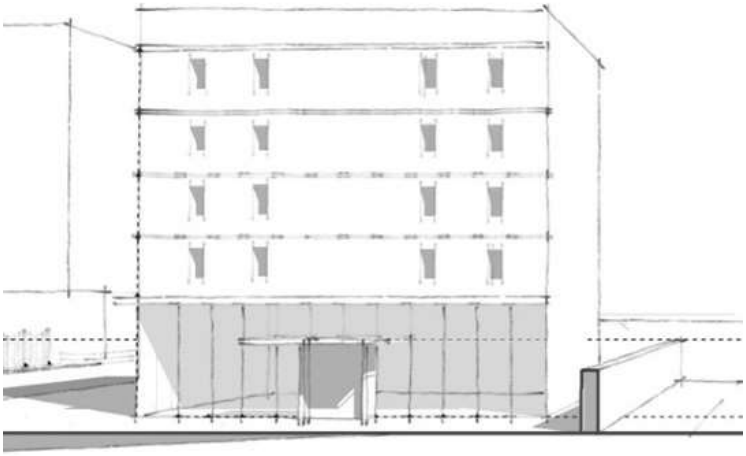
17. Gates, entrances and guard offices at the face of the building**



18. Subdivided main elevation in various elevations

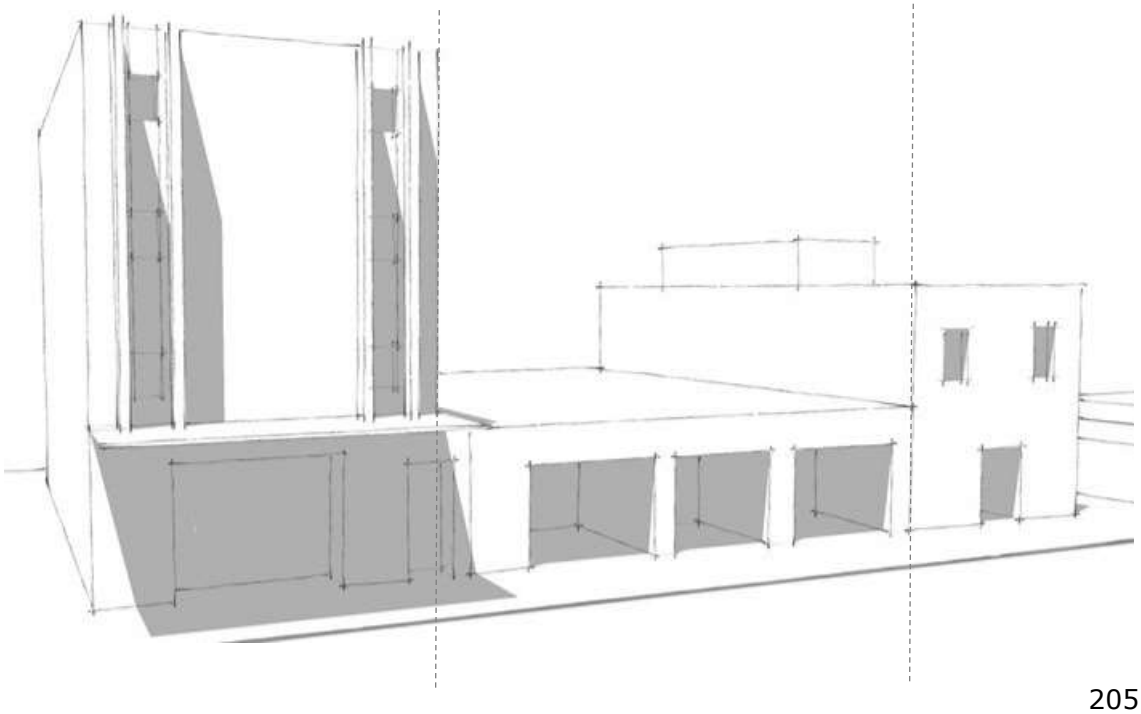
18.1. Horizontally (per floor/s)

A pattern that represents the phenomenon of incomplete architectural projects. Hence, an example of that is finishing the lower floors with the final building materials (cladding or plastering-and-painting) leaving upper floors unfinished. It could also represent an act of renting/selling floors to different clients who then choose how to finish their external elevation independently.



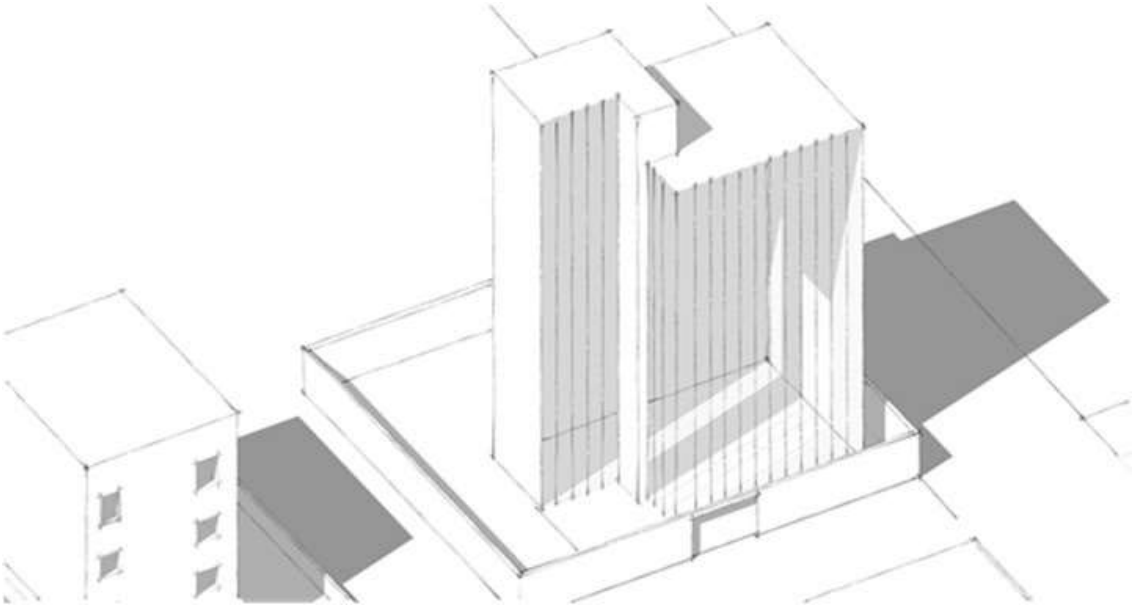
18.2. Vertically in various façade treatments/per one plot

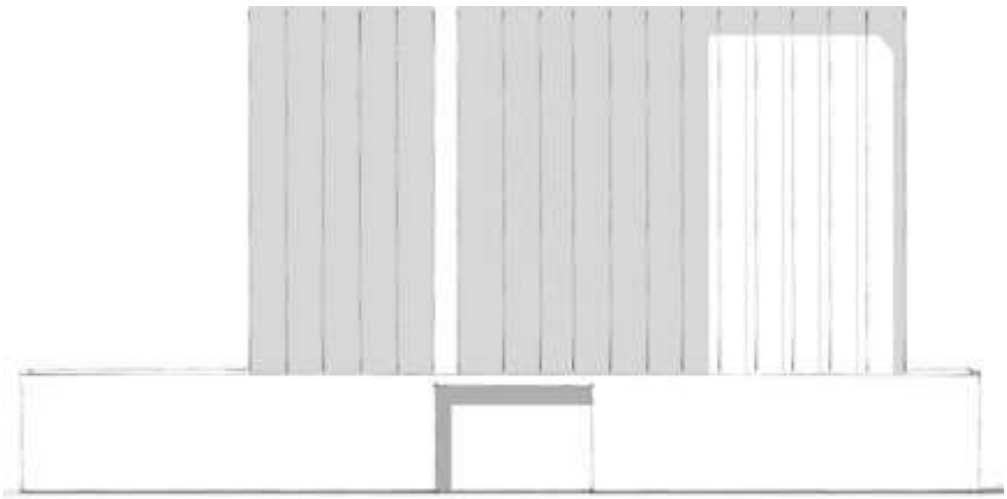
This pattern was observed by the planners, especially at the south-west part of KCC, as a consequent of the inherited freehold property ownership where an owner of one plot divides his/her plot and sells it to different owners.



19. Isolated glass elevations

A contemporary pervasive pattern, which characterises some new contemporary buildings. It results in spreading the sense of isolation in KCC as a whole.



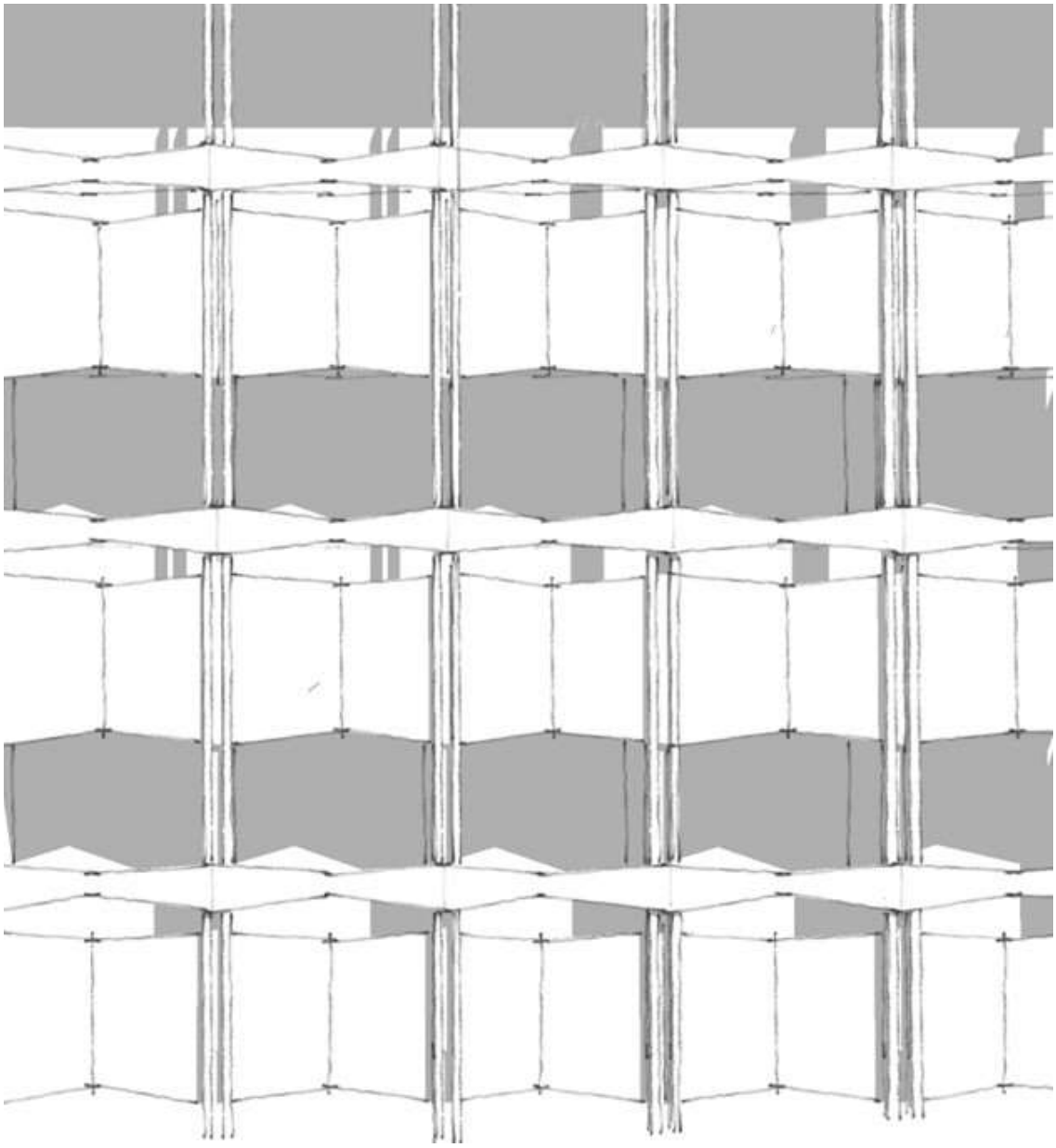


20. Elevations that reflect an environmental solution

    20.1. Shaded elevations

    20.2. Perforated elevations**

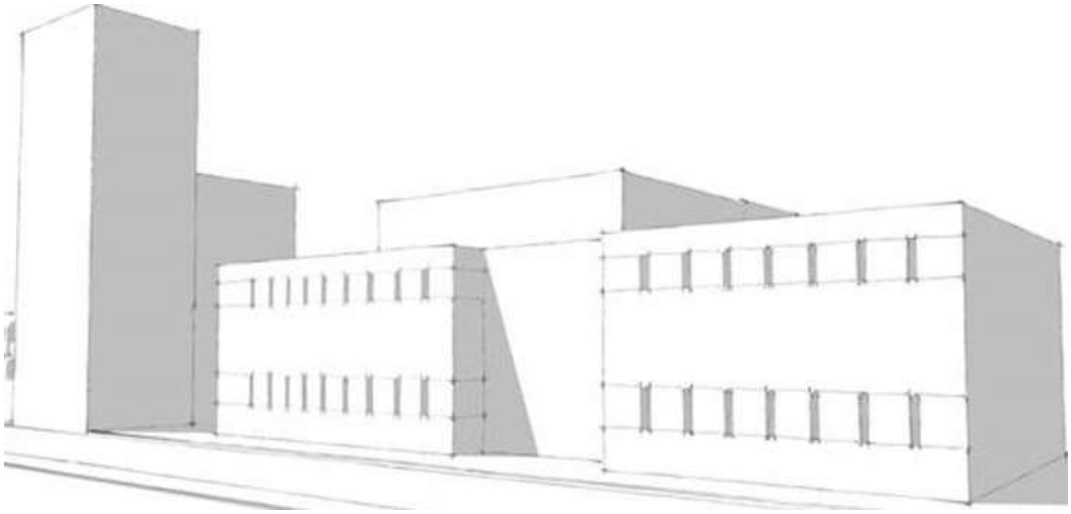
Both of these patterns represent elevations that respond to the hot-dry climate of Khartoum through shading and minimum openings that look like perforations.



20.3. Solid elevations

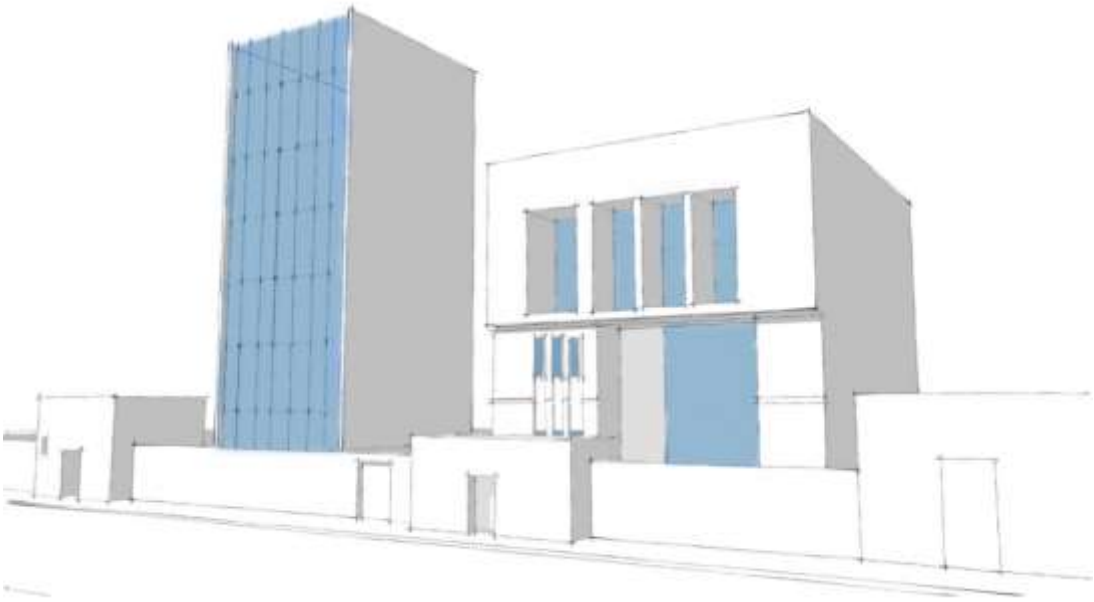
20.4. Buildings with small openings

Patterns that represent elevations with a percentage of solids more than the voids, or transparent percentage or by adopting small openings.



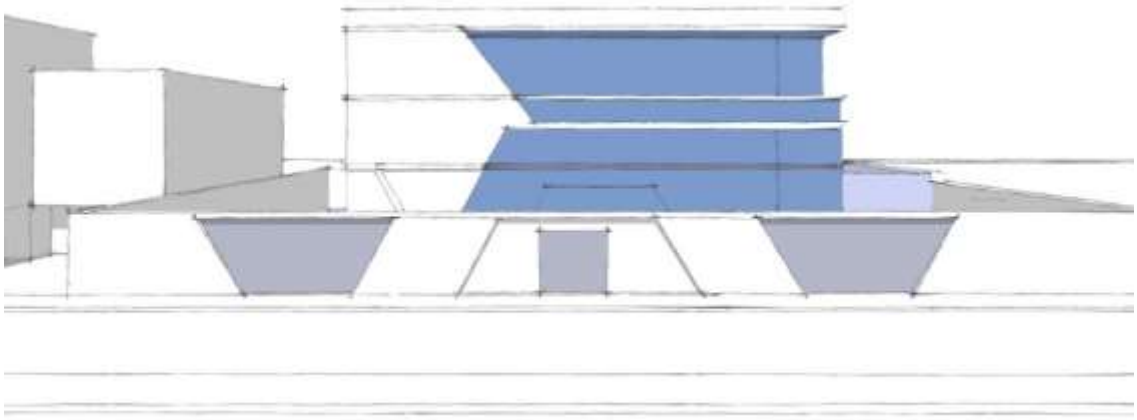
21. Solid east and west elevations**

Is a common pattern in Khartoum's architecture (mainly through buildings' regulations and architectural education)? The reason behind it is a response to the direct harsh sun radiation from the east and west which is a standard in any place in Khartoum due to its gridiron planning.



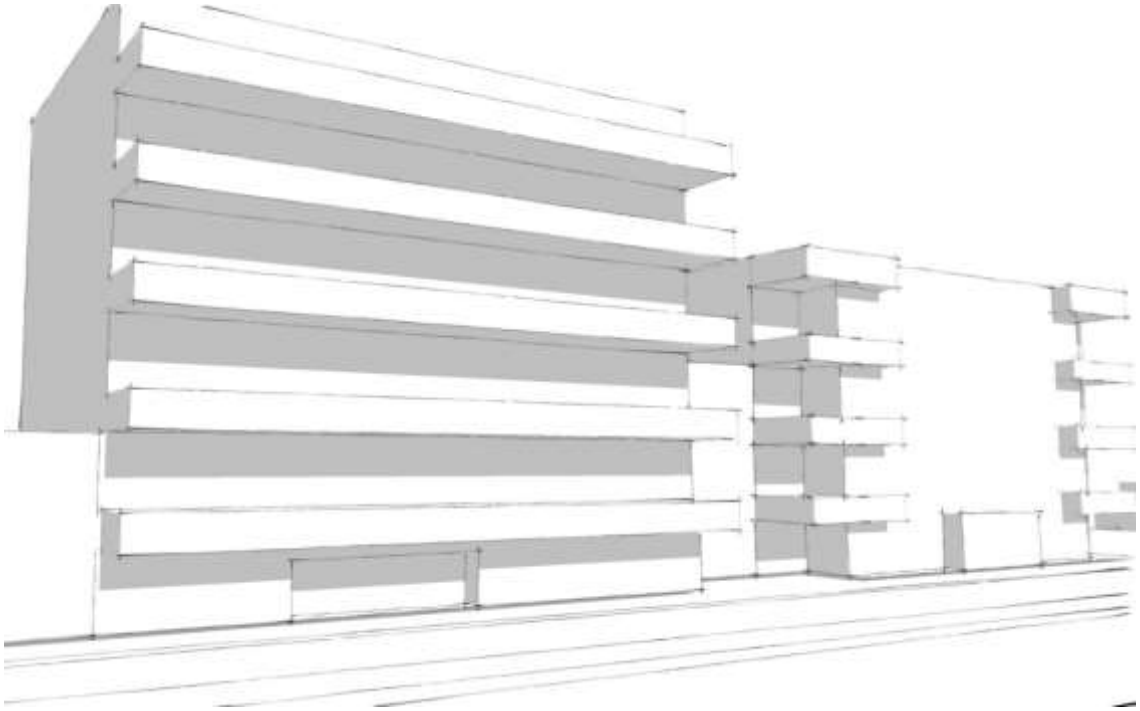
22. Eclectic Unjustified architectural features to enforce beautification

A pattern that represents the unjustified architectural features that are being pasted on the elevations of buildings and boundary walls without a specified meaning.



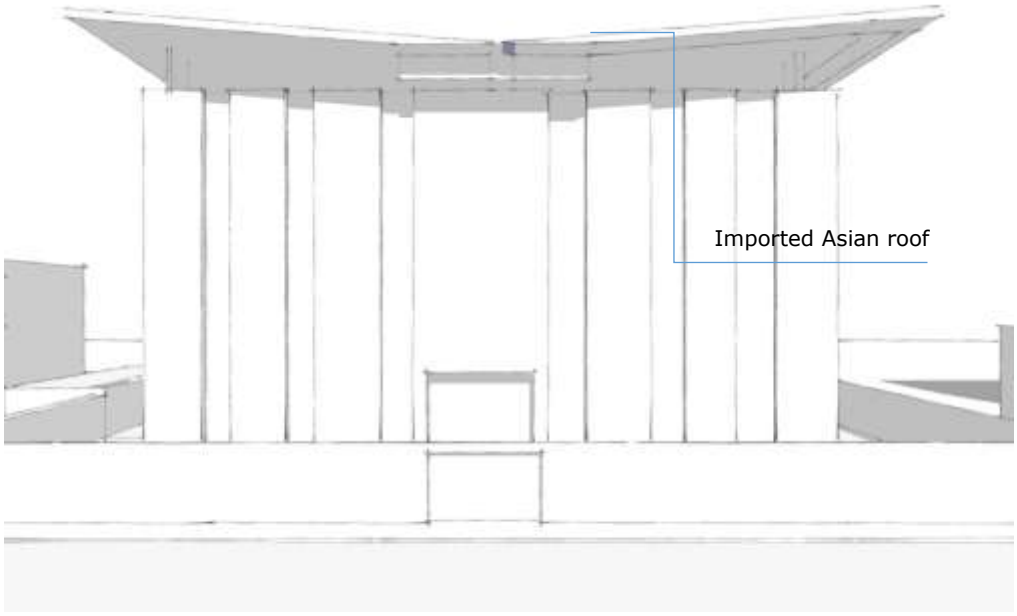
23. Balconies

A pattern that characterises many buildings in KCC. Although balconies effectively link the inside with the outside both visually and spatially and provide shading, they cannot be efficiently utilised in institutional buildings unless designed as circulation routes (left). Hence, observed rectangular balconies in KCC (right) were mostly empty.



24. Imported architecture

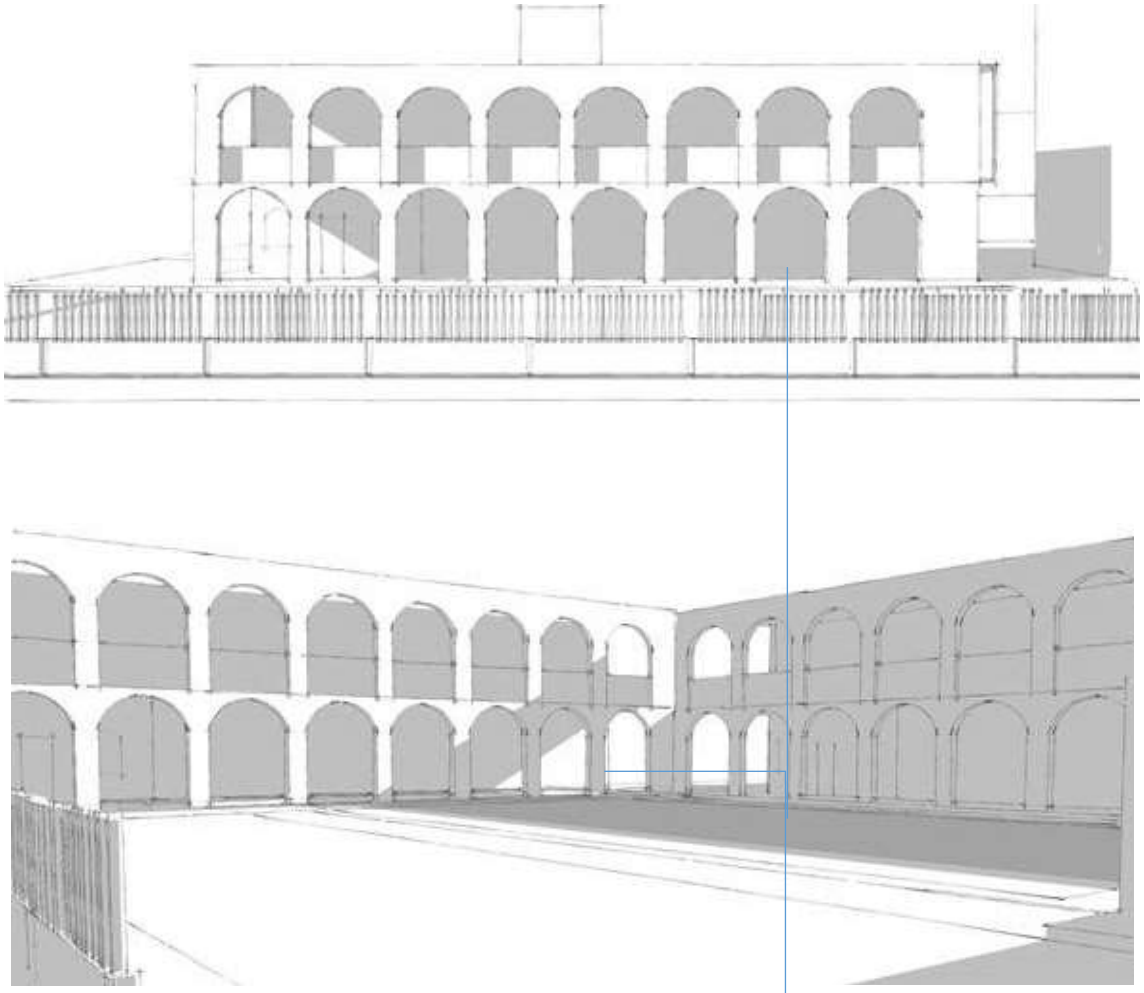
A pattern that represents architectural features that are being borrowed from different international places and pasted in Khartoum. Usually, the aim is to satisfy the requirements of foreign developers and clients to impose their desired identity, regardless of the place.



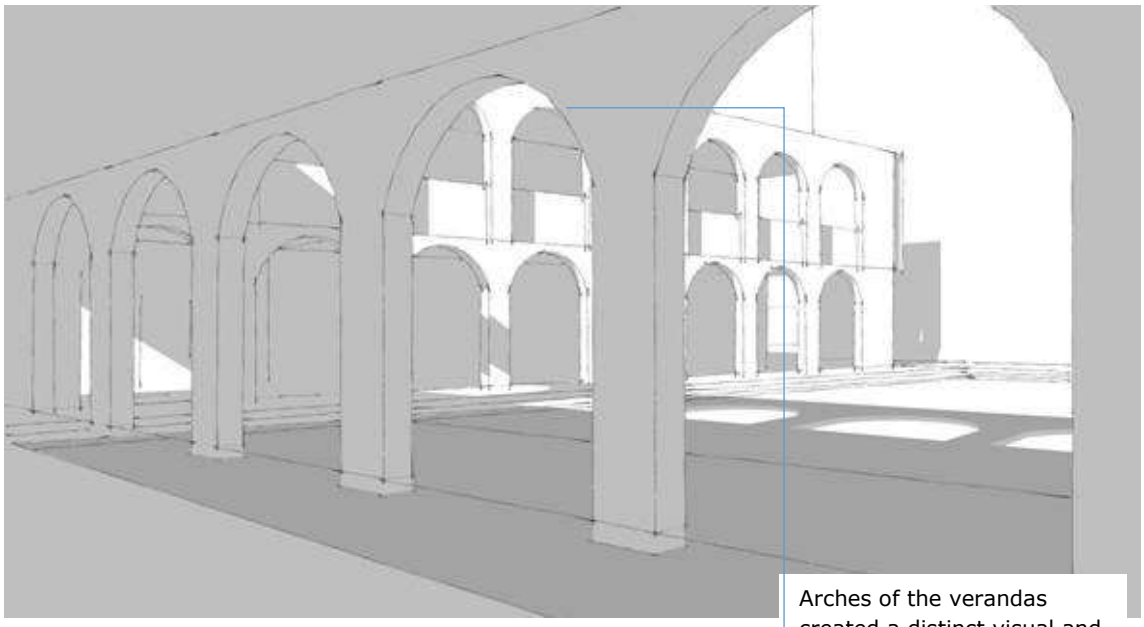


25. Arches

Is a pattern that represents the spirit of KCC. On one hand, arches of colonial architecture were unique in the sense that they provided distinct and well-integrated internal/external environments, visual quality and details both in the urban scale and in the micro-scale of buildings.

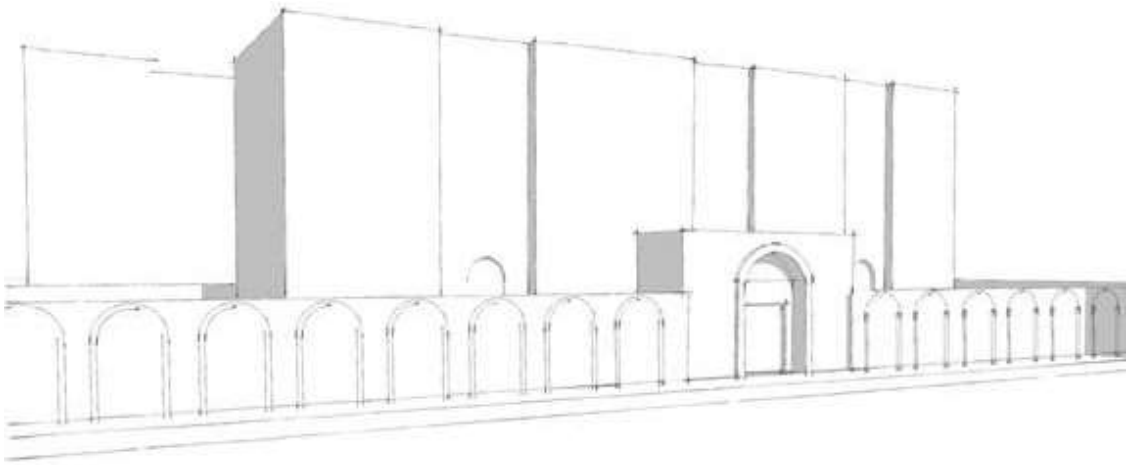


A representation of the typical arches that were designed as part of the facades of colonial buildings (1. External main facades and 2. Verandas' facades)



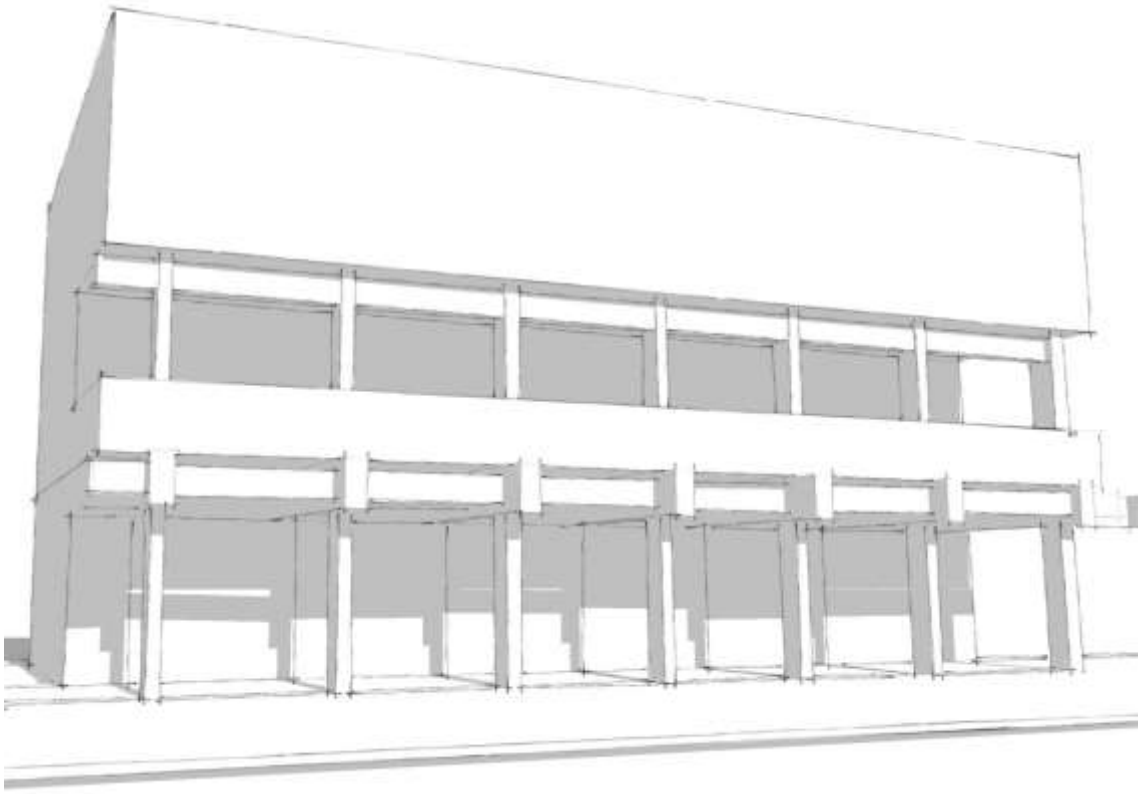
Arches of the verandas created a distinct visual and aesthetical quality between the internal/external environments

On the other hand, arches that were used to indicate Islamic authentication, or those that were not an integral part of the design, appear to be naively pasted on the elevations.

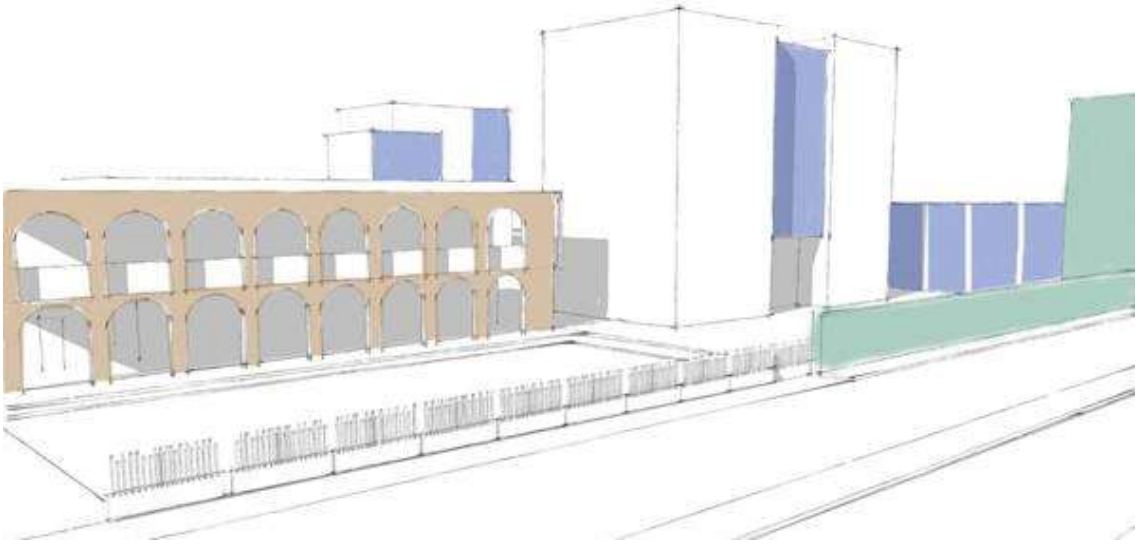


26. Exposed structural systems (columns and beams)

A pattern that characterised the Modern paradigm of architecture that appeared in the period after independence (mostly the period between the 1960s to the1970s).



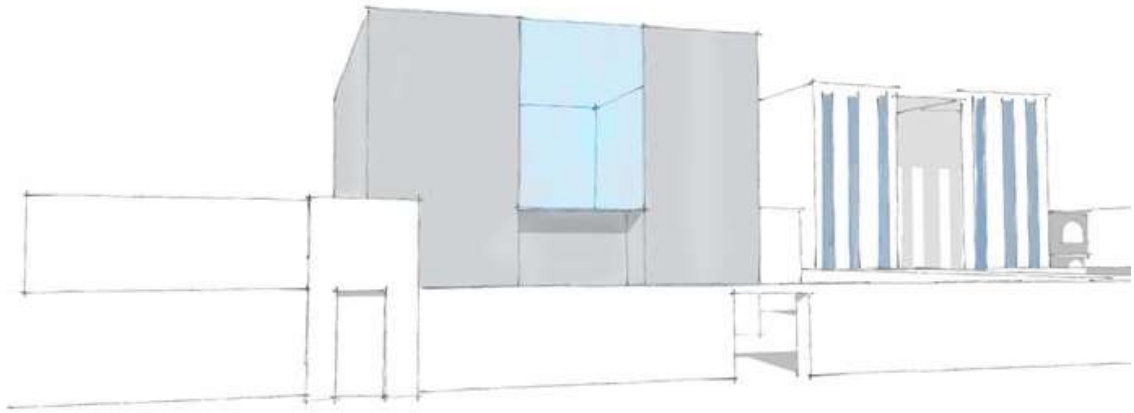
27. Insertion of a variety of building materials and colours or contemporary materials within the historical fabric



27.1. Cold colours (Blue and grey governmental buildings)

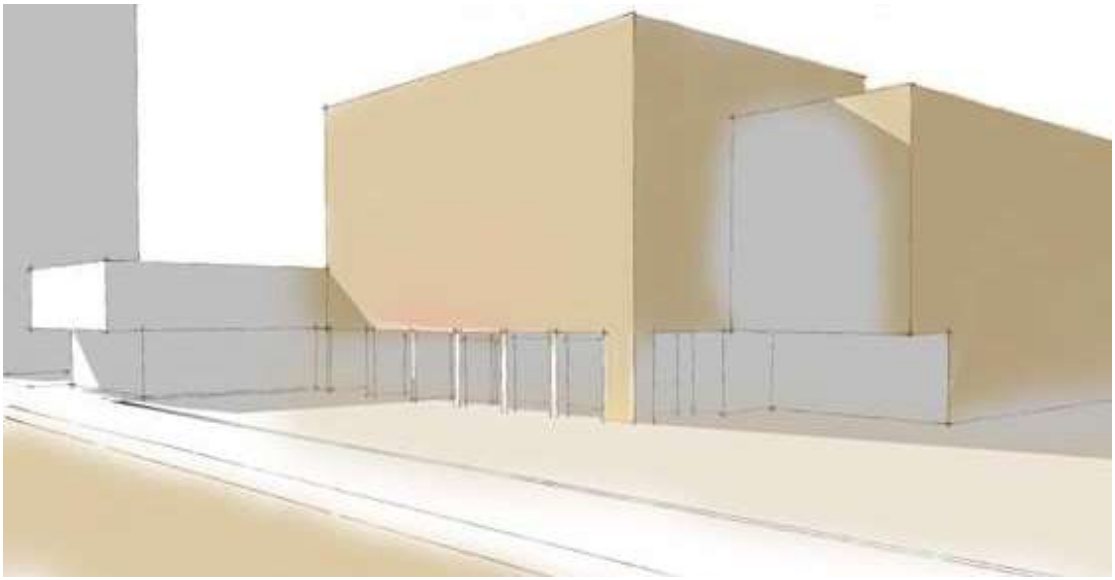
27.2. Buildings with expensive materials (cladding)/ shiny colours

These patterns indicate the materiality that is widely used in the new contemporary architecture and specifically governmental buildings in KCC. This kind of materiality has been characterised as being expensive due to its unsuitability to the surrounding context.



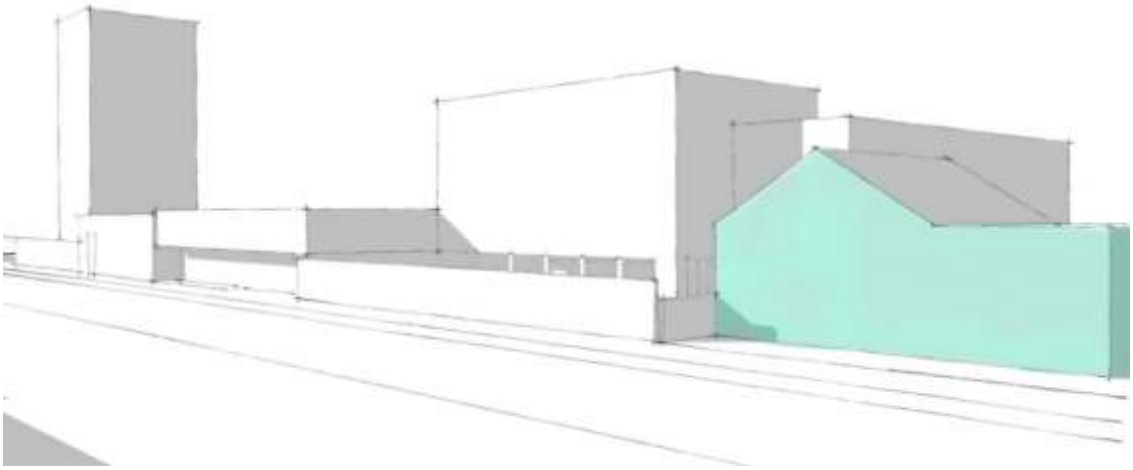
27.3. Earthly colours

A pattern that indicates the buildings that are characterised by their earthly colours. This character represents the ideal response to the place in terms of materiality being mostly local materials and colour.



27.4. Standardised building colours to certain building functions**

A pattern that represents some building functions that have been standardised by certain building colours and exist consistently in different parts Khartoum. Example of this is the electrical station's pattern as abstracted below.



6.4. Priority of patterns according to participants

The results of this section indicate an answer to a question that was asked to participants about how they prioritise the extracted patterns, in other words, which patterns are the core and which ones are supplementary (see section 5.6.1). In total, 17 out of 35 focus groups' participants responded to this question. These 17 respondents were from six out of the seven groups -as the question was added later after running the first focus group- and only 14 of them gave prioritisation. Within this, sometimes participants gave only one choice to what is the most important patterns without prioritising the others. Nevertheless, all the opinions were placed within a rating scale (see Figure 6.7). Significantly, %76 -10 out of 14- of the participants reflected a top preference for urban patterns considering them as core patterns in comparison to other patterns; architectural and transitional. This top prioritisation was highlighted in the main arguments as follow:

I. Urban patterns are the patterns that allow other patterns to appear and be more visible. For instance, if patterns such as '*well-vegetated urban streets*' and '*pathways to walk*'[47] were provided in KCC, the architecture will be more visible. This coincides with what one participant highlighted: *"urban patterns touch all... This is what we can start with because their advantages and disadvantages prevail"* (Junior planners, F.G.3, 2017). Unfortunately, the situation in KCC is that it lacks the basic urban infrastructure. Examples of the typical streets' scene in Khartoum are dilapidated streets especially during rainy seasons, absence of shaded pedestrian walkways and crowded and congested main streets.

II. Urban patterns are the immediate reflection of the image of the city more than the form of the buildings. One participant argued:

> *The relationship of the plot with the street, with the pedestrian area, with the boundary wall and with the street furniture, will actually create the shape of the city. When you tour in any city, you tend to focus on its urban patterns more than on its vertical architectural elements, which you only recognise when you stand from a distance or in images. However, when you walk in a street you are in fact living in it and experiencing it with its surrounding urban patterns* (Junior Planners, F.G.3, 2017).

[47] Patterns from Alexander's Pattern Language

III. Urban patterns are the patterns that will enhance or undermines the quality of the urban experience (F.G.5, 2017). One participant explained the situation of the urban patterns in KCC: *"what is the purpose of constructing buildings in a dirty city? Will the form of these buildings appear in the presence of garbage?"* (F.G.6, 2017).

Interestingly, within the discussion about the urban patterns, graduate architectural students' focus groups highlighted other embedded level of patterns, that is *urban spatial patterns.* Participants identified them as mainly comprising the land uses and functions. They emphasised that they are vital for KCC as it is now shifting towards a purely business area that strives for a social life. Therefore, new land uses need to be introduced to revive the functions of KCC. This is particularly important in order to endow the place with more vibrancy especially at night and on public holidays, enhance the place's experience and increase the social interaction between the urban space and people. Moreover, participants highlighted that the disadvantage of neglecting the variety of land uses has its direct impact on the psychological wellbeing of KCC visitors at night because the place becomes intimidating and unwelcoming.

Architectural patterns, on the other hand, received a relatively low rating (see Figure 6.7). Participants argued that architectural patterns should remain as free as possible and that it is not important to restrict them in certain patterns. In this sense, one participant argued that:

> *When you limit the architecture in certain patterns, you will restrict the architect in a narrow area that will not offer him/her the freedom to innovate. As a solution, you can unify the colour but free the architects in their formation of the form* (Senior planners, F.G.1, 2017).

In comparison between architectural and urban patterns, other participants argued that the attention should be paid to the urban patterns rather than the architectural ones. This is because it is difficult to unify architectural patterns as architects are from different schools of thoughts and styles and accordingly, they will represent different understandings to what could represent an architectural form that concretises the place (Junior planners, F.G.3, 2017). On the other hand, other participants explained that the reasons for this might be because: *"architectural form patterns will be a by-product of both the transitional patterns such as (arcaded verandas) and the urban spatial patterns such as (land uses and functions)"* (Graduate student, F.G.4, 2017). However, at the other end of the spectrum, one participant defended the important role of the architectural form patterns arguing

that: "*they are the entities that will reflect the image of the place Khartoum and give an impression about it*" (*ibid*).

While transitional patterns add a unique connection between the architecture and the urban space, only one participant gave them the top priority declaring that *"they are truly what characterises Khartoum and we came to know the city centre from them" (ibid).*In other words, this opinion clearly indicates that transitional patterns of KCC symbolise its intrinsic quality and that they cannot be found anywhere else in Khartoum. This argument coincides with Norberg-Schulz who also summarised the quality of the colonial architecture in its transitional spaces, which he labelled as *"an urban inside"* (Norberg-Schulz, 1980, p.136).

Nevertheless, some participants highlighted that all patterns are important and that they all come together and overlap in different unique ways.

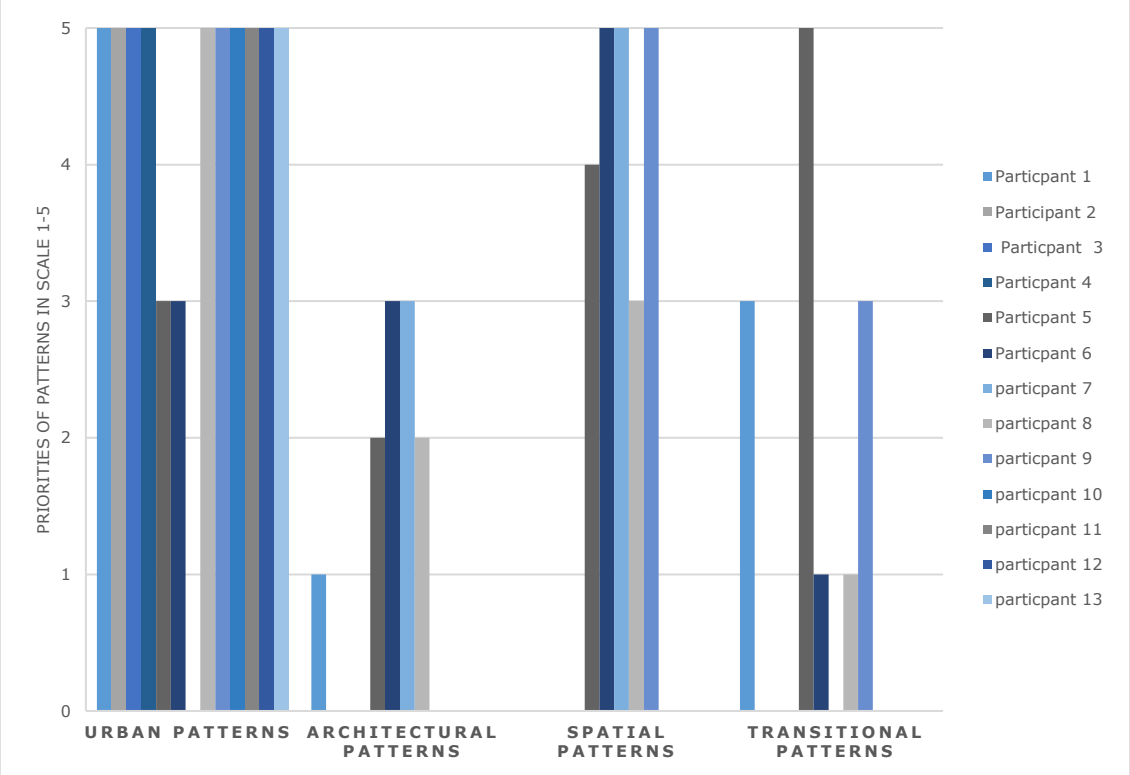


Figure 6.7: A graph showing the priority of patterns according to participants who responded to this question

6.5. Discussion on KCC's local pattern language

6.5.1. A triangulation

As triangulation *"refers to combining multiple theories, methods, observers, and empirical materials to produce a more accurate, comprehensive and objective representation of the object of study"* (Silverman, 2006, p.290), this section discusses the extracted local pattern language of KCC through triangulation. It will triangulate the utilisation of the interpretive pattern language tool on Norberg-Schulz's experience of KCC as an outsider (see Section 5.6) with the empirical application of the tool by the current place's users as insiders (see Section 6.3). Moreover, it will triangulate that with the current researcher's observations, photographic documentation and architects' discussion on the shaping of the contemporary architectural Paradigm in KCC (see Section 4.2). The aim of this triangulation is in twofold, firstly: to ensure strengthening the credibility and validity of the research and secondly, to engage in a more theoretical and objective discussion that would provide answers and interpretations to two of the three angles of the research: place and its architecture while paving the way to provide answers for the third angle: identity in the next chapter.

Before engaging in the triangulation, it was helpful to review relevant literature on the outsider-insider dualism in research.

6.5.2. Comparison between outsider's and insiders' interpretations of KCC

> *From the outside you look upon a place as a traveller might look upon a town from a distance; from the inside, you experience a place, are surrounded by it and part of it. The inside-outside division thus presents itself as a simple but basic dualism one that is fundamental in our experiences of lived-space* (Relph, 1976b, p.49).

This research thus adopts this inside-outside dualism approach to enrich the interpretation of KCC by merging the co-interpretations of KCC –in patterns- by Norberg-Schulz and that of the participants as insiders and compares them together. Within this, Dhillon and Thomas (2018, p.1) discussed the insider-outsider positioning in relation to the community they are researching and highlighted that the complexity is *"further increased when one researcher is a cultural insider whilst*

the other is an outsider in relation to the researched community; hence, the research is cross-cultural as it is mediated by different cultural lenses". While it is true that the complexity of the insider/outsider relation in this research exists, the focus is more on the patterns that were extracted by the two in two different times (the late 1970s and present time) and why they have changed between then and now. Nevertheless, the comparison between the two interpretations will include the interplay of different analytical layers including the time, the method used (an artistic endeavour vs. empirical engagement with participants) and finally the background of the interpreter (outsider vs. insider). The interpretation of these layers has been facilitated through the utilisation of the interpretive pattern language tool (see Figure 6.8) (see Sections 5.6. and 6.2).

	Late 1970s	Present (2019)
	The outsider perspective	**The insider perspective (researcher + participants)**
Place	Colonial Khartoum	KCC
Approach	An artistic endeavour	An objective & structured analysis
Application of the interpretive pattern language tool	Application of the tool based on Norberg-Schulz experience i.e. secondary resources	An empirical application of the tool based on participants' experience i.e. primary data

Figure 6.8: A Summary of the analysis between the insider/outsider perspective carried on this section. Source: the Author.

While Norberg-Schulz's experience of Khartoum contributed to the context of phenomenological studies in general, it also documented the urban fabric of Khartoum in the 1970s and how it was perceived and captured through the eyes of city visitors. This outsider's point of view could be considered akin to what Relph (1976b, p.52) named *"Incidental outsideness",* which is an experience that "applies *to places in which we are visitors and towards which our intentions are limited and partial".* Thus, an outsider may not capture the full meaning behind each pattern of the experienced place. Yet, Desai and Potter (2006) emphasise that the point of view of an 'outsider' contributes valuable new insights into research understanding stemming from his/her external perspective.

However, the proposed way of interpreting existing built environments in this research introduced the insider's perspective –one who is well acquainted with the

place and holds his/her own memories of the history of the place and his/her past and present experiences. This is what Relph (1976b, p.55) names *"Existential insideness",* which he explains as *"the insideness that most people experience when they are at home and in their own town or a region when they know the place and its people and are known and accepted there".* Thus, the expressed meanings associated here are more profound.

An example of these meanings is place attachment, which is in itself a multifaceted conception that includes many aspects of people-place bonding (Altman and Low, 1992). Brown et al. (2012) specify this bonding as more of the positive bonds that people develop at multiple levels of their socio-physical environment. It involves the interplay of effects, emotions, knowledge, beliefs, behaviours and actions (Proshansky et al., 1983). Thus, through the discussion, participants related to those various meanings especially those that relate to two main examples: participants' acceptance/rejection of patterns of colonial architecture and their reminiscence and strong attachment to transitional patterns along Gamhoria Street (see Section 6.2). Such meanings, hence, could not have been captured by Norberg-Schulz as an outsider as his documentation of Khartoum lacked privileged access to the general socio-cultural situations that play a role in shaping the city.

This privileged access is what Dhillon and Thomas (2018, p.3) explain as *"insiderness"* that essentially entails a relationship between the researcher and the community he/she is researching such as a shared history, values or motivations to engage in a particular form of research. Similarly, Le Gallais (2008, P.146) explains this arguing*: "the insider researcher has, as a member of the 'in-group', access to it's past and present histories. Such shared experiences engender a sense of sameness".*This leads to awareness about the group and the collective identity (Viskovic and Robson, 2001) as to how Relph (1976b, P.49) explained it: *"to be inside a place is to belong to it and to identify with it, and the more profoundly inside you are, the stronger is this identity with the place"*.

Therefore, this research from an insider's perspective gained access to these situations and thus provided a more sophisticated understanding of the current contemporary Khartoum that an outsider might never have achieved. However, Drake cautions insider researchers when interpreting the data arguing that *"the validity of insider research requires reflexive consideration of the researcher's position"* (Drake, 2010, p.85) and *"interpretation of findings"* (Dhillon and Thomas, 2018, p.4). This is because *"the same data can generate different interpretations due to personal relations, expectations and motivations for engaging in the research"*

(*ibid*, p.4). Similarly, Le Gallais (2008) advises insider researchers for continuously enhancing their reflexivity and avoid falling into bias through fitting the data within the taken for granted knowledge of doing things within the familiar environment. Accordingly, the socio-cultural dimensions about the place KCC that have influenced the analysis of this research will be highlighted reflectively in the discussion.

It is worth highlighting here that while the utilisation of the interpretive pattern language tool on the experience of either the outsider or the insider decreases the subjectivity by providing a more objective interpretation *in patterns*, introducing the triangulation at this point of the research will increase the validity of the overall interpretation of the place by merging them. This could be considered as a response to Sime's (1986) criticism to the way that Norberg-Schulz interpreted his experience of the *genius loci* of the place. Sime (1986) argues that the captured features of the environment that gave meaning to the place were romanticised and mentioned favourably by Norberg-Schulz. Instead of being validated with references to the behaviours or experiences of the users and visitors of those places, he relied solely on his interpretations (*ibid*). Thus, Sime (1986, p.52) describes it as *"as an artistic endeavour"* (*ibid*, p.52). Hence, the validation in this research comes from exploring KCC as a place and its architecture more scientifically by not depending only on the experience of Norberg-Schulz but merging it with data from the empirical evidence from the different participants (interviews and focus groups) with the extracted patterns and compare them on KCC today as follows:

I. The natural characteristics

The general character of the place KCC still maintains its fixed characteristics such as the existence of the natural landscape and geography and the existence of colonial architecture. Yet, it encounters other factors that affect its visual image and the formation of its architecture and urban fabric (see Section 4.2). Regrettably, the natural characteristics that endow the place with its unique *genius loci*, as Norberg-Schulz has captured them, are not being fully considered in shaping the contemporary architecture of Khartoum today (Interview E, 2017). Consequently, participants of the focus groups -as users of the city- expressed weak attachment with the Nile. While on one hand, it could be due to the constancy of the Nile made it mundane, the absence of patterns that would have strengthened the attachment to it is also the main reason for that disconnection.

II. The urban patterns

The wideness and openness of the colonial city -KCC now- with its gridiron planning were perceived by Norberg-Schulz as distinct characters of the place and a system

that was *"surprisingly modern"* (*ibid*, p.124). Here, it could be argued that Norberg-Schulz considered it as 'distinct', in relation to Khartoum as a newly established place. Yet, at another circumstance, he argued that gridiron planning allows neither for the concretisation of distinct *genius loci* nor for identification, which is a situation that is now clearly expressed in the city. The gridiron planning of colonial Khartoum has influenced the latter planning of the extensions of Khartoum. The subsequent structural plans that came after independence (see Section4.2.1), have maintained the same gridiron planning without rethinking the natural characteristics of the place. The extension of the city to the east and south followed the same wideness of that planning and overlooked the qualities of the traditional dense labyrinthine planning in Omdurman and Tuti Island exemplified in patterns such as *'narrow and shaded streets'* and replaced them with patterns such as *'wide streets'.*

Moreover, the interviewed architects, on the contrary to Norberg-Schulz, perceived KCC's urban fabric as rudimentary because of its wide and repetitive streets, which do not form any innovative places. For them, it is a rigid planning that resulted in all current contemporary architecture looking the same (Interview P, 2017). Consequently, this does not spark them with innovative ideas that can influence their designs. Therefore, the extracted interpretive patterns of KCC revealed that architects, instead of considering the role of their architecture in enhancing the place and consequently the quality of the urban experience through integrating their buildings with their surrounding immediate urban patterns, they were mainly focusing on the appearance and the impressiveness of the architectural patterns.

Additionally, the contemporary developments along the Nile do not fully expose the potential role of the Blue Nile -which surrounds KCC from the north and east (Interview C, E, 2017).[48] Effectively, if the Nile was well integrated with their designs and opened for the public through transitional and urban patterns, it could have created a stronger place-people connection with the Nile and with KCC as a whole.

[48] A supporting evidence of this is an architectural competition announced by the 'Almogran real-estate company' that is owned by a national organisation called 'AlShaheed organisation'. The competition is proposed to develop both the planning and the design of the confluence of the Nile area. These developers claim that the competition's brief is prepared according to international guidelines and local guidelines from the Sudanese Architectural Society. They state clearly that: *"the competition aims to reach the development and the optimal design for investing the site and achieve a financial return that supports the revenues of the organization as well as an architectural addition to the present of the Sudan"* (Competition brief, n.d). Unfortunately, little was mentioned about the project being open to the public, and how exactly it could connect the public with the Nile.
Architect C (2017) was one of the participants in this competition he explained his disappointment that: *"we did not think that the competition will be like this. It should have been well-studied from the organising committee at least with the national and international tourism organisations. in such a project, there should be guidelines for designers, brainstorming with the public ……the confluence of the Nile should not be enclosed to only one project, rather, it should be open to the public".*

Therefore, this planning acted as the driving force for generating many patterns that were identified by focus groups participants (see Sections 6.3.1 and 6.3.3), such as:

- Monotonous *'rectilinear building forms'*
- *'Contemporary buildings with %100 coverage'*: (Due to planning laws not specifying areas for integrating people with their built environment such as (*'open spaces', 'activity pockets'*…)
- 'Large plot areas'

Moreover, participants expressed other negative or absent patterns that should have been part of more comprehensive planning for Khartoum (see Sections 6.3.1), such as:

- *'Lack of adequate pedestrian walkways'*
- *'One ways streets'*
- *'Streets with open vistas***'*
- *'Random distribution of infrastructure'* such as electrical posts
- *'Lack of recreational facilities'* that could stimulate social activities at night e.g. public spaces.
- *'Main wide streets'*

Nevertheless, it could be argued that the reason that Norberg-Schulz perceived the wideness of the colonial city streets as meaningful and interesting urban structures is that they were lushly planted with large trees that ultimately provided shaded pleasant experiences (see Figure 6.9). However, this successful model of streets was not repeated elsewhere in postcolonial Khartoum i.e. KCC today. Instead, even wider streets are now being planned in different parts of Khartoum with no planting in mind in the near future, which unfortunately do not suit the place from an environmental perspective. Inevitably, wide streets, in a climate like Khartoum, will bring in dusty and hot winds if they were not properly vegetated. It is obvious that the wider the streets are, the more buildings will have limited impacts in shading the streets. This is intensified with streets that run north-south, with the sun being perpendicular to the buildings throughout the day; they act as heat corridors that result in hostile environments. Moreover, participants described those streets as only being asphalted in the middle, leaving the sides neither asphalted nor paved for pedestrians which undermines the qualities of those streets. Hence, focus group participants declared the absence and scarcity of comprehensive urban patterns (see Section 6.3.1).



Figure 6.9: Streets in KCC today- can be considered as reasonably shaded compared to other main streets around Khartoum today. Source: the Author (2017).

Therefore, the negative experience of the urban place simultaneously resulted in extracting negative and absent patterns. Within this, participants expressed negative meanings such as shame and anger because urban patterns, in essence, are their streets and they are what they experience every day. In this regards, it is important to emphasise that the urban environment of KCC represents complete neglect of the

role of places and public realm in the aspect of human psychological development (Proshansky et al., 1983). Thus, with this neglect participants –specifically the public and non-architects- gave urban patterns the top priority and considered them as the core patterns to be applied and improved in KCC (see Figure 6.7). This is because they are the patterns that enhance their experience and allow them to develop positive meanings with their built environments. This coincides with (Manzo, 2005) who maintains that experiences of places (whether positive or negative) play a role in peoples' lives and the processes by which they develop meanings.

Consequently, this prioritisation of urban patterns has raised up two arguments:

Firstly, it could be argued that this prioritisation will differ from one place to another. In Khartoum and similar developing cities where there is lack of investment in the public realm, users of the place will be striving to experience a clean, safe, beautiful, integrated and vibrant urban environment and less concerned about architecture. On the other hand, it could be argued that if the prioritisation experiment (see Section 6.4) was to be carried out in a developed city where there is usually good investments in the public realm, urban design and urban patterns, the prioritisation of patterns will be different. In these cities, users might be more critical about the architecture and other more sophisticated qualities of the built environment such as place branding, placemaking……etc.

Secondly, it could be argued that urban patterns change through time and thus the perception about them and their respective priority in relation to the other patterns change. While the architecture that is already existing –such as colonial architecture- could be considered, to some extent, as fixed characteristics, urban patterns if not upgraded properly, they will end up as not functioning or eventually they could disappear. In the end, this results in undermining the quality of the place. This argument reflects on a difference between the two experiences of KCC by Norberg-Schulz and the participants. While the former narrated patterns such as *'lushly planted streets'* and *'green foregrounds'*, the urban patterns in KCC now became obsolete. This is evident in the negative/absent/degraded urban patterns that were extracted by the participants (see Section 6.3.2). Consequently, this resulted in psychological dissatisfaction with the place mentioned iteratively by the participants. Representative examples of these expressions are:

- *"Distortion of the mental image"* (Graduate student, F.G.4, 2017);
- *"Limited interactional experience" (ibid);*
- *Researcher: What do you think if someone told you that these are the characteristics of the centre of Khartoum that should be the vibrant*

> *heart of the city; does this make you have a certain feeling? Participant 1: Yes, definitely, a negative feeling. Participant 2: And you do not even wish to go there* (General public, F.G.6, 2017);
> - *"There is dust and rubbish everywhere which makes you feel ashamed" (ibid);*
> - *"I feel negative definitely because there is no consideration for pedestrians, no safety in the streets, the shape of streets and houses are inharmonious"* (General public, F.G.7, 2017)

Thus, it could be argued that urban patterns in KCC are similar to what Alexander described as bad patterns that eventually have their effect on people who live in that place:

> *The difference between a good building and a bad building…….is the difference between health and sickness, wholeness and dividedness, self-maintenance and self-destruction. ……..In a world which is unwhole and self-destroying people cannot be alive: they will inevitably themselves be self-destroying and miserable* (Alexander, 1979, p.115)

While the aim of this part of the discussion was solely to discuss the physical urban patterns, meanings that people associate with those patterns could not be avoided as they emerged as participants dove in their memories, stories and experiences with the place KCC. In essence, this emphasises the advantages of qualitative analysis that reveals the diversity and richness of people's emotional relationships to places (Manzo, 2005). Yet, it is a distinct area of research that is concerned with the psychological dimension of the environmental experience. The results from this part, thus, could be considered as an introduction to future environmental psychology research in KCC.

III. The transitional patterns

The essence of Colonial Khartoum's quality of place that Norberg-Schulz sensed in the arcaded porticos (see Figure 6.11) could be considered as a character that is now disappearing. The uniqueness of those porticos results from providing a unique transitional space between the external and the internal worlds which gave a feeling of intimacy. However, maximum commercial utilisation is now dominating and as a result, the eagerness to fully occupy every space had subdued the intimacy created by arcades and verandas. Hence, KCC's contemporary architecture no longer reflects intimacy. Instead, it reflects isolation on both urban and architectural levels.

Despite this, participants expressed the essence of KCC in its transitional patterns. This was exemplified by their celebration of the arcaded porticos along Gamhoria Street, being emotionally attached to them and exuberantly considering them as what defines KCC. They interpreted them in patterns such as *'arcades'* and *'open ground floors'*. It is worth reiterating here that the reason for this appreciation is, besides their protection from the severe weather condition and the sense of intimacy, they act as an important socio-commercial interaction place in KCC that continues along several blocks in the street (see Figure 6.10). In this regards some participants narrated their experience in the street: *"when you walk you feel comfortable and in a different environment that is cool and shaded"* (Junior planners, F.G.3, 2017). Another participant explained: *"for me, buildings with voided spaces on ground floor level give the sense of old Khartoum which allows…, for the interaction between the inside and the outside and a better visual communication…… This reflects the architectural identity of the place"* (Graduate students, F.G.4, 2017). Thus, participants were able to perceive the uniqueness of the porticos and arcades through the experience they lived while walking in them. For the participants, the experience felt different because it has not been repeated elsewhere in KCC.

Yet, photographic documentation of those patterns showed some of them are completely losing their intrinsic qualities as they have been subdued by being fully or partially occupied by mobile traders and some being empty at night and during national and religious holidays (see Figure 6.11). One participant explained this:

> *Now all these arcades are not used……they are not utilised for walking as they are now being occupied by traders and accordingly you cannot walk through except with real struggle. I remember that before when we go to the Arabi Market –place in the pictures- you never walk in the sun.* (Senior planners,F.G.2,2017).

Within this, it was interesting to note that planners discussed this pattern more thoroughly compared to other categories of participants. On one hand, and similar to other participants, they celebrated them and recognised them as what endows KCC with its spirit and a different unique urban experience specifically those of Gamhoria Street (see Figure 6.6 and Figure 6.10). On the other hand, they also noted their current misuse and declared that they *"are now being suppressed"* (Senior Planners, F.G.1, 2017). While they expressed intentions to force those arcades in the latest building regulations of new buildings on that street, these intentions seemed more of dreams than real implementations. Regrettably, planners expressed dissimilar stories about how they will implement that. Thus, there was no real evidence of the

implementation of these transitional patterns and the willingness to introduce them in new designs or improving the existing ones seemed naïve. Example of these intentions was mentioned by a senior planner explaining that: *"we as the Planning Committee if we receive any request to add an arcade in a property, we refuse it. We do not like to add arcades, but we allow to create it from the beginning"* (F.G.1, 2017). This participant went on at another part of the discussion saying:

> *Each street is to be given its own identity and a certain architectural character …Gamhoria Street is to be characterised by arcades because of the shopping. This is because the centre of Khartoum has a mix of uses such as tourism, commercial, administrative and each use should have its character* (*ibid*).

Therefore, there was a lack of clarity for the researcher to grasp the real intentions to implement arcades in KCC. As if the essence of KCC that was resembled by those transitional patterns is more of a conveyed story through generations than actual actions applied to KCC.



Figure 6.10: A series of photos along Gamhoria Street showing the transitional patterns which participants captured as the spirit of the place. Source: the Author

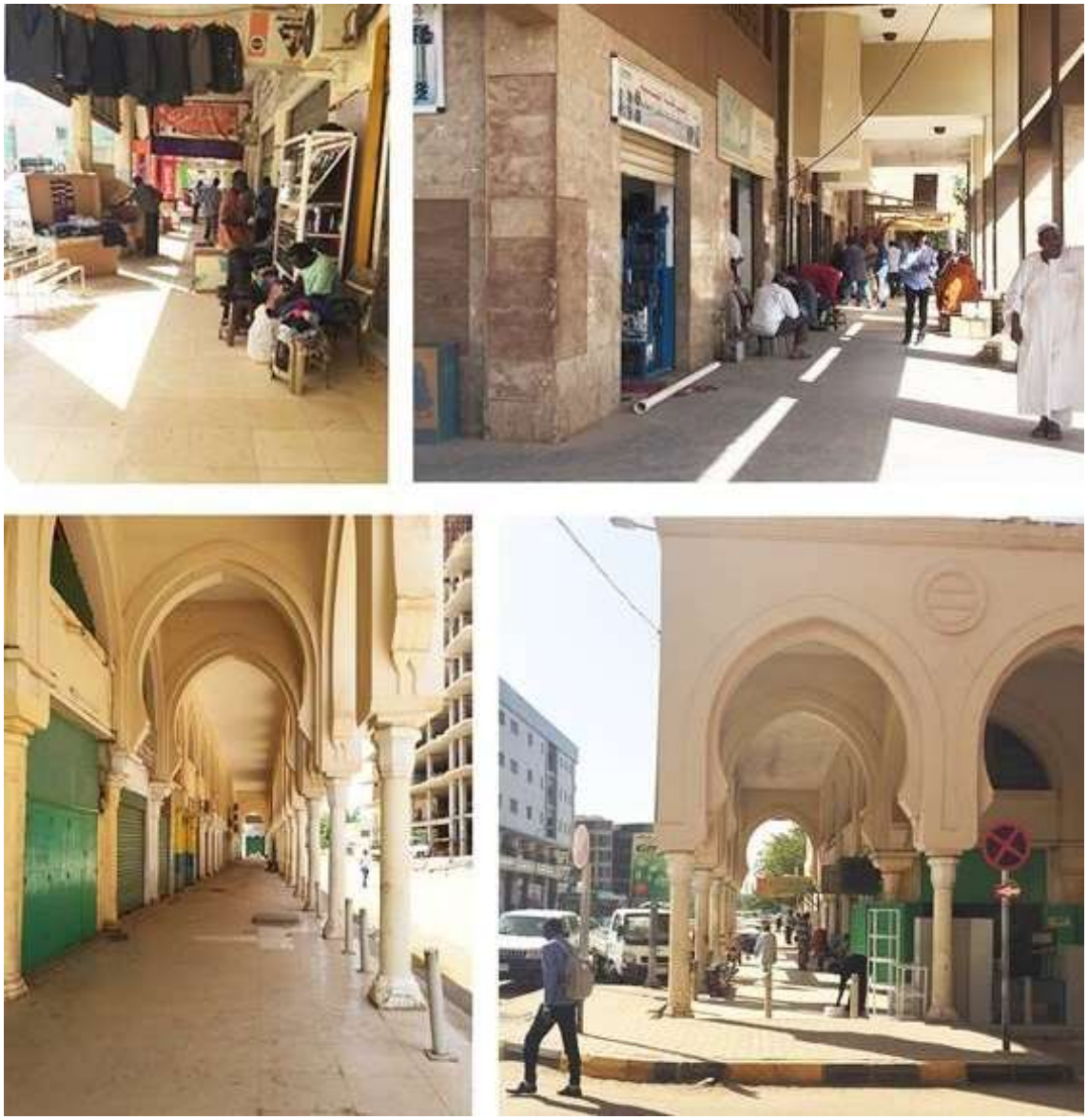


Figure 6.11: Transitional patterns of Gamhoria Street are losing their intrinsic qualities by being fully or partially occupied by mobile traders (upper left and right) and some being empty at night and during national and.religious holidays (compare arcades in the lower right with lower left, where the latter is completely deserted during holidays) Source: the Author

Nevertheless, these specific mentioned transitional arcades are those that directly open to the street, yet, other arcades that exist within the colonial buildings were rarely mentioned by the participants. Although both of them have the same quality that Norberg-Schulz described as an urban inside, the commercial arcades could be considered as more attached to participants because of being open to the public compared to those that are only experienced by the users of the specific colonial buildings (see

Figure 6.12). Nonetheless, there was an exception of one example of arcaded porticos of colonial buildings that were mentioned favourably by the participants which were those of the University of Khartoum. The discussion about this will be elaborated later in Section 7.3.3.

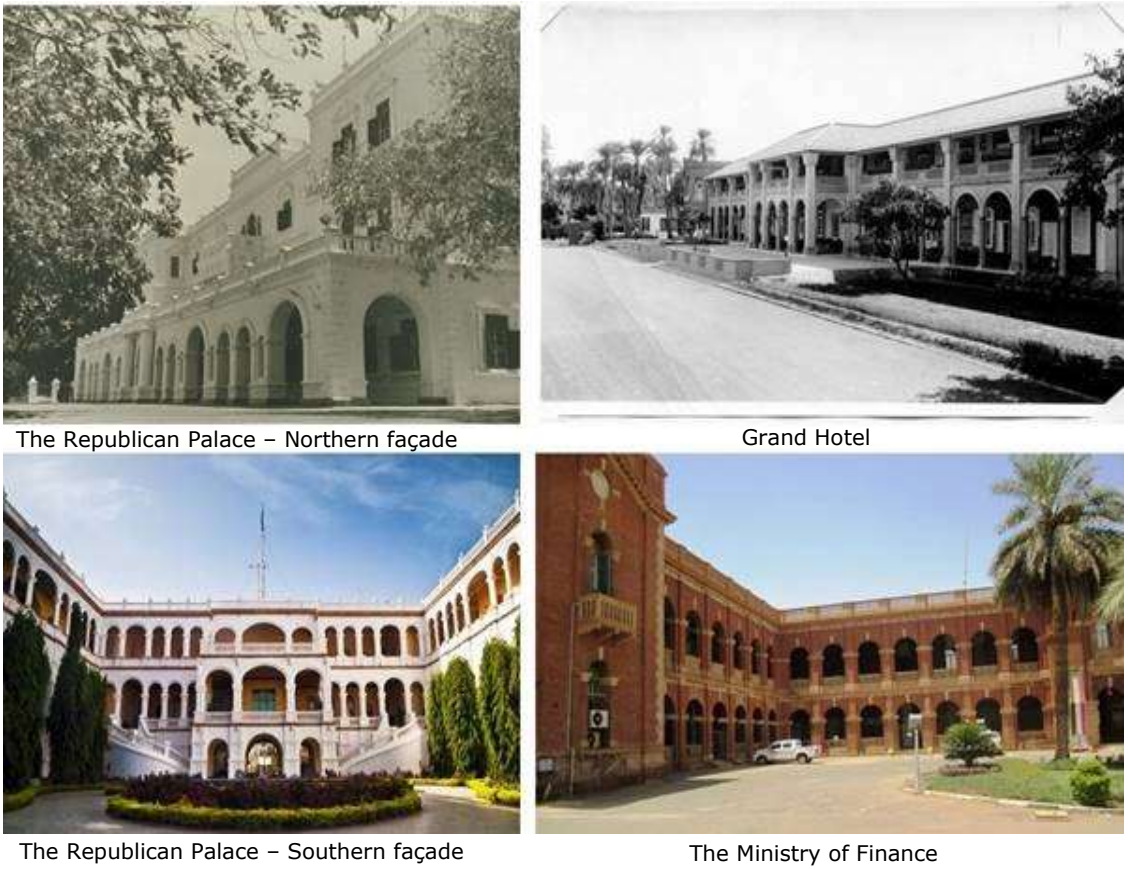


Figure 6.12: Examples of colonial buildings along Nile Avenue showing the same pattern of the *'arcaded porticos'*, yet they are not open to the public. Adopted from (Hamid, 2014)

In this regard, it is interesting to note the interplay of contrasting meanings attached to one pattern. On one hand, transitional patterns are described as the essence of KCC and accordingly, participants expressed meanings such as place attachment, positive memories and reminiscing about the place. At other circumstances, those transitional patterns represented a negative experience due to being misused and occupied by mobile traders. It is more interesting, however, that those same transitional patterns do not instigate the same meanings in buildings with different functions. Thus, the theoretical argument that can be highlighted here is that the meanings which participants attach to a certain pattern are not generalisable to the same pattern in different types of buildings. For example, the feeling of 'place attachment' to the transitional patterns of KCC was exceptional to a certain street.

Thus, it could be labelled as *pattern-attachment* rather than place attachment to give a more targeted meaning. Accordingly, the generalisability of the meanings associated with one pattern does not necessarily entail the same meaning to the same pattern in different buildings. Thus, the subjectivity of meanings is reduced by discussing that of the specific pattern. Paradoxically, such meanings could never have been highlighted by Norberg-Schulz as an outsider as they are generated through memories, conveyed through generations and experienced through repeated daily experiences. This attachment is similar to how Relph explained it and considered it as the link between the essence of the place and a source of identity to its people:

> *The essence of place lies in the largely unselfconscious intentionality that defines places as profound centres of human existence. There is for virtually everyone a deep association with and consciousness of the places where we were born and grew up, where we live now, or where we have had particularly moving experiences. This association seems to constitute a vital source of both individual and cultural identity and security* (Relph, 1976b, p.43).

IV. The architectural patterns

Generally, the functional classification of the three towns -Khartoum, Khartoum North and Omdurman, which was introduced by the colonial regime, has continued to play a role in determining the contemporary architecture in those three towns comprising Khartoum. Khartoum, being primarily the administrative part, Khartoum North being essentially the industrial and residential part, while Omdurman being the spiritual and residential part (see Figure 2.24). This classification, therefore, has influenced the formation of the architecture, its patterns, styles, building types and character in the three towns today. Nevertheless, the extraction of the architectural patterns in KCC coupled with architects' practices and experiences of users of the place allowed to establish a theoretical basis for interpreting the place into patterns.

Within this, it is important to highlight that, the extraction of the architectural patterns relied more on the visual perception of the built environment without necessarily experiencing certain buildings. Therefore, the architectural patterns extracted were mainly architectural form patterns and patterns that exist at the edge of the building with its surroundings. Those extracted patterns excellently conveyed the factors that are shaping the architecture of the Contemporary Paradigm of KCC and consequently shaping the city (see Section 4.2). For example, patterns such as (see Section 6.3.3):

- *'Buildings enclosed by a boundary wall'*
- *'Isolated buildings'*
- *'Minimum connection to the earth*'*
- *'Solid east and west elevations**'*[49]

are patterns that indicate isolation and loneliness. In KCC today, one can notice that the boundary wall is now dominating the character of contemporary architecture as a significant feature, despite the fact that buildings are institutional and mixed-use and thus causing the extreme sense of isolation. Paradoxically, the boundary wall was perceived by Norberg-Schulz as the main feature that gives protection and allows for dwelling in a desert city like Khartoum and in similar desert environments. Therefore, it characterised the old neighbourhoods of Omdurman and Tuti, and continued to characterise the residential neighbourhoods of Khartoum today. In this regard, it is possible to argue that the boundary wall –as a pattern- is being borrowed from vernacular residential architecture and applied to institutional architecture without being re-adapted or re-thought. This resulted in enclosed institutional buildings and a general sense of isolation within KCC (see Figure 6.13). The question here is *whether the same level of enclosure of residential architecture is required to persist in the civic centre of Khartoum?*



Ministry of Foreign Affairs – Gama'a Avenue



Bank of Sudan Headquarters – End of Gamhoria Street



Alwaha Towers, Al-Arabi Market



Sudanese Islamic Bank – Gama's Avenue

[49] * patterns adapted from Alexander's Pattern Language, whereas ** are patterns observed by the present researcher

Figure 6.13: Contemporary architecture of KCC enclosed by boundary walls and arcaded porticos disappearing from the urban fabric. Source: the Author (2017).

Hence, it could be argued that the essence of the architecture strongly relates to the time in which it is being perceived. What was perceived by Norberg-Schulz in the late 1970s is now changing as the different political, social, cultural and economic factors make significant physical changes in the place through time. Moreover, it was found that the perception about the essence of the contemporary architecture of KCC also varied across participants. Inevitably, participants as insiders have sensed and conceived the impact of those factors on the architecture differently.

On one hand, the majority of the participants had a negative pessimistic impression about the architecture of KCC and consequently its patterns. This perception spanned across the different groups of participants. Yet, the most surprising point of view was the senior planners' confession that:

> *In Khartoum anybody is designing on his/her own, I guess this is what is causing the visual pollution…… something is red, the other is green and others are shouting things. There is no rest to my eyes. Unless I am driving and I am not paying attention, but if you are paying attention, it will disturb your sight……Unfortunately, the situation now is that everybody is working on his/her own, there are no certain regulations for certain buildings' features, form or colour. This is what is causing the existing chaos* (Senior Planner, F.G.2, 2017).

While it was expected that planners would provide the answers or actual plans for the architectural patterns of KCC, they showed an evasive stance. They identified five reasons that are shaping those patterns namely:

I. The transformation of KCC in the 1970s from administrative and residential to commercial, which was legislated by some planning regulations, has resulted in changing the face of the centre of Khartoum since then.[50] This, as senior planners argued, was the start of the architectural change in central Khartoum.
II. The weak enforcement and lack of supervision of the building regulations that direct the architecture and consequently the architectural patterns which give an impression of complete freedom that one could do whatever he/she likes in their plots. *"This complete freedom causes this urban slip. where everybody builds as he wants and when he wants"* (*ibid*).This opinion was strikingly unusual

[50] In 1976 the classification of this area. was changed from residential cum administrative into commercial. (Ministry of Physical Planning, Khartoum State).

to be declared from a top planner, and even more, striking was when they were asked about the responsibility for this:

> *Researcher: In your opinion, who do you think is responsible, is it the architect or the planner?*
> *Participant: governance and legislations need to be revised to include more controlling regulations…. But now we do not have restricting legislation. Even if they exist, there is rather more tolerance* (*ibid*).

III. Tolerance within the existing unsophisticated building regulations that do not impose strict regulations. One planner described this with an example:

> *The legislation cannot impose on me any penalties for the fact that I did not build on my plot. Another example is that the legislations only restrict me with a certain coverage area and certain heights but never with the form of the building whether the design is spherical, cubical…. etc.* (ibid).

Additionally, within this, there is a lack of proper supervision that meticulously follows the architects and contractors when executing their projects. In many cases, contractors disregard the role of the architect and they could be found doing architects' jobs by starting the project from the beginning (design) to the end (execution) without proper supervision.

IV. The looseness of the building regulations allows the client and the architect to be free in their realisation of his building's external architectural patterns:

> *Participant 1: Architectural patterns as much as you try to control them are still linked to the investor/owner. This is part of the freedom given to him and he will seek an architect to do it for him* (Junior planners, F.G.3, 2017).
> *Participant 2 agreeing: There is nothing in the building laws that states that this building block, for example, should have a certain architectural character or a certain colour. It is left to the freedom of the architect. (ibid).*

V. Architects are from a different school of thoughts:

> *Designers are from different schools and each one has a different definition of identity and a different mentality. This is because they have studied in different schools. …. Thus, s/he should be given the*

freedom to design within the plot. (*ibid*).

In this regard, the difficulty to determine the architectural patterns is reflected in the voice of the participants and consequently, they proposed that the architect should be given his complete freedom. While the validity of this argument could be questioned because it has been proposed by junior planners, it was reiterated by senior planners who are at the top of the planning committee. They justified this freedom stating that diversity of designs is desirable. They emphasised that:

> *We are a culturally diverse nation…and we love every person to have his own identity and not to have a repeated character. This is because a repeated character does not give you the sense of vibrancy……. For example, for all elevations to be similar in all central Khartoum. I do not think this is unique. There should be a difference but at the same time there should be some agreement at a lower minimum level, so if you can tell us through your research what this minimum level is, so we can restrict people on the regulations* (Senior planners, F.G.2, 2017).

Thus, the fact that senior planners are not sure about the architectural legislation and that they are justifying the architectural chaos of KCC, stresses a big gap about the actual reality of the structure of the architectural patterns in Khartoum as a whole and consequently its architectural future. Their role seems to be limited in the shaping of the architectural patterns in the context of Khartoum exemplified by the lack of proper sophistication of the building regulations. While Boussaa (2002) stresses that city's architectural identity is the outcome of a planning system that depends on the professionals' creativity, the findings emphasised that the skills set of the planners in Khartoum are outdated and requires to be further developed.[51] They stated that there is an absence of a serious discussion of neither the new contemporary projects and their architectural patterns nor a single consideration for issuing urban design guidelines. This intensifies with a complete detachment between them and the architects. Thus, *if senior planners in Khartoum who are legislating the building regulations, presented an uncertain and evading stance about the architecture of Khartoum who else is responsible for the current situation?*

[51] This critical analysis became evident when the point of views of the planners were compared with the rest of the focus groups. Paradoxically, graduate students showed an advanced theoretical discussion compared to focus groups that were conducted with the top senior planners. The latter, however, were basing their debates on random examples and not research or study projects of areas of considerable planning problems where they can propose creative solutions.

In a way to find an answer to this, cities with a relatively similar emerging context were reviewed. In Dubai for example, after realising the consequences of the blind internationalisation, in 1994 the municipality established a committee to create a local pattern derived from traditional architecture through reviewing elevations of new buildings and publishing a guide to the traditional elements for researchers and architectural students (Boussaa, 2002). In Qatar, the Qatar National Development Framework (QNDF) was launched in 2014 to manage the growth, change, land use and development in Qatar regulated through the planning codes, zoning regulations and urban design guides (Rizzo, 2014). As part of this framework is the Qatar Urban Design Compendium Project that is specifically targeted for safeguarding future physical development. It aims for creating a distinct architectural identity that is rooted in the cultural values and norms and enables Qatar to mark itself in the global map (QNMP, 2019). While those two examples are relatively progressive in comparison to Khartoum, due to their political stability and economic prosperity, mentioning them here is intended as an example for the government of Khartoum to aspire to.

In addition to the responsibility of the planners, the interpretation of the architectural patterns of KCC has reflected the responsibility of both individual architects in private projects and pro-government architects. On one hand, architects in private projects are left almost free in their design process, unrestricted by building regulations. Pro-government architects, on the other hand, are dominating the scene in the new contemporary governmental projects reflecting the intended capitalist and individualist governmental ideologies. Unfortunately, however, it was difficult to grasp the full understanding of those governmental architectural ideologies due to the difficulty in getting access to those architects even through gatekeepers as only 5 out of the 24 interviewees were architects who represent the government (see Section 0.). While these ideologies appear in KCC, the political individualist governmental ideology started to emerge more clearly in the east extensions of KCC in newly established government centres. When observing those centres with their gigantic contemporary buildings, one might think that the government perception of KCC seems as if the place is dilapidated or its juxtaposed Colonial and Modern architectural layers do not suit their intended image of grandeur. Hence, they needed to shift their governmental capital to other new extensions of the city where there is no previous character to overshadow their architectural monuments. Therefore, architectural patterns of those new governmental projects reflected the isolation, capitalism, excessive modernisation and the individualistic ideology of individual expression of identity(see Figure 6.14). Hence, architectural patterns that reflect those ideologies were extracted as follows (see Section 6.3.3):

- *'Cold colours (Blue and grey governmental buildings)'*
- *'Buildings with expensive materials (aluminium cladding, glass)/ shiny colours'*
- *'Monumental landmark buildings'.*



Figure 6.14: Architectural form patterns of new governmental buildings- although outside KCC- reflect their ideologies of isolation and grandeur. All pictures are taken from a distance due to photography being banned in these areas. Source: the Author.

Even though these buildings are outside KCC, their patterns were the typical replica in the majority of the newly built contemporary architecture either inside or outside KCC in being more of by-products of different forces and ideologies rather than patterns that respond to the context (see Figure 6.13). Thus, the issue of architectural character should be well-integrated in the heart of the processes by

which cities are shaped, managed and financed (Boussaa, 2002). Within this, it was relevant to recall Dovey's (1990, p.5) argument of considering Capitalism and Individualism as enemies of the Pattern Language in that the patterns that represent them fight against the unique qualities which the patterns of the original Pattern Language can achieve. This is because, many of the patterns *"imply a kind of democratic, participatory socialism"* (*ibid*)*.,* which is far removed from today's capitalist architectural patterns.

6.5.3. KCC today

By directing the discussion back to KCC, it could be argued that the place now represents a rather complicated manifestation compared to that experienced by Norberg-Schulz. In addition to the complete uncertain role of the planners in determining the architectural patterns, architects' experimental practices and personal idiosyncrasies took the lead. Architects have become increasingly overwhelmed by introducing various architectural patterns that are mainly borrowed from the international scene. Consequently, the result has been buildings that are weakly linked to their surroundings (see Section 4.2.9), and the situation intensifies with KCC accommodating the juxtaposition of architecture from different paradigms (see Section 2.3). This, therefore, emphasises the shared role of architects in the phenomenon of 'urban slip' and 'architectural chaos' highlighted by the planners, as if architects had disregarded their influential role in the cityscape (Rudolph, 1956).

Consequently, it was noticeable that there is an agreed and shared negative perception about the essence of the place KCC which was evident from the extracted patterns in being predominantly negative patterns. These patterns reflected the problemetic situation of KCC and highlighted the disconnection between its different architectural layers. This perception seemed like a common ground of agreement about the identity of that place and consequently its architecture. Relph named this the "public identity" because it develops from the consensus out of the free opinion and experience of groups and individuals (Relph, 1976b, p.58). This free opinion was thus linked to the prevalent negative perception about the National Front regime government. Although the influence of the government on the place and the urban fabric was not directly questioned in both the interviews and the focus groups, participants repeatedly voiced this perception explicitly and at other times implicitly regardless of the category of participants (more by the architects, graduate students and the general public and less by the planners). Inevitably, this affects how they perceived the essence of KCC generally and how they reflected that in this research

as insiders accordingly. This finding, thus, demonstrated the socio-political underpinnings of people's emotional relationships to places which Manzo (2005) considers as an important aspect of human experience that needs to be included in the discourse on people–place relationships.

Within this, it could be argued that it is highly likely that participants have been slightly biased in their perception and affected by this shared and conveyed negative perception. Yet, an example like this argument indicates that this prevalent perception about the government could not have been captured instantly by an outsider and only apprehended by an insider. Consequently, this required from the present researcher –as also an insider- to be as reflective as possible to step out of these perceptions, capture the negative ones and analyse the responses neutrally while minimising her own inherent biases. Hence, it is possible to highlight that the essence of place differs enormously when conveyed by an outsider as opposed to an insider. This confirms Relph's concepts of insiderness and outsiderness, which provide a field of conceptual clarity for understanding a fundamental dialectic in place experience (Seamon and Sowers, 2008).

Additionally, KCC accommodates a mixture of building types, the majority of which are institutional (administrative and commercial) buildings. A quick comparison of the institutional buildings across the architectural paradigms highlights that institutional architecture as a building type did not exist in the Traditional Paradigm; rather, it was introduced in the Colonial Paradigm (see Section 5.6.1) and later in the Modern Paradigm, both in unique designs and distinct architectural patterns (transitional and architectural form patterns). However, the formation of its recent contemporary forms does not reflect improved designs that are driven from the previous two paradigms. Instead, it brought a completely new set of patterns that provided a sense of isolation in KCC. such as the *'boundary wall'* which resulted in almost a complete absence of transitional patterns and rather isolated buildings (see Figure 6.15).



Figure 6.15: The change of patterns in the institutional architecture of KCC through Colonial, Modern (Above) and Contemporary Paradigms (below) – from an architecture that is more open to the environment to an isolated one. Source: the Author (2017).

Moreover, with the peculiarity of the place being the city centre of Khartoum, the need to create an impressive architecture intensified as a common practice in similar newly emerging cities. Although this need is, no doubt, a strong player in creating the image and essence of city centres, the findings of the interviews emphasised that in KCC it is being manipulated by the aim of achieving maximum commercial utilisation in the form of high-rise impressive buildings. Accordingly, this prioritises commercialisation and impressiveness of architecture over consideration of the natural character of the place and the unique quality that each building could add to it. It is no wonder hence that impressive form patterns took the lead in manipulating the contemporary institutional architecture in KCC and becoming the core patterns. On the other hand, urban and transitional patterns are being marginalised and considered as supplementary and in other cases as completely irrelevant due to the absence of investment in the public realm. The result is thus:

I. Overemphasised luxurious contemporary form patterns that do not relate to the place.
II. Rather marginalised transitional and urban patterns
III. Neglected colonial buildings that could have been considered as the built heritage of KCC.
IV. A disjoint between the architectural layers of the Colonial, Modern and Contemporary Paradigms (see Figure 6.16)

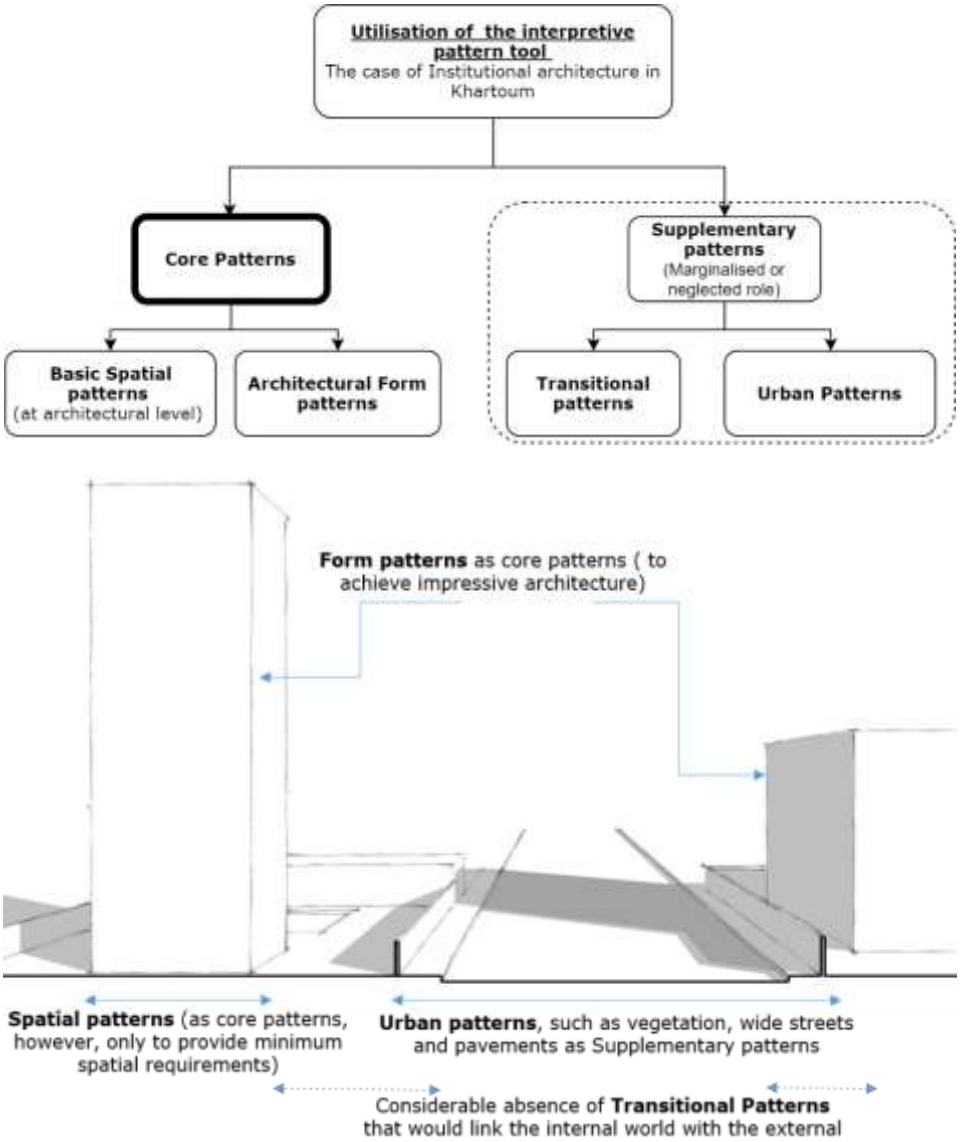


Figure 6.16: The prioritisation of patterns in the contemporary institutional architecture in KCC. Source: the Author.

While some participants expressed the negative meanings that KCC's colonial architecture reflect such as 'oppression' (Junior Planners, F.G.3, 2017), they grasped their physical qualities and suggested that colonial architecture could be a source of

inspiration for contemporary architects in their response to the place. An objective analysis of colonial architecture in patterns emphasises its unique articulation and response to the place (see Section 5.6.1). It is an example of architecture that delivered many of the qualities that Alexander called for, such as (with the same sequence in the Pattern Language):

95- Building complex*[52]
106- Positive outdoor space*
107- Wings of light *
108-Connected buildings*
110- Main entrance*
112- Entrance transition*
115- Courtyards which live*
119- Arcades*
122- Building fronts*
128- Indoor sunlight*
160- Building edge*
166- Gallery surround*
168- Connection to the earth*
207- Good materials*
250- Warm colours*

Despite those unique qualities, Hamid (2014) explained that the colonial built heritage in KCC is largely considered as a foreign heritage because of the fragmented and violently challenged attitudes towards it. Hamid's findings stressed that the decision-makers in Khartoum conceive colonial buildings along Nile Street as 'Monuments of colonialism' and consequently their attitudes towards them are either renaming, demolition, negligence, or seeking modernisation. As proof of this argument, the unique patterns of KCC's colonial architecture are being overlooked. They were neither repeated in the contemporary KCC nor were they properly maintained. Hence, existing patterns of colonial architecture were extracted by participants (see Section 6.3.3) as follows:

- *'Un-rehabilitated colonial/historical buildings'*
- *'Insertion of a variety of building materials and colours or contemporary materials within the historical fabric'*
- *'Buildings with a patina of age'*

[52] * indicating patterns adopted from Alexander

6.5.4. Importance of the architectural patterns for KCC

The situation of the conflict of architectural form patterns in KCC is especially critical because of it being the centre of the city that represents its image and architectural identity. An architectural future with suppressed architectural patterns for the sake of progress and fast modernisation –or to serve certain political ideologies like Khartoum- and without any link with the local culture and natural conditions should be avoided (Boussaa, 2002). Architectural patterns, therefore, should be regarded as the tool to create a city's image and character. They, moreover, have a role in stabilising group identities especially in places with contested meanings as to how Boussaa (2002, p.54) emphasises *"the built environment can play a major role in stabilising group identities".*

Moreover, as Khartoum now is growing rapidly as a metropolis, problems of imageability will continue to intensify if architectural patterns are not considered comprehensively. Lynch (1960) emphasises that the metropolitan region is the functional unit of our built environment; hence, it is desirable that it should be identified by its inhabitants. This is an explicit emphasis on the role of form patterns in the metropolitan city, and especially its city centre. Lynch thus, labelled *this as the "visual plan of the city"* stressing that it should be guided and controlled*: "these shapings or reshapings should be guided by what might be called a "visual plan" for the city or metropolitan region: a set of recommendations and controls, which would be concerned with visual form on the urban scale" (ibid,* p.116). Nevertheless, Salama (2012) recommends that the public perception about these kinds of visual plans should be examined to provide the understanding of the juxtaposition of the different expressions and forms and what they convey and represent.

From this, the importance of the role of architectural form patterns in KCC has come into prominence in this research. While it is not an exact establishment of a "visual plan" for KCC, it could be considered as an analytical background that paves the way for a future architectural plan. Another reason is that, in today's standardised architecture, buildings' formal, spatial and construction patterns are being standardised every day, which will never endow places with unique architectural characters. Thus, considerable and meticulous analysis of the architectural form patterns in today's standardised architecture is a need to create places with unique characters and to avoid creating dull and uninteresting places. Hence, the role of form patterns should shift to a core role in creating the image of cities. This has been emphasised by famous urban theorists such as (Cullen, 1961, p.11) who argues that a successful city must be designed with people's visual experiences in mind because *"it is almost entirely through vision that the environment is apprehended"* and

consequently *"it evokes our memories and experiences".* Dempsey (2008, p.253), classified this as the 'Visual–Artistic' quality of the built environment and agrees with the importance of its role.

Nevertheless, this visual approach received widespread criticism as not being always the practical approach. This is because architects eventually fall into being over-occupied with creating impressive architecture regardless of its quality and the place. As a result, Cullen (1961) emphasises that *"the outdoors is not just a display of individual works of architecture like pictures in a gallery, it is an environment for the complete human being".* Others argue that the issue becomes more critical in poor and newly developing countries where more serious issues are more important than architectural forms. However, that does not mean such approach should be stopped, rather, the provision of built environments for all who uses or perceives them was regarded by theorists and policy-makers as important as their aesthetic values (Carmona et al., 2003). In other words, a balance between patterns at all levels is essential.

This discussion about the importance of architectural patterns, coupled with the empirical utilisation of the interpretive pattern language tool in the context of KCC hermeneutically, has thus highlighted a gap in the Pattern Language theory in its, somewhat, disregard of the architectural form patterns. The theory has considered the architectural form patterns as by-products from the spatial patterns and construction patterns. It is likely that Alexander did not include them in the theory relying on the fact that his theory is universal and that patterns are common to all places. Nevertheless, applying patterns to a specific place –viz. Khartoum- has raised a critical finding that following Pattern Language alone is not enough to endow places with a strong architectural character. And therefore, form patterns are not universal, yet, they are unique to their place. Hence, here the Pattern Language, after being synthesised with the phenomenological experience of Norberg-Schulz, changed from a mere design tool to an interpretive tool that allows the patterns to act an entirely new role in forming the places' pattern languages and consequently facilitate their interpretation.

6.6. Conclusion

This Chapter discussed the empirical utilisation of the interpretive pattern language tool in the place KCC. This was achieved through three main steps: firstly,

documenting existing patterns from existing literature. Secondly, extracting existing patterns through visual incitation experiment carried out with users of the place KCC. These two steps have provided an effective approach to extract the local pattern language of KCC as an existing place which was then categorised into Urban, transitional and architectural patterns, described and graphically illustrated. Subsequently, the final step is evaluating and interpreting this extracted local pattern language in order to give answers to the three angles of the research: architecture, place and identity in a more objective way.

Certainly, this language is the chapter's main contribution as it provides a reference for planners and architects to help them abstract the place KCC in patterns and consequently support their future design and research of existing places in KCC.

Ultimately, this could be a response to what Sime (1986) argued: that the phenomenological interpretation of Norberg-Schulz to Khartoum was non-scientific and more of an artistic endeavour. Hence, this proposed interpretation could be considered as a validation to that endeavour in a more objective manner. Hence, through the extracted local pattern language, the place and its character could be described, *more objectively.* Ultimately, the objectiveness here is to the actual description of the patterns and their prioritisation which is proposed to decrease the subjectivity entailed if the place to be described by depending solely on an artistic interpretation. Thereafter, meanings which people associate with those patterns, are part and parcel of their experience of place and inevitably they enrich the interpretation of the place and its local pattern language.

Within this, the *genius loci* of KCC was captured by the participants in four main categories namely, the natural characteristics, the colonial buildings, the landmark buildings, and character of main streets. Additionally, this chapter provided another level of validation for the interpretation of KCC by triangulating Norberg-Schulz's experience of KCC as an outsider with that of the current users of the place as insiders. It moreover, compared them across the natural characteristics of the place, the urban patterns, the transitional patterns and the architectural patterns.

In summary, the utilisation of the interpretive pattern language tool in a certain place results in extracting and evaluating the place's local pattern language. After this utilisation, however, the original utilisation of the Pattern Language as a design tool could be reintroduced by listing all the patterns that fill in the gap within this local language aiming at achieving users' satisfaction with their built environment and ultimately, the 'quality without a name' (see Figure 6.17).

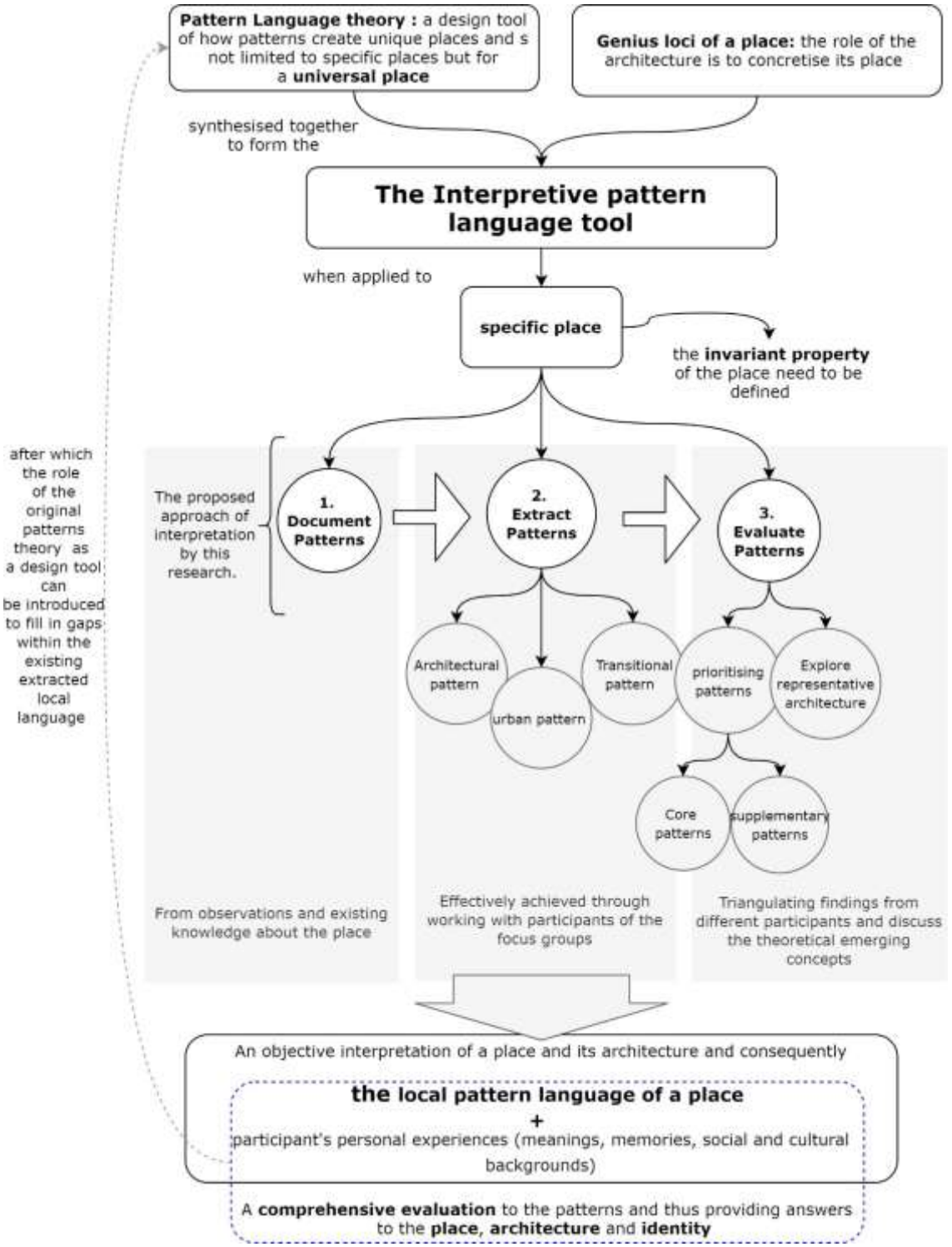


Figure 6.17: The development of Figure 6.1 (as the thesis key theoretical diagram). Source: the Author

Chapter 7: The role of patterns in expressing identity

7.1 Introduction

Relph (1976b, p.6) maintains that: *"any exploration of place as a phenomenon of direct experience must be concerned with the entire range of experiences through which we all know and make places".* This inevitably includes both positive and negative experiences. However, the first part of this chapter intends to move away from the previously discussed negative experience of the place KCC in chapter 6 and tries to expose the existing overlooked unique qualities of the place, which could provide a better experience. Therefore, with the lack of proper urban patterns, the positive exploration will shift and focus on the architecture of the place, and its architectural patterns. Yet, the majority of the extracted architectural patterns were also negative as they are being observed based on the negative pervasive perception about the place KCC expressed by participants as users of the place. Thus, to move away from those preconceived perceptions, research participants were provided with pictures of representative buildings in KCC. The aim was to evaluate the extracted negative patterns and then to focus on exploring the architectural patterns in an entirely new positive approach. This approach is to be achieved through asking participants to select KCC's distinctive buildings and use the interpretive pattern language tool to highlight their distinctive patterns, as a way to search for the overlooked architectural qualities that *already* exist in some of KCC's buildings.

Similarly, and with endeavour for more positive exploration of the place and its architecture, the second part of the chapter intends to extract and evaluate patterns within the identified approaches to delineate architectural identity in Khartoum (see Section 4.5.2). Within this, patterns that nurture a sense of local identity and rootedness were extracted and largely evaluated as distinctively positive. Hence,

their applicability in KCC in relation to the existing fabric was discussed. Nevertheless, other patterns that exist in KCC, whether distinctive or not, were also extracted and evaluated in relation to identity. This evaluation resulted in revealing an interesting link between patterns and architectural identity in that patterns directly reflect the architectural identity.

Ultimately, these two explorations could be considered as methods to reveal the existing but *forgotten* unique patterns in an existing place, which needs to be identified by users of that place and *ideally* emphasised by architects and legislated by planners for the future architecture of that place. While, the previous chapter provided answers to the place and its architecture, through the identified link between patterns and identity, this chapter provides answers to identity. Theoretically, however, these methods are empirical ways to advance the exploration of places through the interpretive pattern language tool.

7.2 Evaluating the extracted local pattern language.

7.2.1. Exploring KCC's representative architecture

With the aim of exploring the architecture of KCC more positively, participants were provided with hard copy images as visual prompts of representative buildings of the everyday architectural scene in KCC. They were asked to select which type of architecture –and consequently patterns– do users of KCC consider as the most distinctive. The aims expected from this visual experiment were:

- Identify KCC's distinctive buildings from a range of representative buildings in KCC as perceived by different categories of participants who have experienced the place.
- Interpret that into patterns and include the extracted patterns within the local pattern language.
- Discuss reasons of distinctiveness according to participants.

Buildings' selection criteria

12 institutional buildings were selected as representatives of the everyday architectural scene in KCC. The selection criteria of these buildings were based on the analysis of the results from the first phase of the data; interviews with architects

of key roles in the shaping of the architecture of Khartoum (see Section 4.2 and 4.4). Those results highlighted the kinds of buildings that keep on repeating in the urban fabric of KCC; examples of these include the Supreme Court, the Investment Bank, Almoalim Medical City, Sudanese Islamic Bank, and Altadamon Investment tower (see Group 1 Figure 7.1). Additionally, the buildings included examples that interviewees considered as buildings that represent the essence of the place KCC and that it cannot be identified without them. Examples of these include Al-Ekhwa Building, The Kuwaiti towers, Faisal Islamic Bank, University of Khartoum Branch, Sudanese French Bank H.Q. and Bank of Sudan H.Q. (see Group 2 Figure 7.1). The final group of buildings, however, were two examples selected from the buildings which were presented to interviewees as part of the interview. They have been re-selected and included in this part of the focus group as they had instigated controversial and deep discussions that are worth more exploration (see Group 3 Figure 7.1). Those buildings are Albreer Group H.Q and Alwaha Towers.

Here it is important to highlight that the period of the selected buildings was intended to be inclusive; from the Contemporary Paradigm (see Section 2.3.4), which is the period from the late 80s until now. Yet, two of the selected buildings were built slightly before that in the late 1970s, which are the Kuwaiti towers and Al-Ekhwa building,[53] which, as emphasised by the architects, strongly represent the place KCC and could not be excluded from the list of its representative architecture. Notably, this experiment could have included more images of buildings in KCC, yet, the task of selecting which buildings to include in this experiment was relatively difficult. Thus, in order to attend to the scale of this research, it was helpful to use the results from the interviews and focus on the representative buildings that were repeated by the interviewed architects when they were critiquing KCC's built environment. Inevitably, this is part of the research's exploratory nature that entailed selecting some case studies in order to facilitate a *representative* exploration of KCC's contemporary architectural patterns that fits within the scale and time frame of the research.

[53] Both buildings represent the characteristics of the architecture of the Modern Paradigm. Although they could be considered as landmark buildings more than representative, their representativeness here is to their specific patterns which represent the main design language of this paradigm. While the representativeness of the earlier relates to its response to the climate, the representativeness of the latter relates to the *'exposed structural system'* pattern.

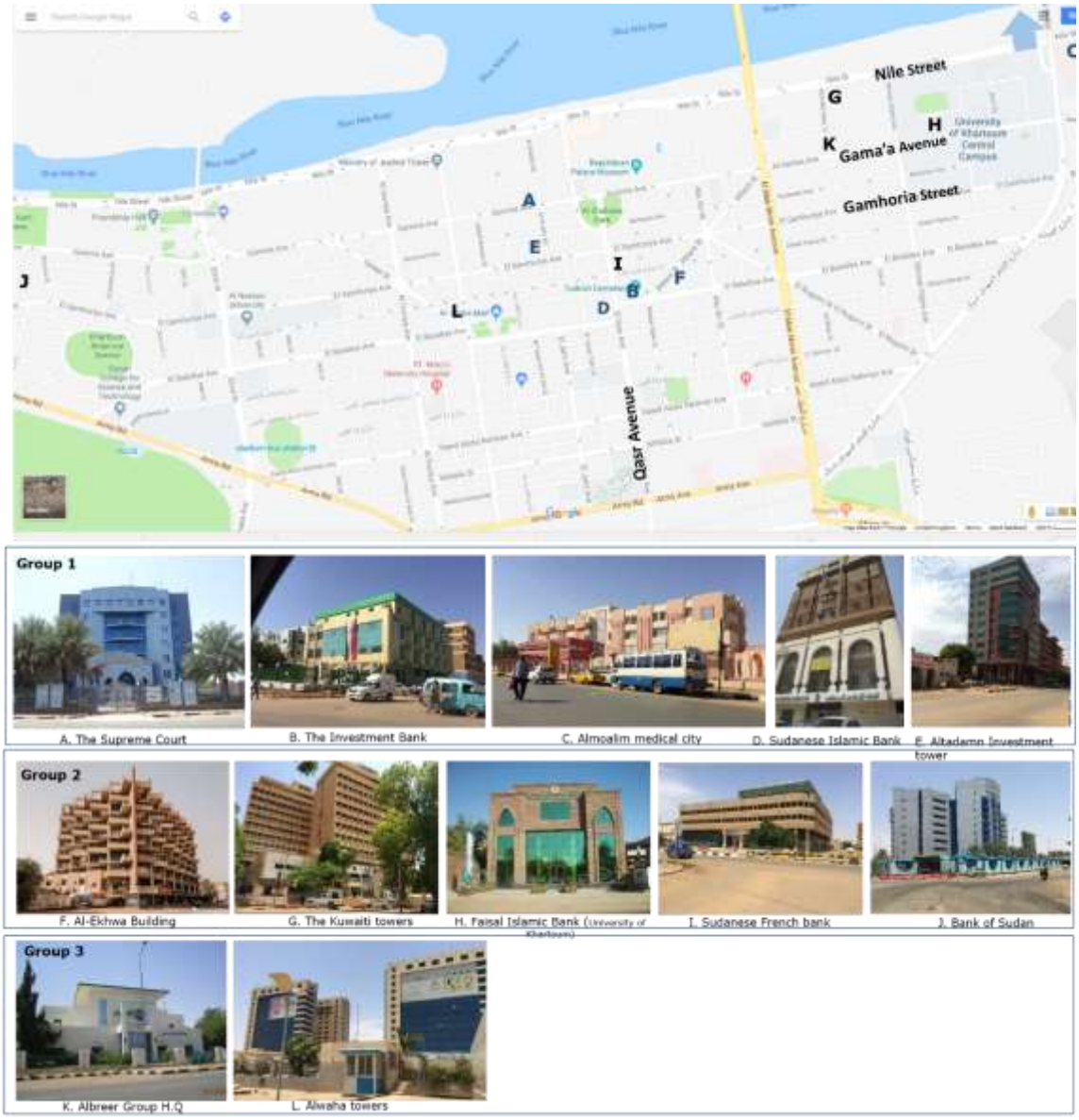


Figure 7.1. Photos of representative buildings of the everyday scene in KCC grouped into three groups according to specified selection criteria, yet they were presented to participants without grouping to select the three most distinctive buildings. Source: the Author

However, one of the participants strongly objected to this selected group of buildings because of the absence of a building that represents colonial architecture; believing that colonial architecture represents the spirit of KCC and accordingly, it should not be eliminated. This participant explained *"for me, all these pictures lack the colonial buildings. They are the icons that portray Khartoum…I think all the currently existing buildings should have copied their character"* (Graduate, students, F.G.4, 2017). Another participant strongly objected to the absence of Cornthia hotel –Elfatih Tower- from this list of buildings (see Figure 7.2). While it is a contemporary building that was built in 2008, it was excluded because the results from the interviews

emphasised it as Khartoum's main unique landmark. It has been widely used to represent the image of Khartoum internationally, in advertisements and the media. Consequently, with this study aiming to explore the representative architecture of Khartoum, Cornthia hotel has been excluded because it has already been recognised as a landmark. Similarly excluded is Farooq Mosque, which is an example of KCC's Islamic landmarks (see Section 6.2.1.



Figure 7.2: Cornthia Hotel (left) and Farooq mosque (right) resemble KCC's contemporary and religious landmarks. Source: the Author 2017.

Results

While the meaning of the word 'distinctive' in the Oxford dictionary means *"Characteristic of one person or thing, and so serving to distinguish it* from others", this meaning was not explained to participants. In contrast, they were allowed to freely interpret the word and answer accordingly. Yet, in some cases, this has resulted in participants requesting more guidance and questioning the meaning of the word in order to base their answers on. Hence, participants interpreted it in expressions such as *"exotic that attracts the eye"* (Senior planners, F.G.2, 2017), *"unique and different"* (Junior planners, F.G.3, 2017) and "*beautiful"* (General public, F.G.6, 2017). Thus, following this with requesting participants to list the reasons of distinctiveness has facilitated categorising the findings and analysing them accordingly.

This experiment highlighted that the top distinctive buildings of KCC as voted by the participants are: Al-Ekhwa Building, Kuwaiti Towers and Faisal Islamic Bank (see Figure 7.3). In the following tables, the reasons for choosing these three buildings

will be thoroughly explained and distinctive patterns that characterise them will be extracted and discussed according to the different categories of participants.

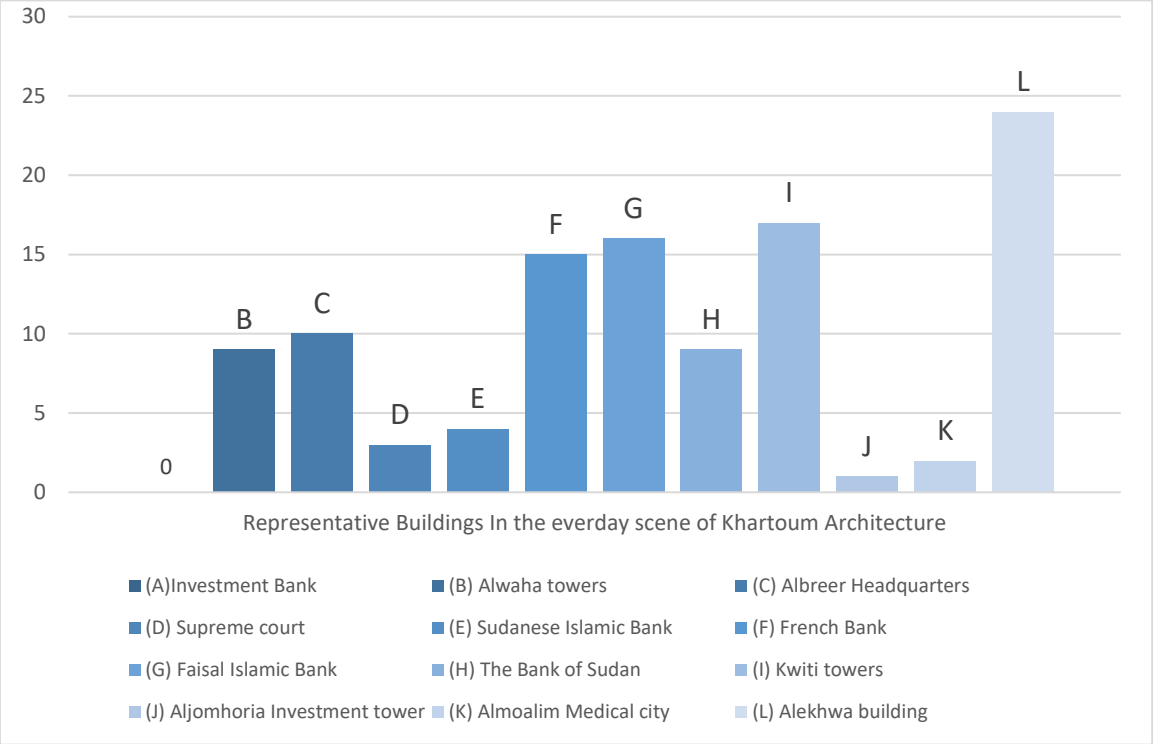


Figure 7.3 Chart indicating the results of participants' voting for the most distinctive buildings

I. Al-Ekhwa Building



Figure 7.4: Al-Ekhwa building designed by architect AbdelMoneim Mustafa in the late 1970s selected as the top distinctive building in KCC. Source: Abushakeema photography.

Table 7.1 Categories of distinctiveness according to participants in Al-Ekhwa building.

	Reasons of distinctiveness according to		
Categories of distinctiveness	**Planners**	**Graduate students**	**Public**
Building materials	▪ Use of local building materials ▪ un-plastered look	▪ Use of local building materials	▪ Local building materials that reflect no exaggeration
Form articulation	▪ Form composition ▪ A dynamic elevation that results in enriching the urban context ▪ Unique ▪ Symmetry ▪ Elevations treatments (solid/void ratio) ▪ Symbolising the Modernism Movement ▪ Reflecting a strong statement	▪ Aesthetical qualities represented by the visible structural systems ▪ Effective use of structural elements ▪ Visibility from different angles ▪ Dynamic ▪ Unique ▪ Containment between the internal and the external environment	▪ Unique ▪ 'Nice' form ▪ Reflects the true essence of Khartoum
Regional response	▪ Elevations' treatments reflecting an environmental response ▪ local materiality ▪ Shaded elevation	▪ Shaded elevations ▪ Façade treatments that respond to the climate	Local building materials that easily laboured by the local manual labouring
Internal spatial organisation	▪ Good internal spatial organisation		
Response to the location	▪ Maximum utilisation of the location, being a triangular site; by creating various extended views through balconies		
Feelings expressed by participants	▪ Visually pleasant and comfortable	▪ Its dynamism amazes and attracts the passer-by	

II. Kuwaiti towers



Figure 7.5: The Kuwaiti Towers designed by Karplen Architects in the late 1970s. Source: the Author

Table 7.2: Categories of distinctiveness according to participants in Kuwaiti Towers

	Reasons of distinctiveness according to		
Categories of distinctiveness	**Planners**	**Graduate students**	**Public**
Building materials	▪ Local finishing materials and textures ▪ Colours are in harmony with the environment and nature	▪ Earthy colours and local building materials that characterise Khartoum	▪ Local building materials that reflect no exaggeration and that are doable by the local manual labour
Form articulation	▪ A distinct form that reflects unity ▪ Beautiful	▪ Unified architectural patterns ▪ No dissonance ▪ Effective use of structural elements	▪ The uniqueness of the idea of mixed-use functions in one place

	▪ The composition of the four towers as one complex ▪ It is in harmony and well-integrated with the surrounding urban landscape ▪ Well-studied proportions ▪ Details of the Openings ▪ Cafeteria on the side is disturbing the main elevation ▪ The unique corrugated treatment of the balconies ▪ Shopping functions that add social vibrancy to the place ▪ The verticality of the towers is cleverly reduced by the horizontality of balconies. And; ▪ The hugeness of the towers is reduced by the details of openings and balconies' treatments. ▪ The uniqueness of the form appears every time different from different angles	▪ Repetition of the architectural elements created a visually iconic architecture (rhythm)	▪ The four towers are in harmony ▪ They are a true representation of how the architecture of Khartoum should be.
Internal spatial organisation	▪ Unique articulation of the internal spatial environment provided by the courtyards and open- ground floor circulation		
Regional responses	▪ Colours closer to nature	▪ Façade treatment that reflects a climatic response. (shaded elevations) ▪ local building materials	▪ Local building materials

Response to the location	▪ A landmark on the Nile		▪ The essence of the towers lies in their response to the significance of the location
Feelings resulted in participants	▪ Proudness ▪ Reflecting a personal attachment and good memories with the place related to visiting friends who work in the towers		

III. Faisal Islamic Bank



Figure 7.6: Faisal Islamic Bank designed by MMC Consultancy. Source: the Author

Table 7.3: Categories of distinctiveness according to participants in Faisal Islamic Bank

	Reasons of distinctiveness according to		
Categories of distinctiveness	**Planners**	**Graduate students**	**Public**
Materiality	▪ The use of Brick as a local building material		
Form articulation	▪ Harmony ▪ An Islamic style in a contemporary way ▪ It reflects the heritage of the old town of Suakin. ▪ The mix between the contemporary and old architecture ▪ Harmony with the buildings of the University of Khartoum as a clever approach to avoid creating a visual distortion ▪ Transparency of the glazing materials links the exterior with the interior	▪ Reflects an Islamic character through the Lancet Acute arch. ▪ The blending between the Islamic and the contemporary styles through the building materials; brick and glass. ▪ Harmony with the surrounding urban environment.	▪ It reflects a form that is in harmony with modernity while maintaining the historical legacy of the University of Khartoum ▪ A form that is in harmony with nature in terms of cost and maintenance. ▪ The blending between the old and the contemporary styles ▪ A true representation of how the architecture of Khartoum should be.
Particularities of the Location	▪ Being part of the University of Khartoum reflected different perceptions about the success of the design, whether it harmonises with the surrounding or it reflects a mere imitation		
Regional responses	▪ The use of the local building materials		

Feelings resulted in participants	▪ Reminiscing about Islamic architecture or the local architecture of Suakin.	▪ Sarcasm raised about 'Elementalising' the Islamic architecture using one pattern	

It could be argued that the previous tables are the first step to pave the way for the theoretical analysis of participants' discussion on the three buildings. They presented the reasons of distinctiveness which participants assigned to each building and categorised them according to their themes. Interestingly, within each of these categories some sub-categories of distinctiveness were also captured when participants discussed patterns on each category as follows:

I. Form articulation:
- Balance.
- Symmetry.
- Rhythm.
- Visual pleasance (beauty, amazement and attraction).
- Attention to details.

II. Regional and environmental response:
- Local building materials.
- Shade and shadows.

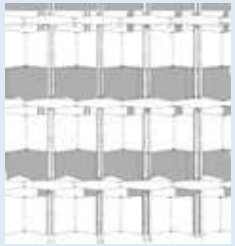
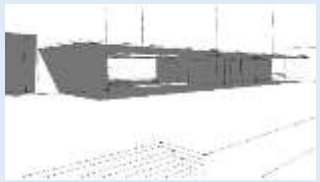
III. Building materials:
- Blending contemporary and old materials.
- Harmony with the surrounding.

IV. Spatial articulation:
- Spatial integration with the surrounding environment.
- Internal spatial organisation.

V. Response to the location:
- Exposing the essence of the place.

Thereafter, participants identified distinctive patterns within those categories as follows (see Table 7.4).

Table 7.4: Classification of distinctive patterns across the categories[54]

	Form articulation	Environmental and regional response	Building materials	Spatial organisation	Response to the location
Distinctive patterns in the three chosen buildings	▪ Building foreground; as a setback that defines the way to the entrance  ▪ Balconies to provide a view as well as an environmental response through shading.  ▪ Arches 	▪ Shaded elevation  ▪ Elevations that reflect a regional response 	▪ linking the interior with the exterior through materiality ▪ Blending the modern with the old through materiality 	▪ Underground parking ▪ effective circulation routes in and out the buildings ▪ Internal Courtyards ▪ Open-ground floors ▪ Shops at ground floor level 	

[54] The use of images in this table is subject to their availability and the possibility to illustrate the pattern in an abstract drawing.

Distinctive patterns from the other nine buildings	▪ The revitalised colonial building that preserves its spirit while maintaining contemporaneity ▪ Simple elevations ▪ Buildings that are open to the environment, transparent boundary fence and greenery.  ▪ Elevations that reflect calmness, continuity and order 	▪ Small and recessed openings 	▪ Calm colours	▪ Building foreground as a public landscaped urban space  ▪ Mixed-use functions which revitalise the surrounding ▪ The unique internal spatial experience ▪ Parking facilities	▪ Buildings that are in harmony with the surrounding  

7.2.2. Returning to the existing distinctive architectural patterns

While the exploration of the place KCC generally from people's experiences resulted in extracting mostly negative patterns (see Section 6.3), this method of identifying reasons of distinctiveness within KCC's architecture provided a more positive discussion. Accordingly, participants were able to uncover the overlooked distinctive patterns that *already* exist in KCC. Moreover, it proved that users of the city can critique their architecture and they are aware of how it could be more tailored to their needs and the peculiarities of the place.

Hence, by discussing the extracted distinctive patterns according to participants, it was noticed that the extraction of patterns by the planners and architectural students was more in a sophisticated and detailed way compared to that of the public who expressed simple architectural patterns that are simple and direct. Yet, this simplicity of expression was still able to convey the qualities that general users of the place feel connected with (see Section 6.3.3). Examples of these are:

- *'Simple and calm elevations';*
- *'Buildings that are in harmony with the surrounding'*; and
- *'Building materials that reflect no exaggeration and are executable by manual labour'*.

Moreover, they extracted patterns that identify their connection with those buildings from the external environment, in other words; transitional patterns and the kind of facilities they look for (see Section 6.3.2). Examples of these are:

- *'Landscaped foregrounds';*
- *'Buildings that are open to the environment';*
- *'Parking'*; and
- *'Mixed-use functions'*

On the contrary, if patterns were to be discussed across the categories, 'form articulation' received the top priority in the discussion, documented by the number of codes recorded during the discussion of each building (see Figure 7.7). In El-Ekhwa Building, the discussion was about the consensus across the majority of participants on the distinctiveness of the unique architectural patterns presented by the dynamic rhythm of the balconies. This dynamism conveys a visual 'richness' which relates to the visual interest and complexity that holds the eye (Carmona et al., 2003). This visual richness distracts, delights and intrigues the passers-by (*ibid*). Osman (2002, p.12) described this architectural style in KCC that appeared during the Modern Paradigm as *"a genuine search for excellence"* because of its characteristics such as:

"*studies of light, form, openings and voids, the layering of a building creating a series of spatial experiences, the linking of outdoor to indoor…are some identifying elements of the style"* (*ibid*).



Figure 7.7: Hierarchical charts for codes coded within the discussion of the three chosen buildings across the five categories of distinctiveness. Source: the Author

As for Faisal Islamic Bank (FIB), and with its location being part of the University of Khartoum site, its 'form articulation' raised a relatively controversial discussion across the groups on whether the architects have succeeded in imitating/creating a building that is in harmony with the University of Khartoum's architecture or not.

Consequently, this has resulted in a debate about the pattern 'Arch' as to whether it is a typical replica of arches of the University (see Figure 7.8) or is it an Islamic arch as aligned to the name of the bank.



Figure 7.8: University of Khartoum's colonial architectural style. Source: Qusai Akoud Photography and the Author

As for 'materiality', it also instigated a lot of discussions based on the number of codes (see Figure 7.7). Participants discussed the type of materiality that reflects the essence of KCC and maintains its historical legacy and how those three buildings successfully achieved that. Interestingly, patterns that relate to *local* materiality reflected a general agreement between all categories of participants. This is essential because materials have a direct role in establishing local distinctiveness (Carmona et al., 2003). Similarly, patterns of 'environmental and regional response' instigated the consensus as participants indicated their strong impact in generating a sense of rootedness. Thus, representative patterns are:

- *'Buildings that are in harmony with the surrounding through materiality';* and:
- *'Sustainable elevations that are in harmony with nature'.*

Yet, 'Building materials' as a category received more discussion in FIB –reflected in the number of codes- compared to the other two buildings (see Figure 7.7). This again is attributed to the sensitivity of the location being within the University of Khartoum site. Nevertheless, it could be reiterated that the 'regional and

environmental response' category can be highlighted as the most important category that these buildings excellently represented and from it emerge patterns that satisfy this response visually, functionally, environmentally and aesthetically. Participants emphasised that; if, as a quality, it has been achieved successfully in the architecture of Khartoum, buildings will be more attached to people; visually, psychologically and experientially. These qualities included patterns such as (see Section 6.3.3)*:*

- *'Shaded elevations';*
- *'Elevations that reflect a regional response';* and:
- *'Buildings that are in harmony with nature'.*

Additionally, participants showed a strong connection to patterns that enrich their experiential quality of the built environment. Examples of these patterns are (see Section 6.3.2):

- *'Mixed-use functions',*
- *'Open-ground floors';* and
- *'Shops at ground floor level'.*

Revealing these distinctive patterns indicates that some representative buildings of KCC express unique qualities that *already* exist in KCC, but their distinctiveness is not being well-acknowledged. Architects conceived them with a sense of celebration and reminiscence more than actually being inspired by them in their designs. Within this, the engagement with the place's users to extract these distinctive patterns allowed the present researcher to expose those existing *overlooked* institutional architectural qualities which they feel attached to, either experientially, visually or psychologically. Consequently, this could provide architects with great knowledge that possibly will help them in their future designs.

The intrinsic results from this method could be utilised to confront the issue of the architectural identity (see Section 4.5) and move away from its complex cultural debates. This is especially logical with institutional contexts where the expressive symbolism of the architecture is more towards a developmental or ideological identity. Hence, by returning to Table 7.4, and carefully rethink the distinctive patterns that deliver unique qualities in institutional architecture in KCC, one could notice that the exposed distinctive patterns and their categorisation are mainly relating to three main theoretical domains that surprisingly, disregarded the cultural expression. These domains are the visual and psychological appeal, response to weather conditions, vibrancy and integration with the surrounding environment (see Figure 7.9).

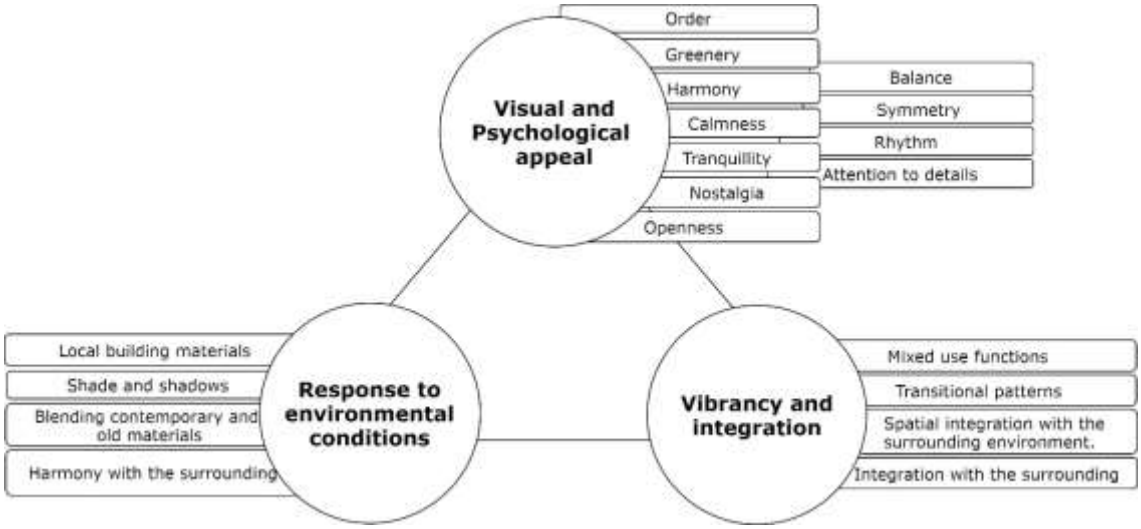


Figure 7.9: The refined categorisation of the exposed distinctive patterns and qualifications in Table 7.4in three main theoretical domains. Source: the Author

I. Visual and psychological appeal:

Patterns that represented this quality directly generated psychological interpretations such as feelings of calmness, tranquillity and nostalgia. This is emphasised by both Cullen (1961) and Jarvis (1980) in that the perceived visual experience of the built environment has a direct influence on people's sense of a particular place and in making them feel, for example, safe and at ease. Nasar (1990) agrees with this and strongly emphasises that city form and appearance must satisfy the broader public who experiences it. Participants expressed that their visual satisfaction resulted from qualities such as balance, symmetry, rhythm and attention to details that result in more ordered and visually coherent built environments. Gestalt theory emphasises this from a psychological point of view and confirms that aesthetic order and coherence of the built environment are conceived when certain principles of organisation and visual coherence are applied (Meiss, 2013). However, in the case of KCC, harmony was significantly emphasised by the participants as a highly needed quality in KCC due to the existing colonial fabric. Nonetheless, KCC as a place could still be considered as in a *transitional* period and in the early beginnings of its architectural development.

Hence, in order to achieve this visual appeal and its consequent psychological relief, a rootedness quality seems to be missing. Interestingly, Norberg-Schulz (2000) argues that this rootedness quality was the intrinsic need which was felt quite early during the development of Modern architecture. He proposes that this rootedness quality can be achieved either through local materials -which Le Corbusier emphasises that they do not preclude modern aesthetics- or through organising the

composition in relation to the landscape. Participants sensed this quality and consequently, they emphasised that a *transitional architectural style* should be adopted as a style suitable for this transitional period in the architecture of KCC. This style is proposed to combine the sense of the old; mostly through the use of local materials and environmental response, with the sense of modernity mostly through the articulation of form, the articulation of the spatial patterns and the contemporary materiality (Graduate students, F.G.5, 2017). Hence, from the pictures presented to participants (see Figure 7.1), participants discussed two buildings in this style: namely the Football Academy (FA) and Faisal Islamic Bank (FIB). In the earlier, the architect applied brick as an external layer and as *'elevation that is open to the environment'* pattern. The fact that it is built from brick and the building is low- rise gave the impression of local architecture. At the same time, the openness of the brick-layer and the articulation of the second internal layer in wide glazed openings gave the sense of modernity. Similarly, FIB was identified as a transitional style that blended both old materials (brick) with contemporary ones (glass) and provided harmony with the surrounding urban context (see Figure 7.10).

With this style endowing meanings to the place, it is hence at the heart of Post-Modern Movement. Accordingly, it can adopt the name Neo-Vernacular style which Jencks (2002) described as the return to a "kind of" vernacular that is neither straight revivalist nor accurate reproduction but a hybrid between Modern and 19th-century brick. He maintains that it was applied as a *safe* style that adopts brick mainly because *"Brick is humanist"* (Jencks, 2002, p.67). Hence, it is a style that remains acceptable and is a good style to fall back on when there are no other directions or in uncertain areas (*ibid*). Hence, participants' trials to find a style that suits KCC, resulted in proposing a *safe* style that maintains both the sense of modernity and rootedness from vernacular local architecture. Through these two, the psychological relief and consequently the visual appeal when passing through KCC could effectively be achieved. Pallasmaa (2007, p.130) supports this and contends that*: "clearly our identity, and mental well-being, cannot be supported by a universally standardized and abstracted environment".* Rather, this research emphasised that they can be supported with an environment that is more rooted in the place as emphasised through the revealing of the distinctive patterns.



Figure 7.10: A transitional style interpreted by the participants in the Football Academy building (left) designed by Haider A.Ali and Faisal Islamic Bank (right) designed by MMC Consultancy
Sources: H.A.Ali Architects and the Author.

II. Response to environmental conditions

This is a relatively wide domain that includes all the scales of patterns (architectural, urban, transitional and spatial). Users of any place will inevitably search for urban, and transitional patterns or qualities that provide them with protection from the sun and interim relaxation during their hot days (using elements such as green areas, urban shading devices, arcades, etc.). Similarly, architectural patterns that reflect environmental solutions and responses to climatic conditions such as *'elevations that reflect an environmental response', 'shaded elevations'* and *'elevations with small openings'* were repeatedly identified by the research participants as distinctive patterns. This is because utilising such patterns which provide unique incidents of shade and shadow on a facade gives a sense of visual depth that can dramatically alter the perception about the architecture from negative to positive (Carmona et al., 2003).

Norberg-Schulz (2000) highlights that in any modern institutional architecture there should be a consideration to a certain level of respect for the surrounding environment that should act as the basic common understanding between architects. He proposes that this can only be achieved through an ""*environmental awareness" which comprises the archetypal structures of our being in the world as well as the particular genius loci"* (*ibid,* p.72). By comprehending the particular *genius loci*, the peculiarities of the place such as the climate and the natural landscape can be grasped, which then could help in forming a common understanding of designing architectural patterns that respond to those peculiarities.

III. Vibrancy and integration

This domain includes patterns that link the building with its direct surrounding context and make it integrated i.e. transitional patterns. It is the kind of quality that provides places for people to interact with the building, experience it and meet other people; examples of these patterns include *'open spaces', 'foregrounds', 'arcades'* and *'shops at ground floor level'.* Inevitably, transitional patterns are both urban and architectural; urban because they are the point at which users of the place interact with the building and architectural because they are primarily being designed as part of the buildings. Hence, the name transitional as an in-between the two patterns. Accordingly, this domain emphasises the importance of ground floor facades in that they provide an important link between buildings, urban spaces and people. Thus, those facades are part of the public space (Gehl et al., 2006). Consequently, the public space and the buildings should be treated as a whole, and that the ground floor facades must have a special and welcoming design. Carmona et al. (2003, p.148) label this as the 'urban' architecture and define it as an architecture that *"responds to and contributes positively to its context and to the physical definition of the public realm".*

Nevertheless, there is a substantial absence of this quality in KCC's contemporary architecture, the sense of isolation through *'boundary walls'* has blocked any potentials for a more vibrant environment through more integrated buildings. Moreover, Gehl et al. (2006, p.34) explain that the new functions and buildings of the contemporary developments are larger and require rational prefabricated construction that *"further reinforces the large-scale operations and large formats, as do glassy 'less is more' facades. Points of exchange, functional variety and intense sensory experiences have become few and far between".*

Hence, the absence of this quality in KCC's contemporary institutional architecture contributes to the negative experience of the place. As Gehl et al. (2006, p.34) emphasise: *"If the ground floors are interesting and varied, the urban environment is inviting and enriching. If the ground floors are closed or lacking in detail, the urban experience is correspondingly flat and impersonal".* Despite the scarcity of this quality in KCC's contemporary architecture, participants perceived the few existing in Gamhoria Street (see Figure 6.11) and colonial buildings (see Figure 6.12) as the essence of KCC and emphasised that such patterns are key to nurture the essence of the contemporary architecture of KCC.

From the results of both the interviews and the focus groups, it was possible to map the three domains of architectural distinctiveness in the studied part of KCC, combine them and read them along with the key public spaces and the unique categories of

the *genius loci* of the place (see Section 6.2.1). Interestingly, this combined mapping allowed to grasp their spatial distribution in the place and how they are linked to each other (see Figure 7.11). Through this assessment, the planners, architects and urban designers can study the role of the existing architectural patterns in the overall placemaking which could inform their future design and planning decisions.

Inevitably, by paying attention to these three domains, it is possible to generate a sense of a more rooted architecture that is tailored to its place, which could be considered as a start for a confrontation and simplification of the issue of identity, especially with institutional architecture.



Figure 7.11: Mapping the three domains of distinctiveness in KCC. Source: www.googlemaps.com Edited by: the Author

7.2.3. Participatory evaluation of the extracted local pattern language

The identification of these three theoretical domains with participants as users of the place has thus emphasised the benefit of the participatory role in revealing the unique patterns within their built environments. Moreover, the concept that local pattern language of any place can give an interpretation about the place and its architecture allows planners, architects and decision-makers to collectively rethink the image of the city through analysing and evaluating the extracted patterns and through patterns' priorities according to the users of the place. For sure, extracted institutional architectural patterns of civic centres will differ from those architectural patterns in residential neighbourhoods, however, the concept is the same which depends on working collectively with users of the place to extract the existing patterns and provide their interpretations on each pattern.

Similarly, Alexander (2002,p. 260) proposes working with people of the place to form and decide on proposing a collective vision for their new neighbourhoods. Alexander believes that this is the way to achieve a true belonging in a place and explains *"people must share a vision of the place where they belong ….This vision goes beneath the surface, expresses not only the obvious practical matters that people easily agree on but expresses, too, ….the environment which people want around them"* (*ibid,* p.260). Accordingly, the special character of each community is created and can only be described from the inside. Alexander, thus names this as the *"unfolding process"* and asserts that it is a special vision that is informed by people's culture and ways of living; thus, it is not a typical one that is based on professional wisdom by architects and planners (*ibid*, p.282) This vision is thus a participatory process that is essential to reveal then solve the issues in the local contexts by its own people.

Park and Newman (2017) adopted this similar concept of a participatory process to discuss patterns and assert that: *"to solve issues in a local context, a participatory process should be integrated"*. However, they introduced Network Analysis (NA) as a method to locate complicated links between patterns by community members. Hence, they provided a quantitative methodological approach that helps in measuring interconnections between patterns (both existing and newly identified) to inform future design decisions as they believe that the original theory was comprehensive but descriptive and qualitative. While this NA tool resulted in identifying the primary contributing patterns that are to be considered as the priorities for future physical reconfigurations, the method is slightly complicated.

Notably, both these prepositions are for the creation of new places. Yet, Alexander (2002) moves on to propose what he calls *"a vision of a living world"* where he suggests a step-by-step process to revitalise existing places. He pays considerable attention to rethink the urban spatial organisation and its relation to the building. Moreover, he emphasises the role of the uniqueness of ornamentation and the special way of construction in reflecting the architectural character of the place. Yet, surprisingly, he again, and similar to the original Pattern Language, did not pay attention to the architectural form patterns to reflect the external character of the architecture but relies on the ornamental patterns. Nevertheless, Alexander's proposal for the vision of a living world was noted earlier by (Bechtel, 1977) and Heimsath (1977) who emphasised that the analysis of the existing patterns in a place should help to nurture a greater synthesis between the design and research of buildings that are in use (see 5.5.4). Inevitably, this is what this research is aiming to achieve; to create a theoretical tool that helps in analysing and interpreting existing place's local pattern language in order to inform the future designs of patterns in that specific place -here KCC.

In comparison, both the interpretive pattern language tool -as used in this research- and Park's and Newman's NA are tools that can be used to define the primary patterns according to users of the place/building. Yet, the former is qualitative, and the latter is quantitative. Accordingly, the limitation of the former is the subjectivity that is being sensed with participants' interpretations of patterns; for example: being inclined to certain patterns as opposed to other patterns based on their experiences, memories and personal meanings. On the other hand, the limitation of the latter is that it is only focusing on the placemaking design process and does not generate meanings or memories that are special to certain patterns. Hence, the proposed interpretive pattern tool in this research is more comprehensive and richer in its findings since the emerging memories and meanings provide another layer for interpreting the place and its architecture.

Within this, Schuler (2014) suggests that the Pattern Language theory can be applied in various disciplines and domains -not only the built environment- that could serve as a much broader and influential function than it currently does. His suggestion is also based on participatory collaboration with people to develop pattern languages that can be a base for addressing complex problems, by supporting direct and indirect distributed collective action with more flexibility and respect for the local context. As an example of this, Schuler worked with his students in what he called: 'Liberating Voices pattern' as design workshops to uncover the revolution of communication and the media. Within this, participants were given cards with a pattern on it and they

were then free to change the title of a pattern when they felt it suited their needs better, or they can use the title but change the narrative of the pattern while keeping the essence of the pattern intact. Schuler (2014, p.5) then names what results from these discussions as the 'Meta Pattern Languages' which he defines as *"pattern language whose domain is pattern languages. In theory, this pattern language could be used to help design workshops, construct sub-languages using existing and new patterns, and manage ongoing pattern-based projects".*

The present research, on the other hand, applies the interpretive pattern Language tool in the existing built environments and maintains that applying it to a specific place generates place-specific meanings that are unique to it. These meanings could not be exposed without the support of the local people through their experience in that place; hence working with them collectively in focus groups sessions adds significant insights to the emerging local pattern language. The latter thus does not only comprise patterns but also people's interpretations, attitudes towards and memories about these patterns. This local pattern language is analogous to the *"Meta pattern language"* coined by Schuler who asserts: *"a Meta -pattern language approach can be seen as a way to help generate knowledge, ideas, insights, and inquiries as well as a way to represent knowledge"* (ibid, p.6).

7.2.4. Revisiting Alexander's patterns

Following this collective evaluation of patterns which highlighted the gaps within the built environment of KCC and revealed the existing distinctive qualities, Alexander's patterns could be revisited and patterns that would fill in those gaps could be selected and combined with those already existing distinctive patterns. Ideally, this could boost the realisation of the *'quality without a name'* (Alexander, 1979, p.7). Hence here the role of the original theory as a design tool returns (see Figure 6.17). It is suggested that planners and architects, after interpreting their built environment and architecture into patterns using the interpretive pattern language tool and collectively evaluate them with users of the place, could revisit the theory and select patterns that were found absent or need improvement in the studied place. Although this selection process was not discussed with the research participants as part of the questions, they unwittingly mentioned patterns that are expected to fill in the missing gaps in KCC's local pattern language. Consequently, those patterns were matched from the original Pattern Language and examples of them –according to their original sequence- are as follows:

A. In the scale of the region:

30. Activity Nodes.
32. Shopping street.
33. Nightlife.
51. Green streets.
60. Accessible green.
61. Small public squares.
69. A public outdoor room.
88. Street café.

B. In the scale of the Building:

95. Building complex.
98. Circulation realms.
100. Pedestrian Street.
103. Small parking lots.
106. Positive outdoor space.
108. Connected buildings.
110. Main entrance.
112. Entrance transition.
114. Hierarchy of open space.
115. Courtyards which live.
118- Roof Garden.
119. Arcades.
122. Building fronts.
124. Activity pockets.
128- Indoor sunlight.
160. Building edge.
163- Outdoor room.
165. Opening to the street.
166. Gallery surround.
167. Six-Foot balcony.
168. Connection to the earth.
171. Tree places.
191. The shape of indoor space.

C. In the Scale of the Construction:

207. Good materials.
250. Warm colours.

Inevitably, through this implementation of the proposed interpretive pattern language tool, place and architecture are comprehensively studied and analysed, not only from the experts' perspective but also the users' of the place. The impact of this is to inform the design decisions of future patterns that are to be added in the place and be more tailored to it. Nevertheless, this implementation highlights the gap in the Pattern Language theory in presuming that any new design is to follow the Pattern Language and the sequence of its patterns, yet the interpretation of KCC here emphasised that not all designers tend to follow the theory, thus, the Pattern Langage is too idealistic and that the interpretive tool reveals the problems of existing places and paves the way for their solution.

The next section, however, utilises the extracted local pattern language of KCC to provide answers to the third angle of the research; identity.

7.3 A relationship between identity and patterns

This section explores the relationship between the extracted local pattern language and identity. The return to the issue of identity in this chapter is because –as identified in Section 4.2.9- it came to the fore as an important issue to interpret when exploring the architecture of KCC as a postcolonial context. Thus, the interpretation here is in *patterns* as a way to theoretically advance the exploration of the place and identify the link between both identity and patterns.

In this regard, Salama (2012, p.177) argues that: *"identity can be understood as the collective aspect of the set of characteristics by which an object or a portion of the built environment is definitively recognizable".* It has three underlying qualities: permanence, recognition and distinction that determine the presence of identity in that physical object or a work of architecture or a portion of the built environment (*ibid*). This portion of the built environment is thus a *place*; hence patterns observed in this place include architectural, urban as well as transitional ones. Evidently, the extraction of these patterns as the local pattern language of that place, their classification into architectural, urban, transitional and spatial and the consequent evaluation of these patterns by users of the place have generated cultural, social and experiential meanings, perceptions and memories. Interestingly, by combining the extracted local patterns with:

- Meanings associated to the patterns
- Memories
- People's cultural and social backgrounds
- Climate and natural characteristics
- Peculiarities of the place (see Figure 7.12),

an indication about the local architectural identity (in case of the architectural and transitional patterns) (see Figure 7.14) and the place's identity or the *genius loci* (in case of all patterns combined) can be obtained (see Figure 7.13). Relph (1976b, p.56).emphasises this and argues that: *"although it is possible to gain considerable insights into the nature of the identity of places by considering its main components, it is nonetheless clear that identity is not a product of such components alone, but is socially constructed".*

Hence, Relph, too, is stressing the emerging meanings of the experienced place, which depends on the social and cultural backgrounds of its different users. These meanings inevitably impact their perception about the patterns of the place and

influence their attitudes towards them. Moreover, this is determined by people's regularity of the experience of the place whether a daily experience, an occasional one, a passing-by one or one that is conveyed through generations. All these together play important roles in interpreting the place's identity and consequently interpreting the patterns that represent this place. Hence, *"identity should not only stem from merely physical images of a place but from the actual experience of that place"* (Graduate students, F.G.5, 2017). Through this experience, inevitably, the mental image that participants have for this place develops. Boulding et al. (1956) define it as the mental image that is the product of experiences, attitudes, memories and immediate sensations. Relph (1976b) explains those images as not just abstractions of an objective reality but as an intentional interpretation of what exists or what is believed to be.

In order to situate these patterns of place to a broader body of literature, Cheshmehzangi (2012) scrutinises the various adopted definitions to the term 'place identity' or 'urban identity'. He emphasises that it is a dynamic term that different names such as 'placeness', 'character of a place', 'image of a place', 'sense of place', 'spirituality of place' and *'genius loci'* relate to. Therefore, the role of the place's local patterns, *combined*, help in expressing almost all these meanings. However, with the absence of urban patterns in KCC, which represents the intrinsic quality for any place, those meanings and especially 'place identity' were perceived, in most of the cases, as negative. Therefore, from now on, the exploration of the identity-patterns relation in this research will focus on the architecture

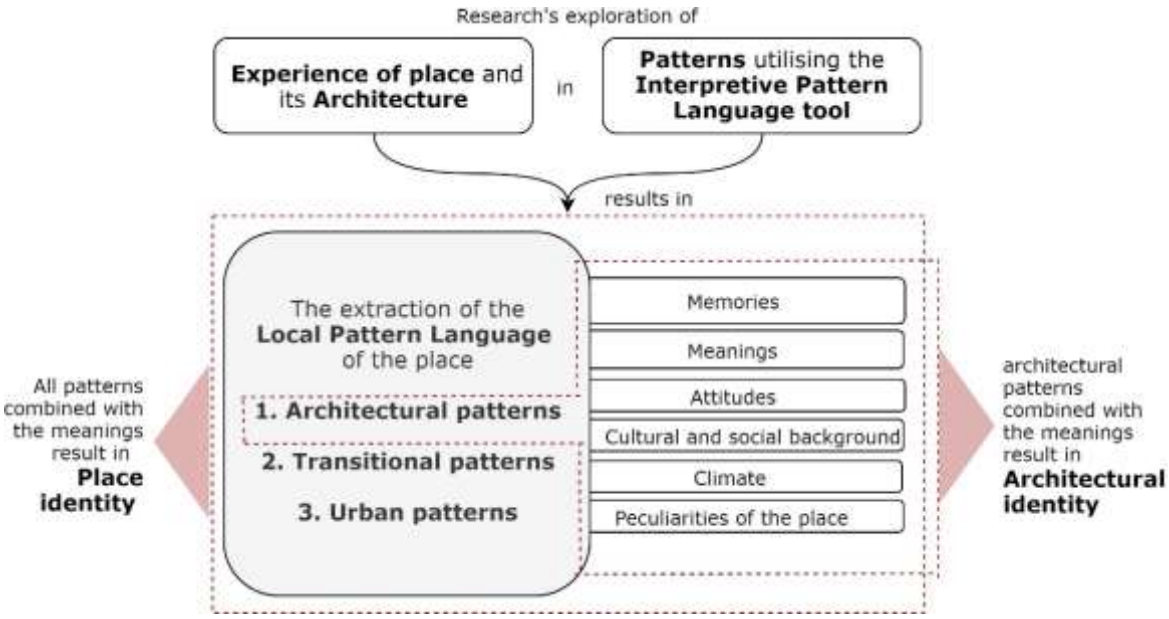


Figure 7.12: A diagram summarising the relationship between patterns and the factors that are linked to them in defining both place and architectural identity Source: the Author

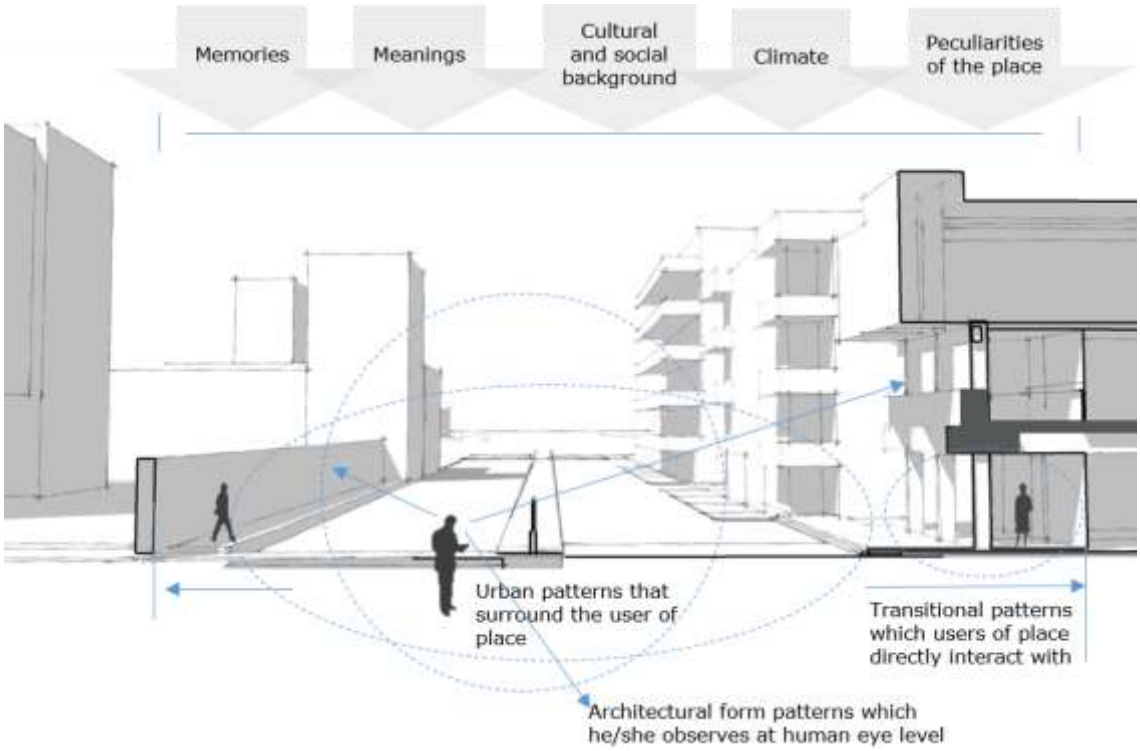


Figure 7.13: Place identity or *'genius loci'* interpreted into patterns. Source: the Author

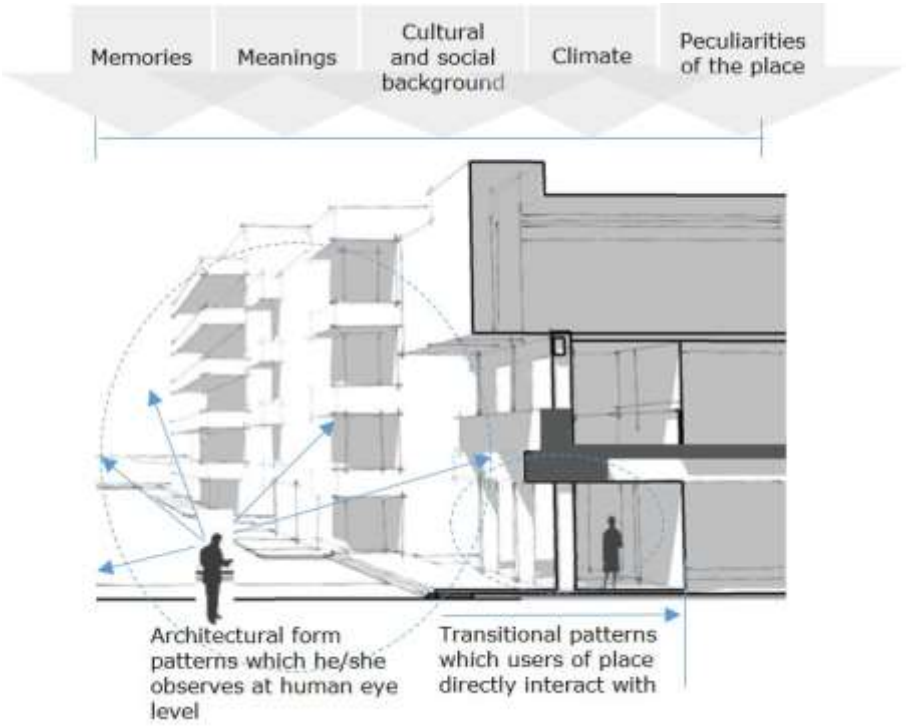


Figure 7.14: Architectural identity in institutional architecture.interpreted into patterns. Source: the Author.

Moreover, another reason to focus on the architectural patterns emerges as a consequence of the importance of the place's symbolic nature as the city centre of *postcolonial* Khartoum with a predominant presence of institutional architecture. However, the reality is that architectural practices in Khartoum do not demonstrate serious dialogues or discourses to discuss architectural identity. Thus, the result is a lack of inclusive contemporary projects that aspire for a rooted architectural identity.

Yet, architecture is not only about the external image. It includes the internal spatial patterns, transitional patterns and external form patterns that are all influenced by cultural and social meanings, environmental conditions and economic factors (see Figure 7.14). These patterns convey together the architectural identity of their place; which is similar to what Boussaa (2002, p.59) argues: *"identity is not only expressed by the exterior of buildings; this should also be expressed in the internal layout and arrangements, which should be responsive to social, cultural economic and environmental conditions".*

However, it is important to note that the approach of exploring these architectural patterns in relation to identity does not mean Jarvis's (1980) "visual-artistic approach" for exploring the built environment, which depends mainly on the visual quality and the aesthetic experience of the place as opposed to other factors that contribute to the success of places such as: cultural, social, economic, political and spatial factors (Carmona et al., 2003, Dempsey, 2008). Also, it does not mean "social usage tradition" that only encompasses issues of perceptions and sense of place (Jarvis, 1980). Rather, it lies in-between those two approaches and is based mainly on the experience of what a user of the place experiences then interprets those patterns when walking, passing by or working in that place.

Hence, this architectural experiential external exploration is more likely to exclude the internal patterns and focuses more on the external architectural form patterns and transitional patterns. Within this exploration, cultural, social, political and personal interpretations, meanings and memories also emerge as the common-sense part of any place experience but they will be mentioned in a way that facilitates interpreting the emerging patterns and the consequent architectural identity (see Figure 7.14). This coincides with Salama (2005, p.77) who states: *"identity goes beyond the visual appearance of the built environment and involves meanings of those built environments to the people who created them and to the people who occupied them".* Those meanings and the built environment are unconsciously linked together in peoples' minds as Pallasmaa (2007, p.130) argues: *"we do not live in separate physical and mental worlds. The two realms are totally fused and*

consequently, the organization of our physical world is a projection of the mental one and vice versa".

7.3.1 Institutional architectural identity and culture

Notably, findings of both interviews and focus groups emphasised cultural meanings as the point of conflict within the representation of Sudanese architecture. This has consequently emphasised that the complexity of the Sudanese architectural identity is about the cultural debate. Research participants attributed this to the fact that Sudan is a vast country with various unique cultures and their different architectural symbolic representations. While noting that KCC is predominantly institutional buildings, this cultural debate, is not likely to be physically present in institutional civic places such as KCC. Pallasmaa (2007, p.131)explains that the manifestation of culture in such places should be sensed through the experience:

> *Culture is not composed of elements which can be disassembled and re-composed: culture has to be lived. Cultures mature and sediment slowly as they become fused into the context and continuity of tradition. Culture is an entity of facts and beliefs, history and present material realities and mental conditions. It proceeds unconsciously and cannot be manipulated from outside".* (*ibid*, p.131)

Thus, Agnew et al. (1984, p.55) emphasise that if the role of culture was ignored altogether, *"city-building and urbanization will continue to suffer from premature closure and incompleteness".* Hence, it is safer to argue that culture in civic centres is more implicitly embodied in people's beliefs, behaviours, traditions and patterns of activities and that expressing culture in the external patterns of institutional architecture will always remain debatable. Hence, an important theoretical argument to be stressed here is that: *Is it necessary to express culture in the external architectural form patterns of institutional buildings?* By believing that it is important, endeavours to reclaim the local identity were adopted by few architects in Khartoum (see Section 4.4.2).

Within this, the cultural debate on identity remains the most complex part, especially, in institutional architecture. Hence why the question of whether architecture should express a cultural identity is being investigated by many researchers in the context of the international process of economic and cultural globalisation (Mahgoub, 2007a). In this regard, Mahgoub (2007b) recommends that: *"when searching for cultural identity, one should expect to find several overlapping identities. In sum, a more*

open-ended approach is required when studying cultural identities that stresses the hybrid and hyper nature of cultural identity; a hyper-identity". This hyper-identity is continuously changing and not static as how Boussaa (2002, p.59) stressed: *"identity cannot, however, be fossilized as a set of styles but should rather be as a dynamic process like life itself".* Nevertheless, these various cultural identities in Khartoum are not being thought of in an open-ended approach, yet, the findings emphasised that they are a main point of dispute. In a way, this contributes to the complexity of the issue of architectural identity in KCC and consequently results in the negative place experience reflected in participants' perception of the KCC as being visually *chaotic.* Thus, through patterns, a possible way to confront the ambiguity and complexity of the issue of identity and to think about it in an open-ended approach and a more objective way was made possible.

7.3.2 Confronting the complexity and ambiguity of Sudanese architectural identity through patterns

While the ambiguity of the architectural identity has been highlighted in the early stages of this research (see Section 4.5), it has been emphasised again when identity was explored with patterns. Representative quotes of these are: *"the question of identity cannot be answered in a definite way"* (Senior planners, F.G.1, 2017), *"identity is something elastic and very huge"* (*ibid*) and *"I kind of reached a response to ignore identity because there is no such a thing"* (Graduate students, F.G.5, 2017).

On one hand, the elasticity, and fluidity of the topic is a fact, yet, the fact that it is a Sudanese identity adds to its complexity. While Khalil (n.d), Khalil (2017) points out that identifying and characterising the Sudanese identity as components and elements is possible to a large extent, considering that Sudanese identity has an individual origin and affiliation is not possible. This is due to Sudan being a culturally diverse region that witnessed different historical events throughout history (see Section 1.2.2). Moreover, its location in the middle of Africa between the northern more Arabic countries and the southern more African countries plays a significant role in that diversity. Therefore, Salih (2017) believes that the debate about identity should be overcome by accepting the Sudanese cultural diversity and richness and discuss how to manage and represent it. He argues that the conflict of identity is not the problem of the Sudanese lay people in their daily lives, it is an issue that has been manipulated by the political situation in the country for a long time. An example of this is the approaches adopted by the Islamic National Front government (1989-2019) in dealing with different cultures by dividing the different regions of Sudan

ethnically and tribally. [55] This has been since the late 1980s and thus it has negatively impacted the sense of belonging to a unified Sudanese identity.

Thus, the question of Sudanese identity is being presented as a point of conflict rather than a unifying force or instigator of a sense of belonging. Findings of this research emphasised this and a representative quote of this is: *"in my opinion, identity itself is a big conflict. It is always changing, not static and does not have a definition. Moreover, if we try to define the Sudanese identity we will enter into a great debate"* (Junior planners, F.G.3, 2017). This negative presentation of the issue of Sudanese identity is thus impacting the architecture, for example, senior planners showed uncertainty about the suitable cultural representations on the Sudanese architecture to convey a certain identity. A senior planner emphasised: *"we still do not know what is Sudanese Identity? Are we Arab, African, Islamic …...? Do you want to make the identity as a unified style for the whole architecture of Khartoum? This is impossible"* (F.G.1, 2017).

However, on one hand, solving this problem by eclectically choosing one cultural symbolic pattern to represent a certain identity and to elementalise it in one pattern is an oppression to the identity. While the endeavours of this approach might be considered as eclectic, they are essentially, a response to the international increased momentum on answering the pressing cultural and social problems generated by the application of modern architectural principles during the second half of the twentieth century (Mahgoub, 2007a). However, these efforts are still individualistic, as the other efforts of imposing new identities to enforce certain political ideologies are dominating. Within these two, in KCC the international globalised identity is gaining the momentum and popularity as being promoted by the government as well as by the consumerist and capitalist developers. In addition to this, in KCC, appears the colonial debate and the agreement or disagreement to maintain the colonial identity and revitalise it in contemporary architecture.

Therefore, and similar to Salih's (2017) argument on the necessity to overcome the debate on the Sudanese identity, it could be argued that in a culturally diverse context like Sudan and in this case, Khartoum, one could consider that this diversity is a rich resource that legitimises the *plurality* of the architectural form patterns to be present in the urban scene. Hence, there arises the question of the need to strictly specifying certain patterns to achieve architectural identity; Is *assigning certain patterns to represent identity necessary Or should the issue be ignored altogether?*

[55] The most important evidence here is dividing the country in the Norther Muslim/Arabic Sudan and the Southern Non-Muslim Sudan in 2005

Similarly, Zarzar (2008, p.61) questioned this especially in today's globalised world asking: "*Is it possible to produce places/buildings that embody the idea of identity in a world of globalisation?".* The answer to these questions came within the extraction of KCC's distinctive patterns and the subsequent participatory evaluation of those patterns (see Sections 6.3 and 7.2.3) which revealed the three main theoretical domains of distinctiveness that users of the place aspire to in their built environment (see Figure 7.9). Interestingly, it shifted from any complex cultural debates on identity and revolved around physical qualities of the built environment that result in patterns that concretise the place through integrating the building with its surroundings, respond to the local weather conditions and achieve the visual appeal.

Thus, in such contexts, the focus of the architectural patterns should shift to an architecture that *concretises the place* and avoid falling into the cultural-identity conflict, at least in the built environment. This is because eventually, the quality of the architecture, the experience it provides and its impact on an institutional place should take priority over the cultural expression debate of the architectural patterns and that in the future, the cultural expression could be nurtured through urban projects (Saleh, 2001).

Enhancing or regenerating?

In order to empirically and theoretically analyse the above findings and triangulate them with findings from the interviews about the identified approaches of achieving the architectural identity in Khartoum (see Section 4.4), patterns within these approaches were extracted. Nevertheless, it is important to bear in mind that the analysis of the patterns of these approaches takes into account that these patterns are of institutional architecture. However, it was noticeable that not all of these approaches exist in KCC as 'Imposing new identities' and 'Islamising the architectural identity' were the dominating approaches. The 'reclaiming the local' approach was evidently absent from KCC as it was mainly adopted by individual architects in private projects. Therefore, it was interesting to overlap these approaches together and explore them within the place KCC.

This has thereafter facilitated a more objective interpretation of the identity of KCC and discussed the various perceptions of enhancing or regenerating it. Firstly, patterns within each approach are listed as follow:

I. Imposing new identities approach: the extracted patterns within this approach are (see Section 4.4.1):
   - *'Cold colours (Blue and grey governmental buildings)'*
   - *'Buildings with expensive materials (cladding)/ shiny colours'*
   - *'Landmark monumental buildings'*
   - *'Isolated glass elevations'*
   - *'Contemporary buildings with 100 per cent coverage'*
   - *'Overwhelming buildings'*
   - *'Solid east and west elevations'***
   - *'Minimum connection to the earth'**
   - *'Eclectic Unjustified architectural features to enforce beautification'*
   - *'Imported architecture'*

II. Reclaiming the local approach: the utilised patterns are inspired by the local traditional residential architecture (see Section 4.4.2).as follows:
   - *'Rectangular forms'*
   - *'Low rise heights'*
   - *'Local building materials'*
   - *'Earthly colours'.*
   - *'Well-ventilated elevations (through verandas, recesses and openings)'*
   - *'Shaded elevations (through verandas and recesses)'*
   - *'Small openings'*
   - *'Landscaping well integrated with the building'*
   - *'Outdoor spaces well linked to the surrounding urban context'*
   - *'Symbolic elements'***,** such as Nubian triangular ornaments, Nubian arch, colonial columns and Mashrabia.
   - *'Arches'*: through arches that are copied from different parts around Sudan such as the symbolic Nubian arches, from colonial architecture or from Islamic architecture.

III. Islamising the Sudanese identity: This is the approach that adopts elementalising the architectural identity in one or two patterns (see Section 4.4.3). Extracted patterns are:
   - *'Buildings with 'Islamic' features'*
   - *'Imported architecture'*

The participatory evaluation –as an important part of the utilisation of the interpretive pattern language tool- of the extracted patterns in this discussion was core to the analysis of the results. In an emerging context like KCC, one should question whether

to regenerate a totally new identity that suites the internationalisation movement and consequently the typical image of new emerging centres or to enhance and rehabilitate the existing identity. The latter calls for harmony between the existing historical layers and contemporary architecture. With the extracted patterns in hand, participants were able to rethink carefully the current architectural identity situation in KCC and give constructive answers on whether to regenerate or enhance it based on the patterns.

As for the first voices that supported the need for a new identity rather than enhancing the existing one, participants described that enhancing it will be like eclectically cutting and pasting patterns. One participant argued:

> *For me, the answer is that in Sudan we still have the opportunity to modify our architectural identity……We have this opportunity because KCC still has ground floors*[56] *that people can improve. Therefore, my approach to identity is to create a new identity that is based on examining the current situation. I am against bringing the current situation and pasting on it which will confuse us more* (Senior Planners, F.G.1, 2017).

Nevertheless, generating new identity in some parts of KCC is vital. Planners noted that the area to the south-west of KCC is more dilapidated.[57] The majority of the plots in this area are dominated by freehold ownerships as they are being inherited and subdivided through generations. Consequently, buildings are dilapidated and sometimes abandoned. With the lack of supervision and looseness of the building regulations, those owners are not forced to build if the plot is vacant or rehabilitate an existing building. So, patterns observed in this area reflected this uncontrolled situation such as *'subdivided main elevation in various elevations'* both horizontally and vertically. Thus, planners considered that the general character of this part of the centre distorts the image of KCC as a whole (Senior Planners, F.G.1, 2017).

On the other hand, voices that supported enhancing the existing identity of KCC through patterns collectively highlighted that urban and transitional patterns should take priority in a negative built environment like KCC. This coincides with Gehl et.al's (2006) argument of the importance of the close encounters with buildings; namely here: the urban and transitional patterns around buildings as they are more visually

[56] Here participant is referring to the *'incomplete buildings'* and *'vacant plots'* patterns.
[57] In 1976 the classification of this area. was changed from residential cum administrative into commercial. Thus any landowner could change the classification of his plot after paying a fee called Tahseen (i.e. upgrading). (Ministry of Physical Planning, Khartoum State).

and experientially observed for people who are experiencing the place (see Section 6.4).

Thereafter, the proposition of the enhancement of the architectural identity through the architectural patterns came as the second priority. Interestingly, participants proposed that focusing on patterns of building materials, colours and heights could be a promising start to enhance the existing identity. Unexpectedly, participants from the general public were the ones who proposed this proposition, claiming that by unifying only these patterns, aesthetical qualities could be achieved and that could be towards a more *'inclusive identity'.* In a way this proposal is logical and in essence, it is concerned with the visual appeal quality of the patterns (see Section 7.2.2) and their consequent psychological effects and for that being proposed by the public emphasises these qualities as being the simple requirements of any built environment. These aspects of enhancement are evidently more rewarding especially in a hybrid place like KCC in which distinct architecture that must not be wiped out by generating a totally new identity. Hence, the goal should be to rather unify what is currently existing (General Public, F.G.6, 2017).

Notably, a similar proposed approach for enhancing KCC's identity suggested adopting the concept of locality through applying patterns from local architecture to achieve a local architectural identity in KCC. Inevitably, within local architecture, there are some unique architectural form patterns that respond to the place such as *'the use of local building materials', 'verandas', 'recessed elevations'* and *'buildings with small openings'.* While these are commonly agreed upon patterns to achieve local Sudanese architectural character, they are, in essence, intrinsic unique qualities that strongly link the architecture to its place. Despite this, patterns of local architecture, exemplified by the examples of architects of 'Reclaiming the local' approaches, created a sense of shame about the general local traditional Sudanese architecture as one participant stressed: *"low-rise buildings and the use of brick as a building material, we can say, are common architectural patterns in Sudan. There is nothing unique about them" (*General Public, F.G.6, 2017*).*

Therefore, participants emphasised that patterns of these localisation approaches, *alone,* are not enough to achieve the requested visual quality of the institutional architecture. Therefore, the local Sudanese architectural form patterns were perceived as insufficient and over-simplistic to be worth of re-utilising in the contemporary architecture as interviewee V (2017) explained:

> *The local building materials and the building construction techniques of the vernacular Sudanese architecture caused it to be simple, single*

stories, almost cubist in towns and cylindrical in the rural areas, and humble without complications. It is an architecture that stems from the climate and the materials. Therefore, our local architecture does not represent strong elements that proved its worth (see Figure *7.15*).



Figure 7.15: local vernacular architecture in rural areas in Sudan, with simple architectural form patterns. Source: Gamal Hamid's archive.

In addition to this over-simplicity, these approaches adopt *'low-rise heights'* which is a pattern that does not meet the government's vision to upgrade KCC into high-rise centre.[58]. Within this, the suitability of the local building materials to meet these heights and the new capacities they bring was doubtful. A senior planner argued: *"it is not possible to use stone as a building material because it does not work with high-rise buildings unless used as a beautifying or cladding element"* (Senior Planner, F.G.2, 2017).

While theoretically, Norberg-Schulz (2000, p.117) emphasised that institutional buildings' features ought to be treated and organised in a systematic and expressive way, he asserted that they should possess a certain level of local character, and *"a*

[58] In 2005 the planning decree no. 37 was issued to upgrade the area of KCC to first-class. Thus allowing landowners to build to first class standards such as building up to 10 floors on up to %60 of the plot (Ministry of Physical planning, Khartoum State). This has consequently raised the land value in the area.

conspicuous place-creating image quality". Hence, if these required characteristics were to be discussed with the three approaches of architects to reclaim a local architecture; namely Responsive, Abstractive and Eclectic approaches (see Section 4.4.2), one could note that these approaches have paid considerable attention to the expressive quality which is a key prerequisite in contemporary Post-Modernist institutional architecture. This was evident in their realisation of the loss of meaningful architectural identity in the recent architecture of Khartoum and tried to reclaim a local/Sudanese identity through their designs. However, this type of expressive qualities in a globalised world and a more international language for institutional architecture remain controversial.

On one hand, the Responsive and the Abstractive approaches adopt what Jencks (2002, p.67) labelled as the *"Neo-vernacular style"* which tends to revive the vernacular architecture. Thus, they abstracted from the traditional architecture and adopted somewhat similar architectural patterns such as the *'small windows'*, *'low-rise heights'* and *'the interplay between the solid and the void'* but utilised them in a way that suits the institutional architecture. However, they were still perceived by participants as over-simplistic as opposed to the expressive symbolism required for institutional architectural patterns. In this similar regards, Ozkan (2007, p.107) agrees with this and emphasises that the Neo-Vernacular style or as to how he labels it as *"Vernacularism",* is restricted and cannot easily be applied in all scales of buildings such as institutional or monumental architecture and that it is an architecture that *"has to confine itself".*

On the other hand, the Eclectic approach, adopts the *"Radical Eclecticism"* style which could be considered as extremely eclectic in its expressive quality, as Jencks (2002, p.97) explained: *"Radical Eclecticism would speak to a plural audiences., It would adopt appropriate ornament to represent function, and it would "elect", or "select", quotes and use them in ironic ways to signal our present predicaments".* While it provides the recovery of the archetypal form patterns and ornaments which is a central approach to Post-Modernism, the specific patterns or ornaments are being used because they are mostly special to the architect who highly likely has a previous attachment to them. Therefore, for such eclectic approach to be applied in institutional architecture it would bring debateable architecture to the scene. For example, participants' perceptions about the architectural patterns and ornaments of buildings of this approach have been either positive in that they endow a sense of belonging or as negative in that they shorthand the Sudanese architectural identity in one or few patterns.

Therefore, it could be argued that approaches to local architecture are accepted, but to some extent, they lack the expressive visual architectural qualities suitable for the language of institutional architecture which should be introduced if they will be adopted in a place like KCC. Yet, at the other end of the spectrum, an exaggerated focus on the pretentious contemporary expressive structure of nowadays globalised architecture will result in the loss of meaning of the architecture of KCC. Hence, achieving the *"certain level of local character"* highlighted by Norberg-Schulz (2000, p.117) requires rather careful consideration.

Notably, all these styles namely: The Neo-Vernacular, Modern Regionalist, Eclectic are all trials to endow the institutional architectural patterns with meaning, however, being only achieved by individual architects in private projects and mostly out of KCC made them appear as niche. The actual existing institutional architecture in KCC reflects different approaches to identity as the political situation appears to manipulate the architectural expression of the institutional architectural patterns. Hence, the other two approaches of 'Imposing new identities' and 'Islamising the Sudanese identity' had proliferated. While the former, imposed a general sense of isolation in the built environment of KCC that is based on excessive internationalisation, the latter, has been identified as a phenomenon that is currently evident in Khartoum's architecture, which will be elaborated in the next section. Thus, with the dominance of these two approaches, the role of the architecture to concretise the place in KCC disappears.

7.3.3 An "Elementalisiation" of the architectural identity?

"Elementalisation": is an observed architectural phenomenon in the institutional architecture of KCC which comprises utilising only one pattern to reflect a certain identity and impose an intended ideology. Through this, the expression of a certain architectural identity is shorthanded into only one pattern (Graduate students, F.G.6, 2017). This phenomenon was expressed by a focus group with architectural graduate students who showed relatively advanced theoretical discussions that were based on a solid theoretical basis. Whereas they have identified this phenomenon in the process of extracting the patterns, it was then triangulated with findings from other focus groups. Hence, two present acts of elementalising the architectural identity in KCC were identified as follows:

I. The wide adoption of the pattern 'arch'

Participants discussed the "Elementalisation" through the pattern *'arch'* in two examples. Firstly, the "Elementalisation" of the 'Islamic architecture' in one pattern. This was discussed in two of the discussed examples -Faisal Islamic Bank (FIB) and Sudanese Islamic Bank (SIB)- which generated an interesting discussion in the previously adopted visual experiment (see Section 7.2). The design of those two buildings incorporates the utilisation of the pattern 'arch' (see Figure 7.16). In FIB, two arches act as part of an external bricklayer that encloses an internal transparent layer. Similarly, the utilisation of the arches in the SIB acts as an external layer that covers a more recessed layer. While arches in FIB span vertically along with the height of the building, those in SIB span vertically along only two floors as if the design was not completed in the upper floors.

Nevertheless, both buildings hold the name *Islamic* indicating an intended Islamic image for the building.[59] However, the internal spatial patterns of the buildings do not convey this intended Islamic spirit, as both buildings are institutional. Therefore, this act is questionable in whether it successfully delivers an authentic Islamic spirit or not. While Islam has been part of the Sudanese identity, it was not extensively expressed in the Sudanese architecture with noticeable form patterns- apart from the Mahdiist dome.[60] Hence, to achieve an 'Islamic' building these designs borrowed arches pattern from different Islamic sources that are not necessarily Sudanese and pasted them on external elevations. This endeavour is equivalent to applying a shell or a layer to the original building and to label the building with the character of that shell. One participant stressed the negativity of this approach:

> *I guess the theory of representing Islamic architecture through the arches……. -in the case of SIB- is a negative endeavour because it is similar to placing a shell on a building. These arches look sad, they are very weak* (Graduate student, F.G.5, 2017).

[59] The institutions that own these two buildings are called Islamic and accordingly they strive to reflect that 'brand' in their buildings and transactions.
[60] See Appendix E



Figure 7.16: The first example of buildings that instigated debates about elementalising the architecture. Faisal Islamic Bank (left) and Sudanese Islamic Bank (right). Source: the Author.

This "Elementalisation" triangulated with 'Islamising the Sudanese architectural identity' approach by the deposed National Islamic Front regime to express their Islamic ideology to achieve local architecture (see Section 4.4.3). With participants discussing it in a few of the focus groups, it emphasised that it is a noticeable architectural phenomenon that has been identified by the general users of the city. Moreover, this finding coincided with the results from the interviews, which highlighted that a considerable number of architects demonstrate a rather superficial understanding on how to achieve the spirit of Islamic architecture in the local Sudanese architecture. They were not clever enough to comprehend that an Islamic spirit in architecture is deeper and universal and cannot simply be conveyed through arches in the external shell.

On the contrary, the majority of participants supported the arches in FIB reflecting an obvious inclination to the design and considering it as a successful endeavour, despite the discussion on its Islamic spirit. A representative discussion on this is:

> *Participant 1: You feel that although it is a new building, it was perfectly fitted in the place (referring to the context of the University of Khartoum).*
> *ALL participant agreeing: Yes, exactly, it matches the context in a perfect way* (Graduate student, F.G.5, 2017).

Hence, it was interesting to identify the reason behind this approval to arches in FIB as opposed to those in SIB. As FIB is located within the University of Khartoum's site,

participants who studied there acknowledged that this inclination is because they are deeply attached to its architecture. They emphasised that FIB excellently conveyed that same architectural spirit and harmonised with its context. Thus, it could be argued that place attachment with the University of Khartoum's colonial architecture has had a strong influence on the perception of those participants. Evidence of this is a discussion carried out with the group of the previous quote:

> *Researcher: Do you think that your answers are because you have studied at the University of Khartoum?*
> *Participant 1: yes*
> *Participant 2: I guess*
> *Participant 3: I studied here for 5 years and I feel that suddenly this style is affecting me* (ibid).

Interestingly, those who did not study there lacked this sense of attachment and accordingly they have been more critical. They considered that the architect of FIB had failed to get the exact brickwork details of the University of Khartoum's architecture in addition to applying contemporary glazing materials that were not present in it. (Graduate students, F.G.5, 2017). Notably, the "Elementalisation" here shifts from elementalising the Islamic identity to elementalising the colonial identity with the patterns being borrowed are the colonial patterns. However, they were not widely adopted in KCC as with Islamic arches, due to the earlier reflecting the Islamic authentication ideology that the government wanted to spread (see Section 4.2.5), unlike the latter which will revitalise the colonial image; which is an architectural identity that the government overlooked through the years.

Thus, from this discussion emerges the second observed act of "Elementalisation" through the pattern *'arch'* which is elementalising the 'colonial architectural identity' through borrowing the colonial arches. Another example of buildings was discussed by the participants between Ahfad University School of Psychology (AUSP) by the 'Responsive approach' and the utilisation of arches in its main elevation, again, in comparison with University of Khartoum's architecture and mainly the Main Library (see Figure 7.17). [61]

[61] The majority of participants in the focus groups perceived that arches of AUSP are colonial –which reiterates Hayder's original intention of copying the image of the University of Khartoum (see Section 4.4.2, I)



Figure 7.17: The analogy between the arches of the University of Khartoum's Main library (left) and the Ahfad University-School of Psychology (right). Source: the Author and Hayder A.Ali architects.

While the two buildings were analogues through the utilisation of the same arches, those of the AUSP were applied to a different scale and articulation than those of the Main Library. Whereas in colonial architecture arches were generally utilised as an articulation of the verandas in the main elevations, their utilisation on the elevation of AUSP was to identify the entrance and the main vertical circulation on a rather monumental scale. Nevertheless, in such examples what is important is the resulting meanings from the actual *borrowing* of certain patterns from colonial architecture which instigated different perceptions. On one hand, some participants objected to the act of borrowing arguing that: *"I am against going back to colonial architecture because it reminds us of colonisation".* (Junior Planners, F.G.3, 2017).

On the other hand, other participants accepted that borrowing based on the fact that colonial architecture is unique, and it added a distinctive style to KCC despite being built by colonisers. Examples of these quotes are: *"the colonial period is part of us and represents us"* (General Public, F.G.7, 2017). Those who support this view accepted the borrowing and especially from University of Khartoum's architecture as they believe that it has been the main source of educational enlightenment that had spread higher education in the whole of Sudan. While this is true, other participants objected to this direct borrowing, in which University of Khartoum's architecture is being treated as a sacred representation of educational buildings in Sudan. One participant argued:

> *I think the use of arches in this university building –AUSP- has resulted from copying the arches of the University of Khartoum. As if there should be an agreed representation of the image of a university; to be analogues to or attached to that of the University of*

Khartoum (Junior Planners, F.G.3, 2017).

Interestingly, it is worth expanding on the reasons for the attachment to the University of Khartoum's architecture as opposed to other colonial buildings. Apparently, its attachment is one that is being inherited through generations. This is due to several reasons. Firstly, it was for a long time the main higher education institution and it had a very strong academic system. Therefore, it has been known for the famous name *'the beautiful but impossible'*; meaning that it is impossible to get accepted into it. Moreover, for a long time, it has been the edifice where political protests against the various regimes, including the colonisations, were nurtured and then spread to the whole country (see Figure 7.18). Hence, its attachment is not limited to its graduates, but to Sudan as a whole. However, it is important to note that the explicit architectural attachment to the University of Khartoum was clearer within architects and graduates of the university. As for the public, the attachment was for the reputation of the University as the impossible dream and for its political revivalism role. Interestingly, this attachment was conveyed in poetry, music, literature, media and current social media. For example, a famous poet named Mahjoub Shareef wrote exuberantly about the University of Khartoum, which then a famous musician sang:

Oh, beautiful and impossible

You are like a cloud … That winds accelerate its leaving

Oh, my eyes are drowning with tears ……. Let her see your eyes…Let her.

(Encyclopaedia of comprehensive documentation, 2010)



Figure 7.18: Students listening to a 'political discussion corner' at the University of Khartoum, with the Main Library building in the background. Source: https://www.facebook.com/1538662473106376/photos/a.1538753623097261/1588435578129065/?type=3&theater

Surprisingly, at the other end of the spectrum, other participants across the different categories of the focus groups had a contrasting perspective. They perceived the arches as features of Islamic architecture. In one focus group, for example, a junior planner believes that the British colonisers applied architectural patterns that originate from the place and its culture. Thus, it is no wonder that they applied Islamic arches in the majority of their buildings trying to deliver an Islamic spirit that is part of the Sudanese culture. He argued:

> *I suggest that designers of colonial architecture do not choose any architectural feature unless it is similar to the environment and architecture of the place they occupied. Here, in Sudan, they used brick, not because Britain is all built from brick, but because it was available and could be made in Sudan. Similarly, they applied the arch, because Sudan is an Islamic country and they will apply what is relevant to it. Thus, the link of the arches here is to Islamic architecture more than colonialism* (F.G.3, 2017).

Arguably, the act of "Elementalisation" falls under the concept of the Postmodernism movement in endowing buildings with meanings. Yet, the type of utilised pattern is the key argument here. On one hand, if these utilised patterns are originally favoured by local people and people have a strong emotional attachment to them, the "Elementalisation" will be based on the urge to re-create and romanticise those emotionally tied patterns. This manifests with the arches of the colonial architecture of the University of Khartoum, which were largely welcomed to be reutilised in contemporary architecture. In this case, people who celebrated those patterns accepted the act of borrowing and legitimised it. Within this strong emotional attachment, an important question could be highlighted: *If the architecture has this strong patterns' attachment, is it acceptable/permissible to directly borrow its patterns in the new contemporary buildings to achieve a romanticised architectural identity?* On the other hand, if people have a lack of attachment to the borrowed patterns, people could object to the new identity and be more critical about it.

The origin of the pattern Arch

Nevertheless, by zooming out and considering the origin of the pattern 'arch', one could argue that as a pattern it could either be a rudimentary local traditional pattern that was borrowed from the local vernacular architecture (even in the pre-Islamic civilisations), or an Islamic pattern being introduced to Sudanese architecture with Islam and its architecture or it could be a colonial pattern. It is thus, not necessarily an Islamic form. Nevertheless, the lack of documentation on the history of the

Sudanese architecture challenged this investigation about its origin. Hence, the way participants perceived and interpreted it as being Islamic, Sudanese, or colonial are all valid. Rather, the distinction here is to the attachments or feelings of participants expressed with them. In this regard, it is interesting to summarise the different points of views about the pattern 'arch' and how participants have perceived it, as follows:

1. Arches are present in certain traditional Sudanese architecture in certain parts of Sudan such as in Kasala, Dongola, Barbar and Suakin.[62] Therefore, imposing 'arch' in contemporary designs will link it to notions of *Traditionalism, Historicism or Vernacularism.* Participants argued that this approach could develop a psychological relationship between people and their local architectural identity and integrate more regional expressions which they might feel attached to.
2. Arches explicitly represent Islamic architecture as an arch, with its different variants, is a pattern that strongly narrates the Islamic spirit.
3. Arch is a pattern that has been imposed by colonial architecture; therefore, in some circumstances, it is viewed as a re-creation of that *Colonial Ideology.* On other circumstances, it is valorised and romanticised due to emotional attachment with certain buildings of colonial architecture such as the University of Khartoum.

Finally, by zooming out to the scale of KCC, photographic documentation of the pattern 'arch' both in colonial architecture and in KCC in general showcases the diverse range of forms of arches. In colonial buildings, different forms exist from pointed arches, to semi-circular to stilted arches and depressed ones (see Figure 7.19). While the articulation of the pattern 'arch' was expressed fascinatingly, their wide variety reflects confusion about whether they are Islamic or African or borrowed from vernacular architecture. It was noticeable that, in similar footsteps, the contemporary architecture of KCC used different forms of arches to deliver, most obviously, the intended Islamic ideology cherished by the Islamic authentication movement (see Figure 7.20). Moreover, other arches used within KCC's contemporary architecture reflected an immature utilisation, which came as an 'ornamental pattern' as ornamentation on the elevation as openings or in the boundary wall of some institutional buildings.

[62] Cities in East, North and North-East of Sudan respectively.

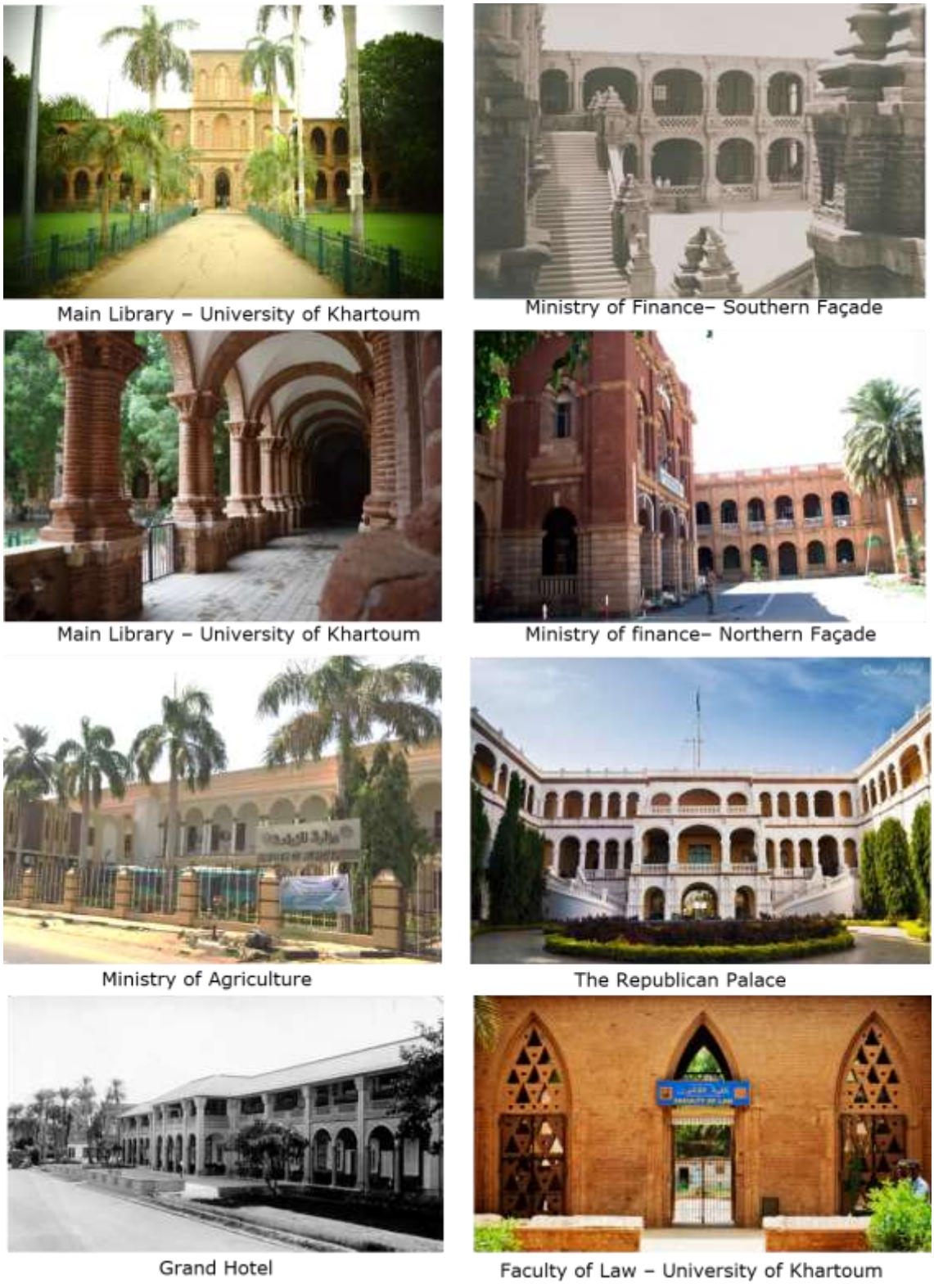


Figure 7.19: Different forms of the pattern 'arch' in the colonial buildings of KCC. Sources: the Author, Sudan Archive at Durham University (Ref.: SAD_013-011-014), Osman Elkheir's archive and Qusai Akoud photography.

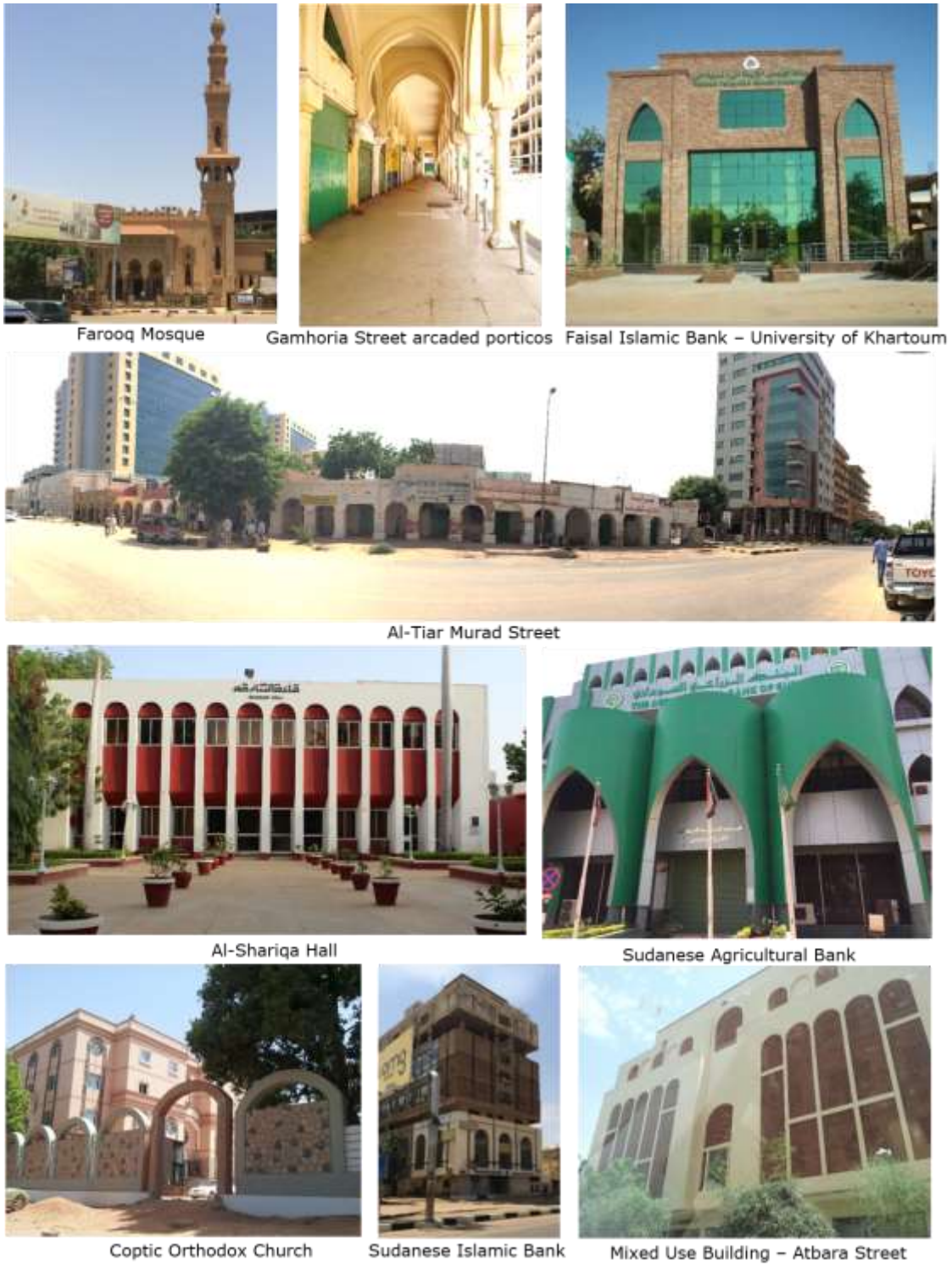


Figure 7.20: Utilisation of the pattern 'arch' in various buildings in KCC. Source: The Author and Arwa Ahmed Photography

Hence, these different representations of the pattern 'arch' caused it to be the most controversial pattern in the contemporary architecture of Khartoum. Thus, it could

be argued that this pattern alone, plays an important role in shaping the chaotic image of KCC's contemporary architecture (See Figure 7.21).

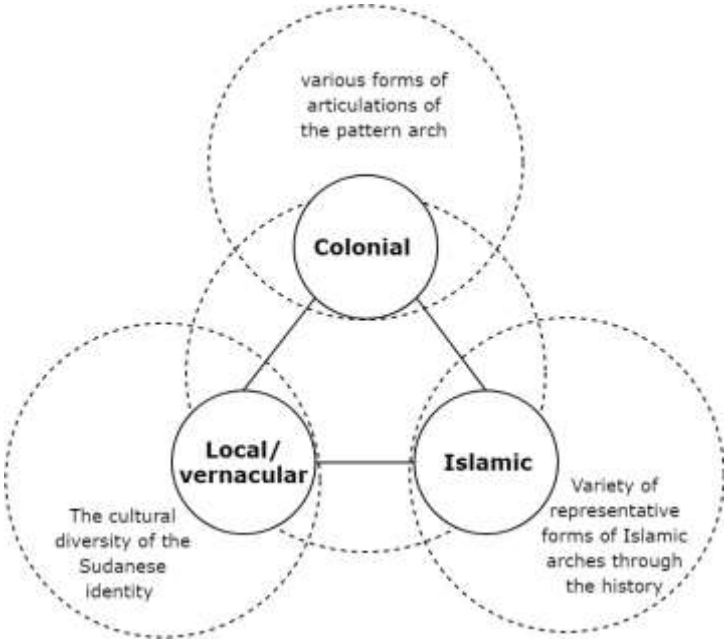


Figure 7.21: Complexity of the pattern arch in KCC's architecture. Source: the Author

II. Through Symbolic representations

Other architects approached "Elementalisation" through utilising patterns that have symbolic meanings and copied them in their new contemporary architecture. This utilisation appears to be as more of ornamental utilisation to characterise the buildings with a certain cultural identity. It could be argued that, in KCC, the Eclectic approach (see Section 4.4) is the representative of this symbolic "Elementalisation" by incorporating the triangular ornaments from Nubian architecture and other features from colonial architecture or Suakin's architecture to achieve Sudanese identity. [63]

Participants in the different interviews and focus groups widely objected to this "Elementalisation" endeavour. They considered it as shorthanding the Sudanese identity in one architectural pattern from certain parts of Sudan and copying it to Khartoum. This, in a way, undermines the unique diversity of the Sudanese architecture. Thus, participants commented on architect Jack Ishkanes' Eclectic approach (see Section 4.4.2, III) that *"the architect flinched features and conveyed only one feature from one culture. The capital should reflect unique architectural*

[63] A city in Eastern Sudan

character but to limit it to a certain culture or environment". (Graduate students, F.G.4, 2017). And in the case of his adoption of the Nubian ornaments: *"Nubian identity does not represent even 30 per cent of Sudan. So, you cannot enforce a certain style on all the Sudanese..... This approach is a revival of the Nubian architecture, not the Sudanese architecture" (ibid).*

Within this, it is important to highlight that both approaches of "Elementalisation" provide surface identity, which is an expression of identity that is only conveyed on the surface and does not achieve the essence of the local character. However, in a newly emerging place like KCC, architectural identity is not yet mature and hence endeavours such as the "Elementalisation" are likely to proliferate.

While "Elmentalisation" as a phenomenon is one of the key findings of this chapter, it was important to trace its source. While graduate students were the ones who identified and named it as a phenomenon, their source could be attributed to the 'Elemental Expressionism' theory founded by a theorist lecturer in the University of Khartoum: Dr Seif Sadig who narrates:

> *"Elemental Expressionism" is a term which I first coined when I was delivering a lecture on modern Japanese architecture implying certain qualities and characteristics of the material I was analysing. Later on, I continued with the theme-cum-terminology experimenting with its analytical and interpretative capacity for an architectural theory specifically as an integrative theory. The key factor was how abstract (in a reductionist framework) can you go with architecture before it becomes something else. And here comes the idea of the "elemental". The other part of the story, "expressionism" was the philosophical and practical difficulty of attaching "expressionism" as a notion of meaning to composition-based architectural theory and design.* (Email correspondence, 2019).

Nevertheless, this research could ensure that the "Elementalisation" of the architectural identity is a manifestation of the "expressionism" philosophical part of the theory in which certain patterns are utilised to *impose* certain ideologies or meanings.

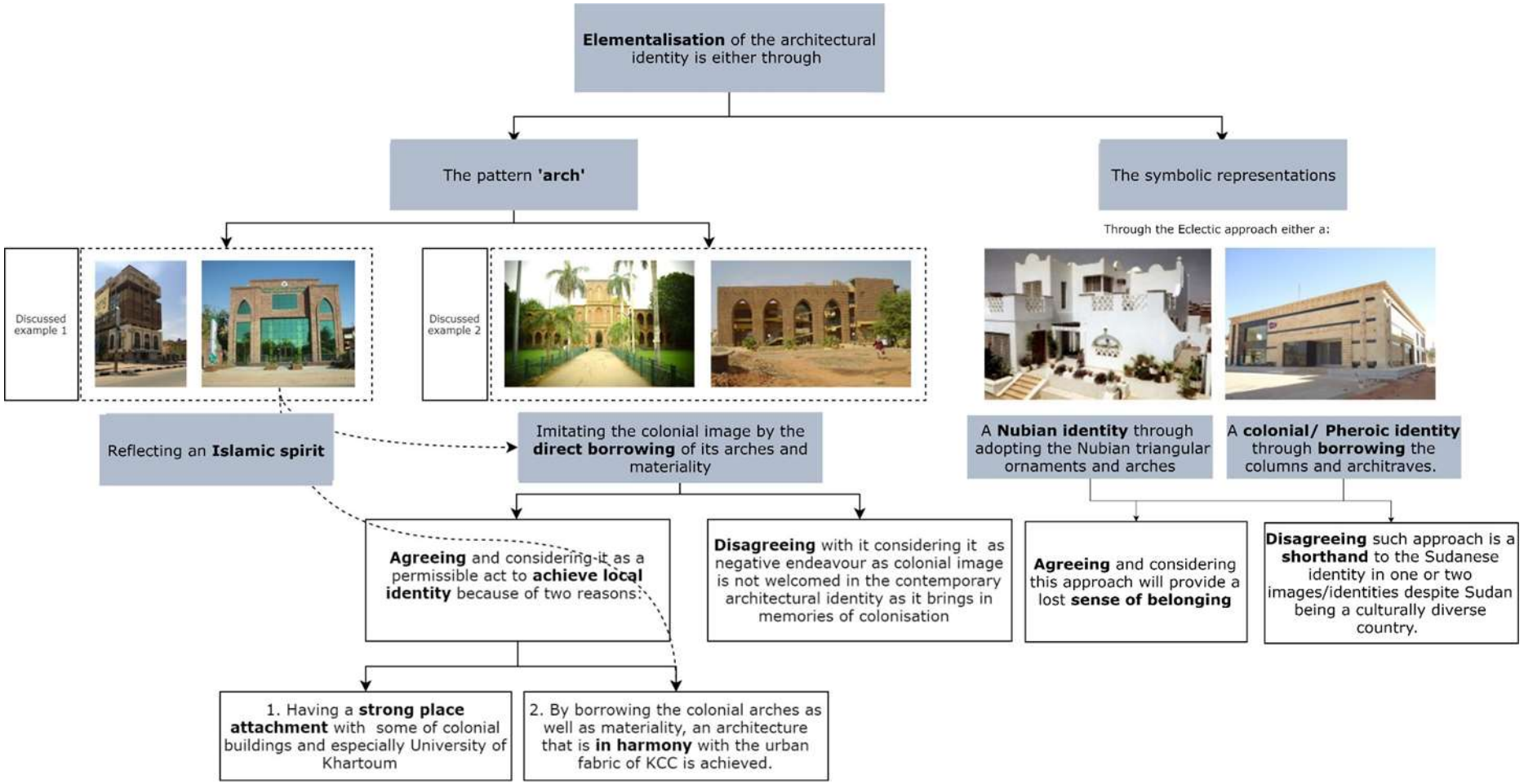


Figure 7.22: Summary of the discussed examples of the Elementalisation of architectural identity in Khartoum's architecture. Source: the Author.

7.4 An architecture that concretises the place and the time

In order to summarise the previous sections, it could be argued that the certain level of local character required for institutional architecture that was highlighted by Norberg-Schulz (2000) and emphasised by the participants, could be linked to achieving an architecture that concretises the place. This could be achieved through the following:

7.4.1. Nurturing the sense of rootedness through the visual quality as well as the experiential one.

Despite the sense of shame associated with local Sudanese architectural patterns, there was an agreed-upon unconscious consensus on them. Inevitably, this consensus is developed from the conveyed sense of rootedness that results from patterns of local architecture (see Section 7.3.2). This sense of rootedness, if achieved, strongly nurtures a sense of belonging and creates an architecture that is akin to what Brislin (2012, p.9) described as an architecture that is rich with meanings and emotional rooting as it *"valorises the human spirit through its focus on place, the senses and the memory".* Essentially, this emotional rooting results in the physiological appeal with these patterns; however, there are important theoretical questions to be raised with this required sense of rootedness:

- *Is it true that achieving this sense of rootedness through heights and forms as an approach to architectural identity does not suit the functionality of institutional architecture?*
- *Is the required sense of rootedness in civic places only relates to patterns of local materiality?*
- *Is this sense of rootedness or identity only visual?*

While the findings of this research emphasised that the answers to the first question might be true, similarly assuming that achieving the sense of rootedness through local materiality, alone, is not completely true (second question). The required sense of rootedness in the built environment is a visual as well as experiential and is perceived at an unconscious level. This is evident in the resulted emotional feelings and experiential interpretations by the participants with patterns of locality because the sense of locality and the consequent rootedness quality are lived and experienced. Within this, it could be argued that transitional patterns could play an

important role in providing the space to experience these qualities as Gehl et al. (2006) name them as "*the experience zones within the city".*

7.4.2. Revealing the distinctive patterns of the place, revalorising and re-emphasising them

Concretising the place can also be achieved by exposing the existing distinctive architectural patterns in a place. This could be attained through studying the location of the building and its surrounding urban context to capture the unique patterns that are dominating the architectural character in that location and to re-emphasise them. This could enhance the essence of the place and nurture the local character. These unique distinctive patterns -such as the *'arcaded porticos'* in the case of KCC- could act as symbols for a local architectural identity. Certainly, arcaded porticos in a place like KCC is an existing quality that needs to be exposed and re-emphasised as they have achieved all the three domains of distinctiveness: Visual appeal, Vibrancy and Response to the weather condition (see section 7.2.2).

Reaching this proposal of revealing the distinctive patterns of the place and considering the idea of enhancing the architecture through reintroducing these patterns could be considered at the heart of the idea of concretising the place. Here, the search changes from debating on how to achieve an architectural identity and the consequent cultural debate to valorising and re-emphasising its existing unique patterns. Brislin (2012, p.9) names this as 'the architecture of resistance' or a 'spirited architecture of place' which he proposes as an *"architecture that belongs to the soil within which it is sited, and which belongs to its people too. They are grasping points that resist neutralising tendencies that stand fast against sweeping forces that are greater than individuals".*

In addition to valorising the unique patterns, there are other essential qualities in any built environment ensure a better-enhanced architecture and an enhanced spirit of the place. Those qualities are the previously mentioned domains of distinctiveness (see Section 7.2.2), which could be translated into patterns like the following:

- Integrating the building with its surrounding (e.g.: removing *'boundary walls'* and providing *'foregrounds'*)
- Enhancing walkability (e.g.: *'shaded walkways'* and *'buildings that are more open to the environment'*)
- *'Buildings that reflect an environmental response'*
- Sustainability (e.g. the use of local building materials).

Nevertheless, in a globalised world, there is a second important issue to be considered alongside concretising the place, that is, concretising the time by utilising and inspiring from the available contemporary architectural materiality and technology that are being used during that time. This is essential for institutional architecture as it is mostly represented as a reflection of the contemporary image of the city internationally.

In summary, an architecture that *concretises the place and the time* could be considered as the main overarching finding that should be implemented as a guideline to inform architects in their future designs for institutional architecture in Khartoum. Through this, an architecture that is international, distinctive and equivalently tailored to the place can be obtained.

7.5 Concluding remarks

This chapter proposed two empirical utilisations of the interpretive pattern language tool in the architecture of KCC but in an entirely new positive approach of interpretation. This was decided in order to move away from the previously highlighted negative experience of the place KCC and the consequent extracted negative patterns in chapter 6 and to expose the existing unique but *overlooked* qualities of the architecture of KCC. The first utilisation proposed selecting and extracting the distinctive patterns from KCC's representative architecture. Interestingly, the exposed distinctive patterns were mainly relating to three main theoretical domains that surprisingly, disregarded the cultural expression and were as follows: Visual and Psychological appeal, Response to the weather conditions, Integration with the surrounding environment.

Similarly, and with an endeavour for a more positive exploration, the second utilisation is intended to extract and evaluate patterns within the identified approaches to achieve architectural identity in Khartoum (see Section 4.4) as a way to interpret identity more objectively through patterns. Within this, patterns that nurture a sense of local identity and rootedness were extracted and largely evaluated as distinctively positive. Hence, their applicability in KCC in relation to the existing peculiarity of its architectural identity as the city centre was discussed. Nevertheless, other patterns that exist in KCC, whether distinctive or not, were extracted and evaluated in relation to identity. The results stressed that the identified distinctive unique patterns of any existing place could be re-introduced and re-emphasised to enhance its architectural identity but more importantly to nurture the role of the architectural patterns in concretising the place. Here, the aim changes from debating

on how to achieve an architectural identity and the consequent cultural debate to valorising and re-emphasising its unique existing patterns to concretise the place as well as the time. Moreover, this evaluation of the local pattern language resulted in revealing an interesting link between patterns and architectural identity in that the former directly reflects the latter. Furthermore, the utilisation of the interpretive pattern language tool allowed for an exploration that moved away from the ambiguity and complexity of the architectural identity of institutional architecture through interpreting it more objectively through patterns.

Ultimately, these two explorations could be considered as methods to reveal the existing but *forgotten* unique patterns in an existing place. In order to enrich this revealing process, adopting the participatory extraction then evaluation of the extracted local pattern language with local users of the place will result in a richer layer of qualitative interpretation of the patterns, through their experiences, psychological meanings and memories. The results of this process need to be *ideally* emphasised by architects and legislated by planners for the future architecture of the place. As a conclusion, this research could ultimately provide some important answers to the issue of architectural identity in Khartoum. These answers are of important use to all future architectural research to academics, curators and architects who are debating about the architectural identity of Khartoum.

The next final step of this research in the following chapter will draw the conclusions of this thesis as well as emphasising its main outcome; that is, the interpretive pattern language tool.

Chapter 8: Conclusion

8.1 Introduction

To conclude the thesis, this chapter gives a reflection on the research process and considerations and discusses how they align with the research questions. The chapter re-emphasises the interpretive pattern language tool as the key contribution of this thesis and expands on ways for advancing its theoretical utilisation. The chapter then concludes by highlighting the research's key arguments, stating its limitations and recommending areas for future research.

8.2 Reflection on the research process and findings

'Zooming out' from this research and considering it as a whole picture, one could notice that the scarcity of potential architectural research that comprehensively documents the postcolonial architecture and urban context of Khartoum necessitated the research's exploratory nature. This nature has thus influenced starting the exploration directly from the field -from the overall place first then to the architecture- and consequently determined a sequential design of the research process. Accordingly, the exploration of both -the place and its architecture, has resulted in identifying the links between them and has defined the research's aim of *exploring the role of the architecture in its place,* with the place here being KCC. Thereafter, the speciality of the place, being a postcolonial place, has influenced introducing the exploration of the identity of this place and its architecture. In short, the research exploration revolved around three aspects, which could be described as a triangle with three angles: the place, its architecture and identity (see Figure 2.30).

Within this, and with the inductive path of the adopted grounded theory method, the sequential exploration commenced with understanding the background of Khartoum by investigating its historical and morphological development and how that is being reflected

in the architecture. This has resulted in categorising the architecture of Khartoum into architectural paradigms that denote the architectural styles which appeared in the different historical periods that the city has witnessed. These paradigms are the Traditional paradigm, the Colonial Paradigm, the Modern Paradigm and the Contemporary Paradigm(see Section 2.3). However, to stay within the scale of the research, it was important to narrow down the exploration in a specific place in Khartoum. Thus, Khartoum city centre –KCC- was selected because it has the richest architectural context in Khartoum that represents the juxtaposition between the Colonial, Modern and Contemporary Paradigms and they collectively narrate the history of the place (see Section 2.5). Yet, the scarcity of data about the latter paradigm has prompted the first research question of:

- ***How Khartoum's contemporary architecture is being shaped?***

To answer this question, interviews with architects, planners, educators and experts were conducted in addition to the few available resources (secondary data), photographic documentation and observations. This investigation has highlighted a significant gap within the Contemporary Paradigm resulting from the rapid pace of development which Khartoum is witnessing and the uncertain path that its architecture is undergoing due to the looseness of building bylaws and the absence of urban design guidelines. This, coupled with government ideologies of both Islamic authentication and excessive internationalisation, inadequacies within the architectural education and cultural emptiness (see Section 4.2), has consequently resulted in large varieties of disjointed design approaches. Moreover, as part of this exploration, it was found that the main overarching factor in shaping Khartoum's architecture is; the *gap in* considering the unique role that the architecture could play in concretising and enhancing its surrounding place. Accordingly, and with this architectural situation, architects' various design tactics have resulted in different approaches to achieve the institutional architectural identity in KCC which were observed as follows*: Imposing new identities, Reclaiming the local (Responsive, Abstractive and Eclectic) and Islamising the Sudanese identity.*

Consequently, all these factors have explained the *undefined image* of the place KCC and the identity that its architecture reflects. Nevertheless, a *more targeted exploration* was needed, because the issue of identity remains complex, especially with the postcolonial background of Khartoum. Moreover, results from the interviews coupled with a literature review on identity emphasised the complexity and ambiguity of the issue of identity, and especially in a culturally diverse but contested context like Khartoum. Consequently, to aspire towards a defined architectural future and to find a way to solve these identity conflicts in Khartoum and similar newly emerging cities, it was important to address the complexity of identity and at the same time confront its ambiguity.

Hence, to achieve these aims, *enriching the exploration of the place* and its architecture, including confronting the issue of architectural identity was crucial. Thus, a theoretical anchor to advance this exploration was introduced that eventually resulted in forming an interpretive analytical tool (Chapter 5). The broader aim of this tool is set to fill a gap in theories that consider the role of the architecture in its place and how that influence identity. This will consequently, advance the exploration of existing places and their architecture in a more objective way as well as contributing to the general studies of architectural identity by suggesting a new way to explore and interpret it.

8.2.1 Enriching the exploration, introducing the interpretive pattern language tool

To empirically apply the synthesised interpretive tool to an existing place, the research identifies three main steps as follows:

- Step 1: Documenting the existing situation.
- Step 2: Extracting the existing patterns.
- Step 3: Evaluating the existing patterns according to participants' experiences of the place (through the participatory process: focus groups)

By empirically adopting steps 1 & 2 in the place KCC, it was possible to extract its local pattern language (see Section 6.3)**.** In order, to mark this extracted local pattern language, patterns *were illustrated using simple abstract drawings*.

Nonetheless, the majority of the extracted patterns of KCC were largely negative and were reflecting the problematic situation of its urban fabric. However, this negativity could restrict considering a better architectural situation for Khartoum's architecture. Therefore, a lesson was learnt from the case of Khartoum that the exploration of places should not stop at extracting the patterns, as this only gives part of the exploration which is *the objective descriptive part.* Within this, emerged the necessity of enriching the exploration of the place by *advancing the theoretical exploration of the tool* to provide more comprehensive interpretation beyond extracting the local pattern language. Accordingly, the second question was posed as follows

- ***What is the role of the emerging local pattern language in interpreting the place KCC, its architecture and identity?***

This question has paved the way to empirically find answers to the three studied aspects of this research which was facilitated through triangulation between the interpretation of the place by the outsider (Norberg-Schulz) and the insiders (research participants. Within

this, the role of experiencing the place manifests and comes forward as an important part of enriching the exploration through providing a first-hand participatory evaluation of the extracted patterns of the place by its users (step 3). Within this, users' meanings, memories, attitudes towards these patterns and their cultural and social backgrounds enriched the interpretation of the patterns by giving them deeper layers of meanings.

Thereafter, Chapter 7 comes as a practical answer to the third research question of:

- ***How can the interpretive pattern language tool advance the theoretical interpretation of places, their architecture and identity?***

Advancing the theoretical interpretation of places could be made possible by *stretching the realms of exploring the interpretive tool* through several *empirical utilisations* then clarifying and analysing the outcomes of these utilisations. For example, identifying both the distinctive and negative patterns within a built environment, exploring reasons of both while focusing on revealing the domains of distinctiveness and possibly any common pervasive architectural phenomena in the studied place. Other examples could be identifying patterns that alienate the place as opposed to patterns that endow places with rootedness and explore them with users' perceptions and experiences. Inevitably, through this theoretical question, the research's findings can have larger contributions in interpreting different existing places.

In this research, this advancement was achieved through firstly uncovering the distinctive architectural patterns that already exist in KCC's built environment but are being overlooked, and secondly exploring the issue of identity in patterns as an important issue for Khartoum as a postcolonial city. On one hand, by carefully rethinking the distinctive patterns that deliver unique qualities in institutional architecture in KCC, it was found that the exposed distinctive patterns were primarily relating to three main theoretical domains. These domains were identified as Visual and Psychological appeal, Response to the environmental conditions, Vibrancy and integration with the surrounding environment. One main notable finding is that these domains are centred around the strong link that the architecture should have with its place which has been identified earlier in this research as an overarching gap in KCC's architecture (see Section 4.2.9). And paradoxically, these domains have disregarded the cultural expression role of identity, which arose as a point of ambiguity between the practising architects.

On the other hand, exploring the issue of architectural identity in patterns resulted in simplifying the complex issue of architectural identity and confronting its ambiguity by interpreting it more objectively into patterns. This has thus facilitated moving away from its complex cultural debates, especially within institutional contexts similar to KCC.

Therefore, based on working with participants to advance the theoretical interpretation of the tool, participants were able to propose a solution for the architecture of KCC. They proposed a *transitional architectural style* which could be called *the Safe Style* that blends between both the local/regional character and contemporary international materials and abstracts them in the institutional architecture of KCC. Through this blending, the style ensures concretising the place through emphasising its characteristics, exposing its uniqueness and valorising the patterns that express its essence. Moreover, through contemporary materiality, it ensures expressing the time in which the building is being built. Inevitably, this style could guarantee, at least, not to create eyesores, alien, naïve architectural patterns that produce non-meaningful places.

8.3 Contributions of the thesis:

The first main contribution of the thesis could be highlighted as the interpretive pattern language tool which resulted from the theoretical synthesis. The significant impact of this tool is in twofold: firstly; its generalisability in being applicable to analysing and exploring any context theoretically in patterns. Thus, it has a wider implication in contributing to theories that explore a place and its architecture and how they impact each other. Secondly, it contributes to both of the theories of Norberg-Schulz's phenomenological experience of the *genius loci* and Alexander's Pattern Language and fills a significant gap within each of them.

The second main contribution of the thesis is the empirical application of the tool and the extraction of the local pattern language of KCC. This extracted language is in a way a response to Alexander's suggestion of the necessity of improving the Pattern Language by applying it in specific places. The outcome of this extracted language is that it could be considered as an important step towards exploring and interpreting the place and its architecture because its patterns are expressive of the place's character, its architectural formation and for sure its identity. Moreover, it can be used as a reference for any subsequent architectural research in Khartoum as it is expected from future researchers, to improve this extracted language and expand it to include other places in Khartoum. It is expected that through this extracted local pattern language of KCC, architects, planners and urban designers should be more conscious about the existing patterns in KCC and how its people perceive and evaluate it. Consequently, this should inform their future regulations and/or designs in a way that significantly improve the place KCC. This finding is also generalisable and applicable to any studied place.

The third main contribution of the thesis is the participatory evaluation of the place through both the objective interpretation -in patterns- and the experiential interpretation that results in the memories and meanings which users of the place have for it. These two interpretations had their wider contribution in this research in providing answers to the three angles of the research: place, architecture and identity (see Figure 8.1). Inevitably, these answers pave the way for any future research in the architecture of Khartoum and highlight the importance of considering the impact of the architecture in its place and identity. Within this, one of the main answers is that the issue of cultural identity in a postcolonial globalised world of architecture is no longer as valid. This is because the postcolonial past seems to be distant and the globalised present is more relevant. Nevertheless, accepting a fully globalised architecture is not the solution, but an architecture that *concretises the place and the time* through the three identified domains of distinctiveness could be considered as a solution of the architecture of KCC and similar developing places.

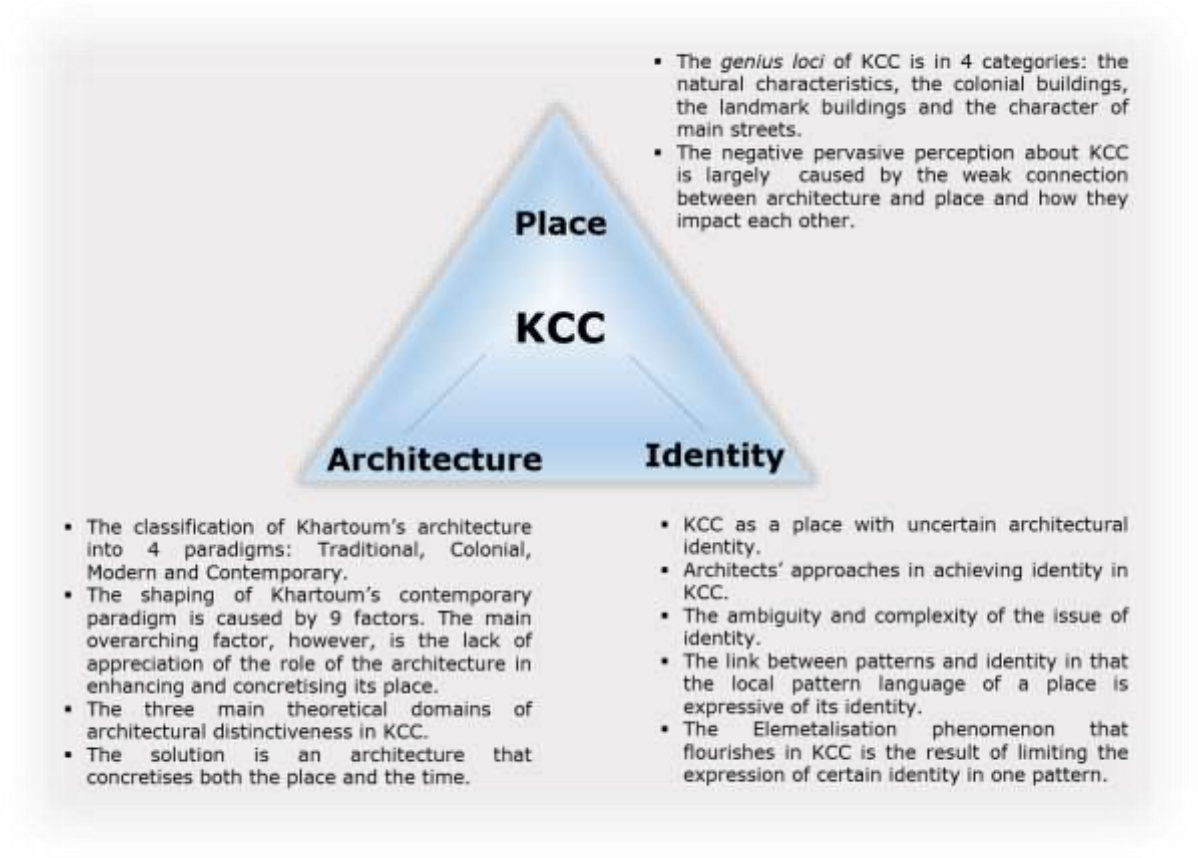


Figure 8.1: The participatory evaluation of the extracted local pattern language of KCC resulted in providing answers to the three angles of the research. Source: the Author.

8.3.1 Roles of the interpretive pattern language tool

The first role of the interpretive pattern language tool is that it facilitated a comparison between patterns captured by Norberg-Schulz –being an outsider perspective- as architectural features in the Traditional, Colonial and Modern Paradigms in the late 1970s on one hand, and the current existing patterns of the emerging Contemporary Paradigm –from the insiders' perspective- on the other hand. This has provided the possibility of tracking the development of patterns through the four architectural Paradigms that exist in Khartoum, in addition to the transformation of patterns and the change of their priorities through the years in the different paradigms.

Secondly, the tool emphasised the importance of the research of existing patterns in any existing place as an important step that should precede the design of new patterns that rely solely on the Pattern Language. Hence, the use of the tool in this research started by working with users of the place to extract the existing patterns, classify them into urban, architectural and transitional patterns, prioritise them and evaluate them according to their experiences. Accordingly, participants noted the complete absence of the urban patterns in KCC and the disregard to the transitional patterns which could have facilitated better interaction with the buildings and their surrounding urban environment. Adding to this, the contemporary architectural patterns appear to be alien in the surrounding urban fabric and do not harmonise with it. Therefore, KCC as a place reflects an overall sense of alienation and isolation. Consequently, unlike how Alexander referred to patterns as being the ideal qualities, in an existing place, they are not always ideal. This has resulted in the absence of the so-called *"quality without a name"* (Alexander, 1979) and has thus resulted in an agreed negative perception about the sense of the place KCC.

Hence, this emphasises the role of the interpretive pattern language tool in researching and interpreting the existing patterns in that the subsequent design of newly added patterns, or a completely new design in a new site, are to be based on or influenced by the findings from interpreting the originally existing patterns in that place.

Thirdly, and remarkably, it was found that what the collective evaluation of the extracted local pattern language of the place KCC based on the *experience of users of the place* had facilitated revealing personal interpretations about the patterns. This interpretation could be labelled here as the 'experiential interpretation' as it is influenced by participants' social, and cultural backgrounds, memories, personal meanings, previous knowledge about the place's history, personal experiences, in addition to the place's natural characteristics and climate and any common pervasive perception about the place (see Figure 8.2). Through this, a richer interpretation of the *genius loci* of the place and its architecture is achieved by providing both an objective interpretation (patterns) and the subjective 'experiential

interpretation'. Inevitably, this has allowed the revealing process to be based solely on peoples' real experiences and memories and not some answers to questions that are embedded within preconceived ideas by the current researcher.

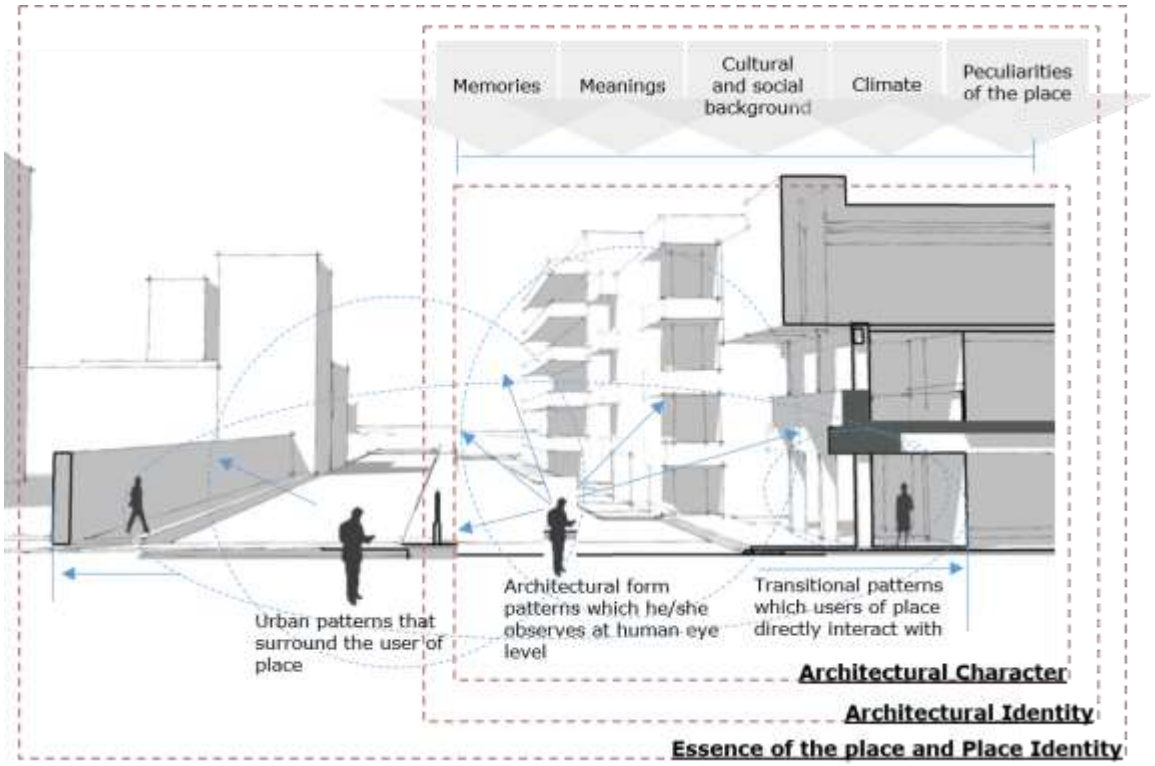


Figure 8.2 A diagram combining the definitions of architectural character, architectural identity and the essence of the place (*genius loci*) in both the objective interpretation (patterns) and the subjective 'experiential interpretation'. Source: the Author

Accordingly, a clearer definition of the essence of place (*genius loci*) and its place identity can be defined in patterns as:

> The overall urban, transitional and architectural patterns observed and experienced in a built environment (see Figure 8.2). [64]

Similarly, the architectural character and identity can be defined in patterns as:

> The specific physical architectural patterns that are observed externally and when coupled with people's personal experiences and social and cultural backgrounds, they deliver the architectural identity (see Figure 8.2).

[64] Urban patterns here include the natural characteristics of the place

Within this, it was possible to summarise the overall impact of the tool in advancing the interpretation of a place, its architecture and identity in points as follows:

- Extracting the local pattern language of the place under study.
- Identifying the strong relation between identity and patterns and identifying the role of patterns in confronting the complexity of the issue of identity.
- The participatory evaluation process enriches the exploration of the place by providing the experiential interpretation of a place which results from identifying people's meanings, memories, cultural and social backgrounds.
- Stretching the realms of utilising the tool through several empirical utilisations allowed exploring the patterns in a more positive approach by uncovering the distinctive patterns of a place.
- Identifying the three main domains of distinctiveness that maintain creating an architecture that concretises the place
- Theoretically, the discovery of the tool contributes to the existing knowledge on theories that link place with architecture and how they impact the identity by providing a more objective approach for their interpretation.

Challenges of applying the tool in the context of KCC

- The effort that was needed to deliver the concept of patterns to participants and how to abstract the built environment into patterns.
- The exploratory approach of the research consumed a considerable amount of time to determine the effective approach to empirically apply the tool and to select the adequate case studies in the context of KCC that would facilitate that.
- The fact that this research is conducted by a single researcher with limited time and resources necessitated applying the tool in one specific area (KCC) which consequently comprised specific functions of buildings. Thus, the extracted local pattern language represents that place.
- Challenges in tracking back the origins of some patterns due to the absence of comprehensive architectural research.
- Consequences of applying the tool through the experience of the place of its users and accordingly the difficulty to distance participants from their preconceived ideas/emotions about certain patterns. For example, the negative pervasive perception about the unstable political situation in Khartoum and consequently the overall image of the place has resulted in extracting negative patterns. Accordingly, this has challenged the analysis in knowing the extent of bias within participants' extraction of the local pattern language.

- Finally, a general challenge of the tool was stretching the realms of *exploring it theoretically which was then achieved* through several *empirical utilisations* then clarifying and analysing the outcomes of these utilisations.

8.4 Learning from the case of KCC

It could be argued that Khartoum as a city is still under construction and its architectural development is yet to reach a mature level. Nevertheless, an architectural situation like Khartoum proved to be suitable for this kind of exploratory research and certain wider lessons could be learned from it as follows:

1. The cultural plurality of Sudan as a whole, and in Khartoum specifically, should always be treated as a source of richness that should be celebrated in the built environment, as opposed to being contested. If the latter is the case, then the architectural identity should be interpreted more inclusively (see Section4.4).
2. The multiple architectural layers and paradigms of KCC acted as a rich medium to track down the sources of some patterns. For example, some of the institutional architecture's patterns appear to be adapted from the local vernacular architecture such as the *'boundary wall'* and consequently, it assimilated the same introverted character of the residential architecture (see Section 5.6).
3. The issue of architectural identity in Khartoum was not considered in a scientific sophisticated way in the structural plans of Khartoum. This is because of the far more serious problems such as political instability, the degraded economic situation and lack of essential infrastructure (see Section 4.2).
4. Therefore, the extracted local pattern language in a place like Khartoum will mostly represent negative patterns (see Section 6.3).
5. Hence, advancing the interpretation of such extracted languages through testing various utilisations of the interpretive pattern tool, more positively, becomes crucial (see Section 7.2).
6. A weak link between a place and its architecture results in a problematic urban fabric that its users feel disconnected and they consequently lack the sense of belonging towards it.

8.5 Limitations of the study

Any research has its limitations which need to be taken into account. The main limitation of this research was the scarcity of architectural research in the context of Khartoum, which has made the task of narrowing down the exploration of the architecture of KCC a daunting, time consuming and difficult experience. Therefore, choosing to undertake a gradual process to decide the path of exploration and selecting the case study was adopted and started from; firstly, mapping out the urban areas of architecture in Khartoum then selecting one case study of KCC. Secondly, this was followed by selecting a representative central part in KCC then select its main streets and conducting several tours to observe their architecture and consequently, selecting some examples that represent the architecture of Khartoum. This selection process is thus influenced by the researcher's knowledge and personal experience of the place which Creswell (2014) identifies as elements of the researcher's role. This limitation even intensifies with the researcher being an insider whose own inherent biases influence the research. Thus, these elements together with researchers' biases, values and personal backgrounds that shape the interpretation of the data should be identified reflexively (*ibid*).

Thus, this research could be considered as the conceptual theoretical base, which resulted in the interpretive pattern language tool, from which other more scrutinised and systematic studies could be carried out to explore KCC's architecture by dividing it into smaller urban quarters and replicating this study per quarter. Within this, it is important to highlight that findings regarding KCC's architecture are not generalisable and are specific to the context of KCC. Yet, findings regarding the interpretive pattern tool and its application to interpret places are generalisable and could be used as a tool to interpret other places.

Moreover, selecting participants for this kind of research was not random. On one hand, it involved participants who have some kind of relationship with the researcher (such as previous architectural practice colleagues and academic fellows). Creswell (2014) affirms that the information, in this case, might be easy to collect and accordingly it might not be accurate as it may jeopardise the role of the researchers and the participants. On the other hand, it involved participants without any previous relationship with the researcher, which required a gatekeeper to provide communication. In both cases, such relations might have impacted on participants responses and the data collected (Woods, 2017). Accordingly, the researcher tried to eliminate this by adopting triangulation as a strategy for validation to demonstrate the accuracy of information (see Section 6.5.1).

A final main limitation was the negative pervasive perception about the general situation of CC's built environment – due to influencing factors such as the unstable political situation. This had its impact on influencing the data that was collected from participants to be generally negative. Consequently, this could have potentially impacted the data analysis and the researcher's interpretation and analysis of the findings. Nevertheless, it is important to note that the nature of the research topic and the researcher's architectural background cannot be completely separated and thus, perspectives, biases and assumptions cannot be eliminated (Corbin and Strauss, 2008) in this architectural qualitative research.

8.6 Areas for future research

8.5.1. Generally

- The *utilisation* of the interpretive analytical tool in any existing place in order to extract the place's unique pattern language.
- Guidelines for the *future applicability* of the tool: focus groups workshops with users of the place should be conducted. The concept of applying the tool should be demonstrated to them, and thereafter they are to be provided with the opportunity to categorise the extracted patterns in the three main categories of Architectural, Urban and Transitional. This categorisation is a vital step because it allows participants to comprehend the different scales of patterns and be able to prioritise them from the most important to the least important. Thereafter, this is to be followed by a participatory evaluation of the patterns by the place's users. Through this, a feasible redevelopment plan for any place could be established which can accordingly make planners, urban designers and architects more aware about the existing local pattern language and guide them on how local people want to improve it.
- Consequently, this could positively influence planners, urban designers and architects in creating planning policies, urban design guidelines and architectural designs that are more related to people.
- Sub studies could generate from this study by tracking the origins of each pattern or group of patterns. These studies could then give good insights into designing future patterns or emphasising certain existing overlooked distinctive patterns.
- Providing a comparison between the insider/outsider perceptions about the extracted patterns of the studied place will enrich the exploration and interpretation of that place.

- Each extracted local pattern language is expressive of many phenomena and issues such as place identity, architectural identity, and the *genius loci* of place etc. Each one of them could be studied as a research focus on its own.

8.5.2. In the context of Khartoum

- The problem of Khartoum's architecture is real and in order to transfer Khartoum from the under-construction stage to the developed stage, there should be joint efforts between the public and private sectors to plan and execute comprehensive projects to enhance the urban fabric of Khartoum. This could be guided through planning policies, urban design guidelines and building regulations that provide guidelines (through the concept of the patterns) to architects, planners, urban designers and both public and private developers.
- Accordingly, areas of future research could be made available that would link practice with research through which existing patterns are to be studied and analysed -through research- to inform future designs of patterns.
- Similarly, linking research about patterns with architectural education could be possible. This could be achieved by allowing students to develop experimental designs for either new patterns or improved patterns that can suit KCC's architecture – or any studied place and improve its architecture. Furthermore, this would allow students to mingle with people from the place understudy to comprehend its characteristics and its unique patterns. Consequently, this will train them to be more responsive as future architects.
- The *expansion of the extracted local pattern language* of Khartoum's architecture to be more inclusive. Hence, the language extracted in this research –for KCC's institutional architecture- could be extended by extracting patterns within residential neighbourhoods, commercial areas, industrial areas…etc.
- The local pattern language of KCC can be improved and validated by running multiple focus groups with users of the other places of KCC that were not studied in this research.
- The role of the experiential interpretations that resulted from the extracted patterns and expressed by users of the place such as peoples' personal experiences, memories, meanings and cultural and social backgrounds could form a base for environmental psychology research in the context of KCC.
- Finally, this research is proposing to architects and architectural critics in Sudan to consider creating an *awareness movement* about the importance of *creating meaningful and humane places* through their designs. This awareness movement is

aimed to be a similar movement to other historical awareness movements or visions around the world that had influenced the improvement of the urban environment as a whole, such as the "Garden City concept" by Ebenezer Howard in 1898 in Britain and the "City Beautiful" movement by Daniel Burnham (Jacobs, 2016) which focused on restoring the city's lost visual and aesthetical harmony in the USA around the same time (Dempsey, 2008). The aim of this proposed movement is to develop an architectural discourse between theorists, architects and other practitioners to discuss the patterns that could achieve a quality architecture and their role in concretising the place. Inevitably, such movements are key factors in educating the public about the expected role of the architecture, which they are not completely unaware of, but they tend to express it simply and unconsciously. Thus, through this movement, the public will be enabled to express the architecture and patterns that represent them and architects will learn to comprehend the role of the architecture in concretising the place and collectively they will be able to work more efficiently in creating meaningful places through architecture.

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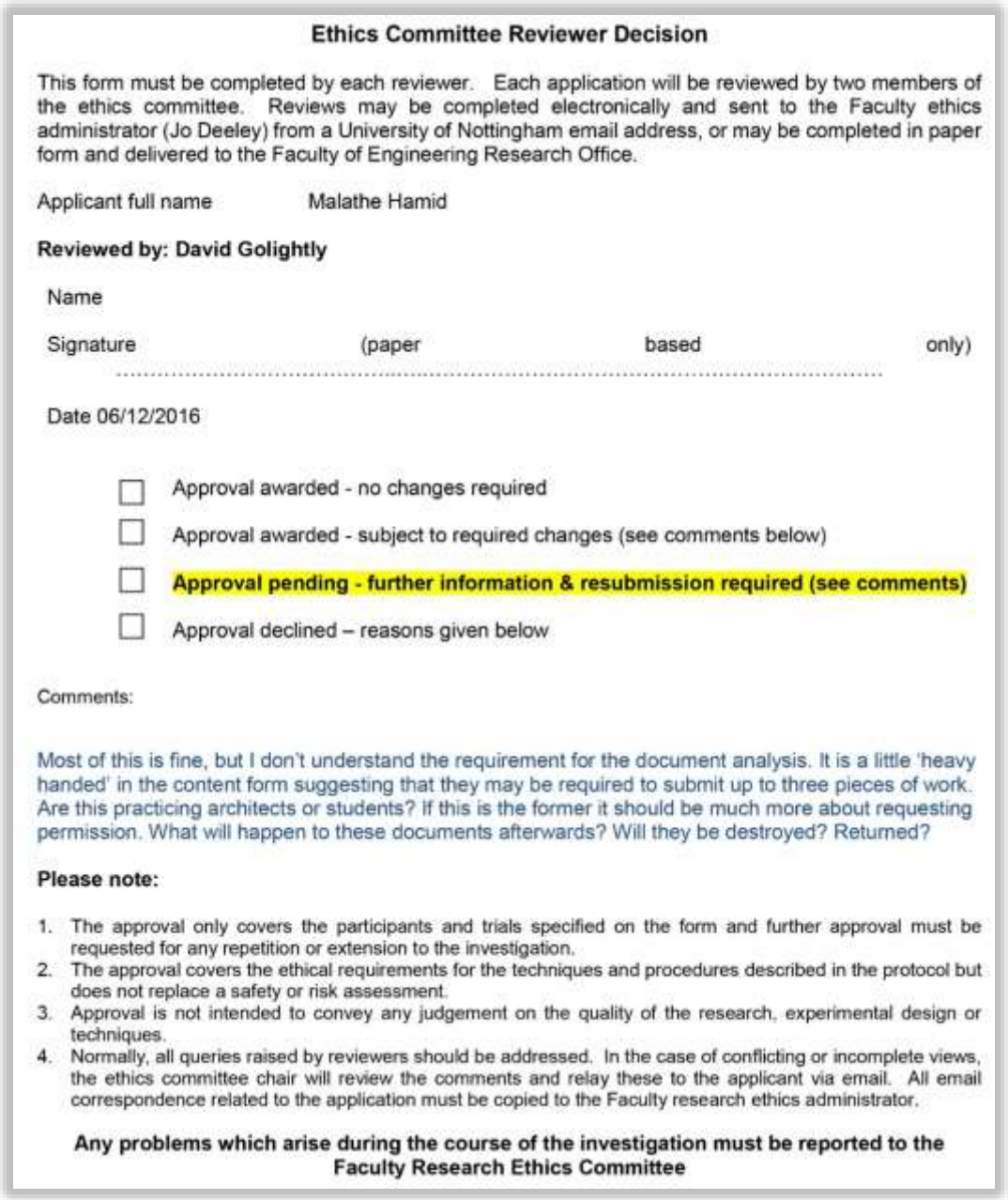
Appendices

A. Ethics decisions –Interviews



Ethics Committee Reviewer Decision

This form must be completed by each reviewer. Each application will be reviewed by two members of the ethics committee. Reviews may be completed electronically and sent to the Faculty ethics administrator (Jo Deeley) from a University of Nottingham email address, or may be completed in paper form and delivered to the Faculty of Engineering Research Office.

Applicant full name Malathe Hamid

Reviewed by: David Golightly

Name

Signature (paper based only)

.....

Date 06/12/2016

☐ Approval awarded - no changes required

☐ Approval awarded - subject to required changes (see comments below)

☐ **Approval pending - further information & resubmission required (see comments)**

☐ Approval declined – reasons given below

Comments:

Most of this is fine, but I don't understand the requirement for the document analysis. It is a little 'heavy handed' in the content form suggesting that they may be required to submit up to three pieces of work. Are this practicing architects or students? If this is the former it should be much more about requesting permission. What will happen to these documents afterwards? Will they be destroyed? Returned?

Please note:

1. The approval only covers the participants and trials specified on the form and further approval must be requested for any repetition or extension to the investigation.
2. The approval covers the ethical requirements for the techniques and procedures described in the protocol but does not replace a safety or risk assessment.
3. Approval is not intended to convey any judgement on the quality of the research, experimental design or techniques.
4. Normally, all queries raised by reviewers should be addressed. In the case of conflicting or incomplete views, the ethics committee chair will review the comments and relay these to the applicant via email. All email correspondence related to the application must be copied to the Faculty research ethics administrator.

Any problems which arise during the course of the investigation must be reported to the Faculty Research Ethics Committee

Ethics Committee Reviewer Decision

This form must be completed by each reviewer. Each application will be reviewed by two members of the ethics committee. Reviews may be completed electronically and sent to the Faculty ethics administrator (Jo Deeley) from a University of Nottingham email address, or may be completed in paper form and delivered to the Faculty of Engineering Research Office.

Applicant full name Malathe Hamid

Reviewed by: Genovefa Kefalidou

Name

Signature (paper based only)

.....

Date 06/12/2016

- ☐ Approval awarded - no changes required
- ☐ Approval awarded - subject to required changes (see comments below)
- ☐ **Approval pending - further information & resubmission required (see comments)**
- ☐ Approval declined – reasons given below

Comments:

- Who are the research collaborators (point 5 on application) and on participants' information sheet – please be more specific
- On application 2, it is not clear how the participants will be recruited (e.g. opportunistic sampling, snowball)? Also, will they be approached via email through the tutors or else? Please be specific
- You need to say that you will be following the Data protection Act 1998 (UK) in your research
- In the consent form, you should give options to participants to consent in different things (e.g. your architects may be happy for you to use their interviews (audio) data but not happy for you to use their architectural designs. You should be having different statements for consent.
- On consent form 1, it does not explicitly say where the data may be published – please be specific (e.g. conferences, journals, internal reports)?

Please note:

1. The approval only covers the participants and trials specified on the form and further approval must be requested for any repetition or extension to the investigation.
2. The approval covers the ethical requirements for the techniques and procedures described in the protocol but does not replace a safety or risk assessment.
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4. Normally, all queries raised by reviewers should be addressed. In the case of conflicting or incomplete views, the ethics committee chair will review the comments and relay these to the applicant via email. All email correspondence related to the application must be copied to the Faculty research ethics administrator.

Any problems which arise during the course of the investigation must be reported to the Faculty Research Ethics Committee

B. Interviews

B.1. Information sheet



Postgraduate Research Study:

Shaping Identities: Investigating the Role of the Emerging Patterns of Khartoum's Contemporary Architecture (the 90s to present)

Researcher: Malathe Hamid

Information Sheet for External Participant (Interviews)

You are being invited to be involved in this research study which will be conducted by the researcher: Malathe Hamid. It is a research that is funded by both the University of Nottingham and the Ministry of Higher education- Khartoum/ Sudan.

Before you decide whether you want to take part, it is important for you to understand why this research is being conducted and what your participation will involve. Please take time to read the following information carefully. Take time to decide whether or not you wish to take part.

The research nature is focusing on the contemporary architecture of Khartoum. It aims to explore it by firstly analysing it into simpler architectural patterns and then relink them to identity. Therefore, it is an exploratory and analytical research that involves analysing the physical architectural form on the light of the existing theories, then exploring it within the points of views of those who design and inhabit this architecture.

Because it is an exploratory research, the data will be collected in stages depending on the sufficiency of the data collected in each stage and the need to expand or to dig more deeply in part of it. Interviews with architects and academics will be the

first stage to start the data collection. The researcher will be running the interviews from mid-January up to the end of February 2017.

Another data collection method: students' design experiment will be carried out simultaneously with the interviews. These two methods are linked to each other as the design experiment will be exploring architectural education and how it affects the practice of architecture in Khartoum.

Requirements:

1. You will be asked to participate in a face to face interview if possible (which will be arranged via email beforehand). The interview will be based around an open-ended semi-structured interview pattern. It will be divided in two parts which each part will take approximately one and a half hours. It is up to you if you prefer to carry them in the same day or in two separate days.
   The first part is an opportunity for you to express your role as an architect or an academic on Khartoum's contemporary architecture. As for the second part, it will be for extracting the patterns of Khartoum's contemporary architecture from samples of pictures that will be provided by the researcher followed by a sorting task for these buildings according to categories that revolve around the identity being shaped and any other categories you would like (it will be explained in more detail later).
2. You (as an architect) might be asked to provide three examples from your architectural designs that are already executed in Khartoum. Documents required are plans, 3Ds, elevations and sections. Please note that these documents will be kept confidential and will only be used for this research and within the research collaborators. In case these documents are used, they will be attributed and your name will appear in each image or document used as: (designed by…….).

Notes:

- The interview will be recorded, and later transcribed into text form.
- Anonymity/Participation: As part of the presentation of results, your own words may be used in text form. This will be anonymised so that you cannot be identified from what you have said. Moreover, some of your documents might also be used as examples of Khartoum's contemporary architecture or to highlight some specific patterns or even to extract and analyse patterns. In all cases, any document used will be attributed and labelled as: (designed by:.)
- Once you have agreed to take part, your data will be kept with the researcher and stored in a secure place in a separate, password-protected file and a password-protected external hard disk (in case of any damage happened to the

original file) and your details will be removed from the file. However, if you decided to withdraw from the study your data will be destroyed and not used.

Please note that:

- ✓ You can decide to stop the interview at any point
- ✓ You need not answer questions that you do not wish to
- ✓ Your name will be removed from the information and anonymised.
- ✓ It is up to you to decide whether to take part or not. If you decide to take part, you are still free to withdraw during the interview or at any time and without giving a reason. If you withdraw from the study all data will be withdrawn and destroyed.
- ✓ If you do decide to take part, you will be given this information sheet to keep and be asked to sign a consent form.
- ✓ Once the thesis arising from this research has been completed, a summary of the findings will be made available by the researcher upon application.
- ✓ The thesis resulting from this study will be published within the university's online theses' depository (Nottingham eTheses).
- ✓ It is also possible that the results of this research will be presented at academic conferences and published in journals and might be used for future research.

Thank you for your participation

B.2. Consent forms

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

Consent Form for External Participant (Interviews)

Project Title: **Shaping Identities:** Investigating the Role of the Emerging Patterns of Khartoum's Contemporary Architecture (90s to present)

Researcher's Name: Malathe Hamid

Supervisors' Names': Laura Hanks – Wang Qi

- I am over 18 years old.
- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, I will not be identified and my personal results will remain confidential.
- I understand that I will be audiotaped during the interview.
- I understand that electronic data will be stored in a password protected computer and a password protected hardisk that only the researcher has access to.
- I understand that I may contact the researcher if I require further information about the research.

Signed ..... (Research participant)

Print name ..... Date .....

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

Consent Form for Providing Documents for this Research

Project Title: **Shaping Identities:** Investigating the Role of the Emerging Patterns of Khartoum's Contemporary Architecture (90s to present)

Researcher's Name: Malathe Hamid

Supervisors' Names': Laura Hanks – Wang Qi

- I am over 18 years old.
- I have read the Participant Information Sheet and the nature and purpose of the research project has been explained to me. I understand and agree to share documents of my designs for the purpose of this research and I understand that these documents will not be used to criticise my work but it will be analysed objectively into patterns to help to explore the contemporary architectural patters of Khartoum.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study may be published, my designs, if used, they will be accredited to me under my name (designed by.....).
- I understand that electronic data only will be stored in a password protected computer and a password protected hardisk that only the researcher has access to.
- I understand that I may contact the researcher if I require further information about the research.

Signed ..... (Research participant)

Print name ..... Date .....

Contact details

Researcher: Malathe Hamid

University of Nottingham

Email: Malathe.Hamid@nottingham.ac.uk

Supervisor's Name (1st): Laura Hanks

Email: Laura.hanks@nottingham.ac.uk

Supervisor's Name (2nd): Wang Qi

Email: Wang.qi@nottingham.ac.uk

The contact details of the Research Ethics Coordinator should participants wish to make a complaint on ethical grounds are: educationresearchethics@nottingham.ac.uk

B.3. Interview questions

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

Interview Questions

I. Background of the office (15 minutes)

- When was it established?
- Years of experience
- Generations: The age of the head architect(s) compared to other architects working in the office (seniors/ juniors)

II. Design methodology (30 minutes)

- How do you see your architectural education influenced your designs/ the way you design?
- Describe the design process in your office
  - How do you start your design?
  - Which type of analysis do you tend to start with? (Quantitative thinking/ qualitative thinking?
  - Design methodologies
- How do you visualize the external form while you're designing?
- To what extent does the following influence your external form in scale 1-5

	1	2	3	4	5
social needs					
Visual Sudanese symbols					
Cultural values					
Environmental influences					
materials					

- And at which design stage:
  - Site analysis
  - Preliminary design
  - Developed design
  - Final stage

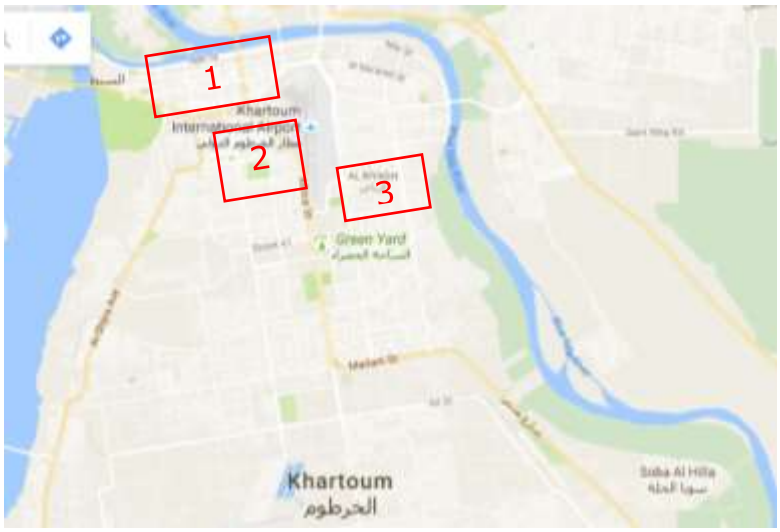
III. Shaping Khartoum's identity (30 minutes)

These 3 areas in Khartoum are the three main representation areas for the institutional buildings, and 3 because each one of them represents the three main distinctive architectural eras in Khartoum.[65]

- If we want to see how these patterns are shaping the architectural identity (related to place identity) of Khartoum, we are going to do a sorting experiment, please could you sort the images in the following 3 categories:
- 1- buildings that gave **rootedness to the place**
- 2- buildings that gave **alienation to the place**
- 3- buildings that are **neutral**

Then explain to me the reasons that you placed certain buildings in each category and why?

- You can carry on as many categories as you want/ or change the name of the labels if you would like



IV. your designs: (30 minutes)

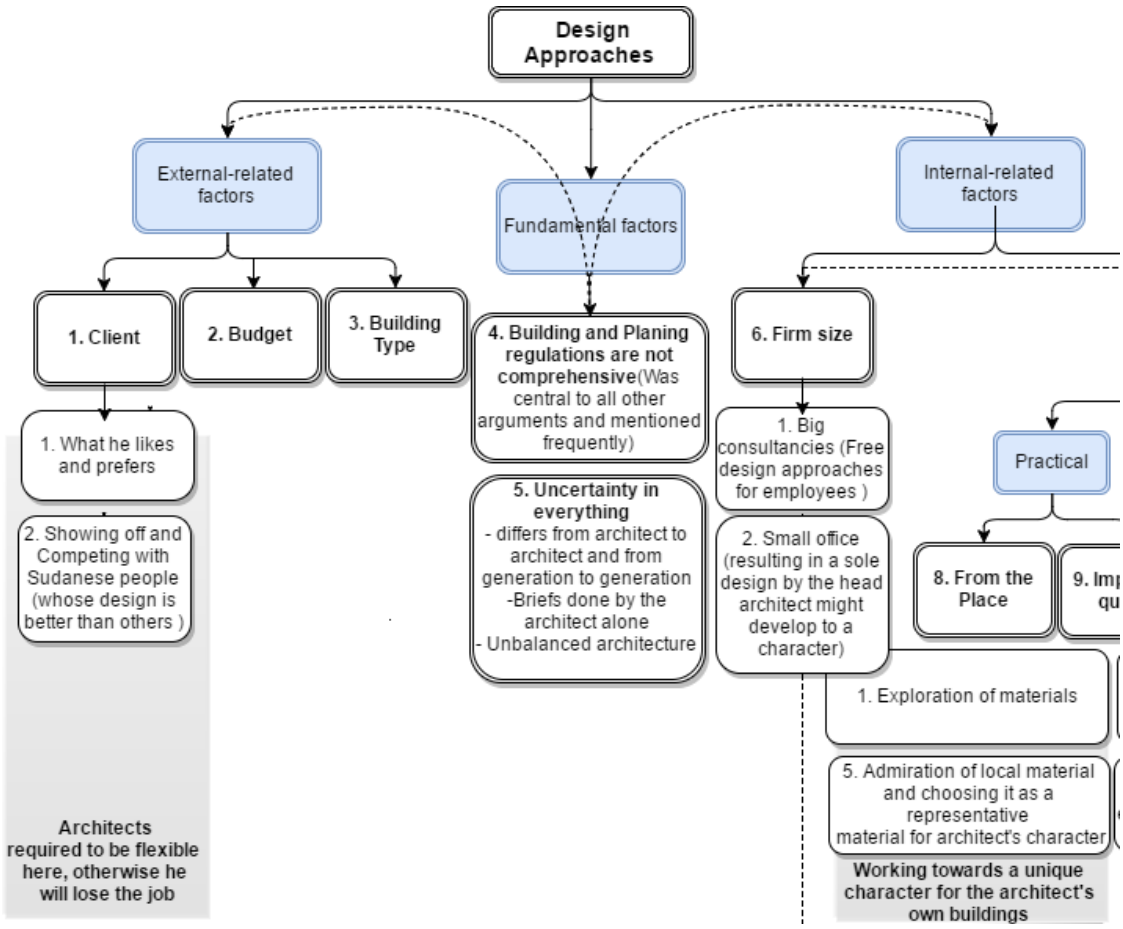
- Can you please provide me with examples of 5 projects of your designs that you believe have added significant value to its context and the image of its place.
  - What are the determinants of its form/ and its patterns?
  - How do you describe your buildings in relation to the region (its climate, its topography, and its cultural determinants)?

[65] This question was mainly about a Sorting excersie for representative buildings in KCC according to these three proposed sorts, however, the analysis of its results was left for future research as data obtained was not complete.

V. (Closing section): Khartoum's current Identity (30 minutes)

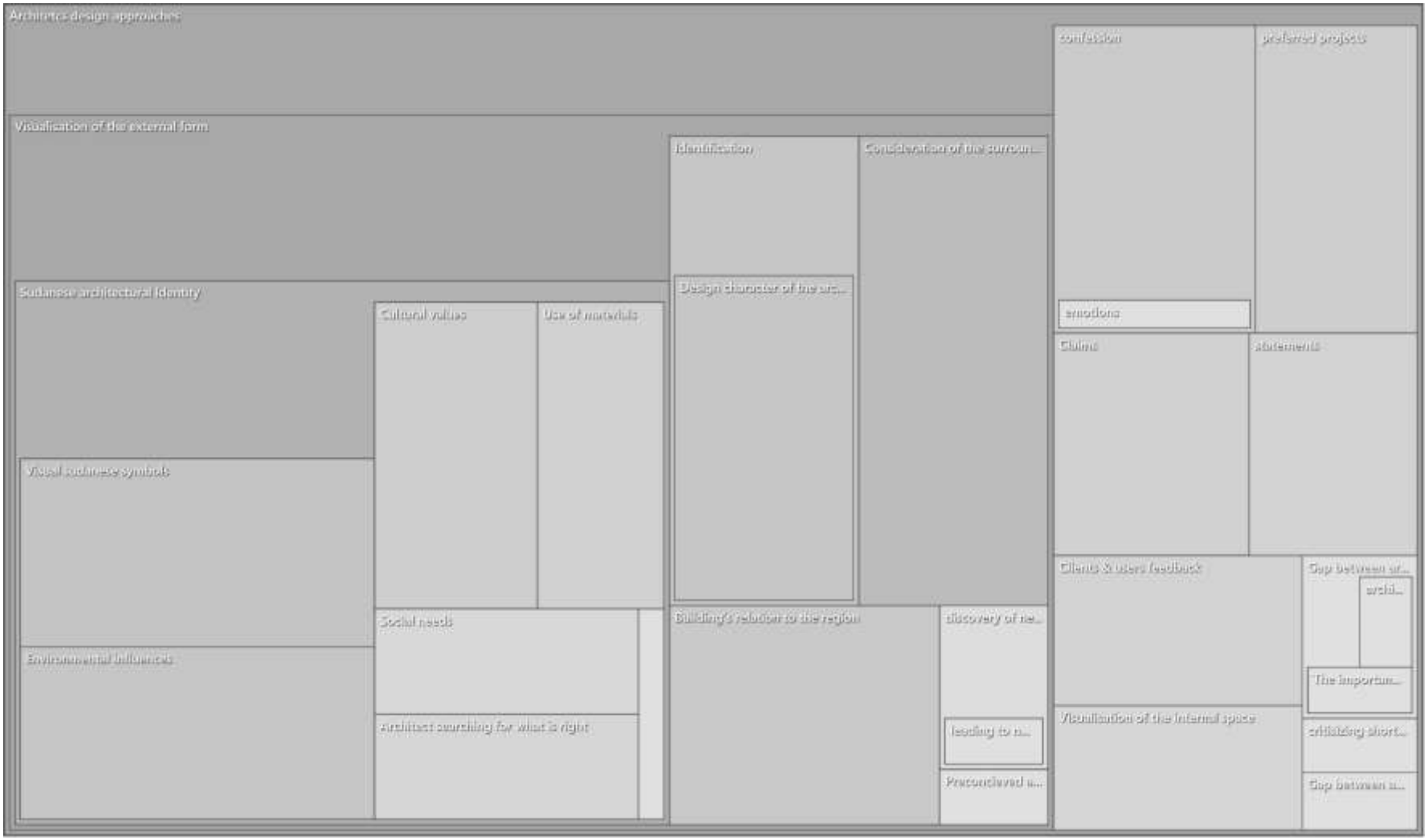
- How do you describe the architecture of the period of the 70s (modern architecture) and the identity that it had shaped?
- How do you compare contemporary architecture now with its emerging patterns to that period?
- Where do you see the current architectural identity of Khartoum's contemporary architecture going?
- Any suggestions for its future?
- And if there is anything you would like or a nomination for someone to contact or to interview?

B.4. Interviews' analysis



A Snapshot showing an example of initial pilot coding of the interviews: Identifying 9 variables that are affecting the design approaches' of architects in Khartoum from the indicative codes 'architects' design approaches' in (Figure 3.4), their rearrangement in 3 main categories and the interrelation with their sub-categories (Source: The Author).[66]

[66] See (Figure 4.1) for the updated version of the analysis of this same code



A Snapshot showing from NVIVO showing the number of codes within each code.

C. Ethics decisions: focus groups

Ethics Committee Reviewer Decision

This form must be completed by each reviewer. Each application will be reviewed by two members of the ethics committee. Reviews may be completed electronically and sent to the Faculty ethics administrator (Jo Deeley) from a University of Nottingham email address, or may be completed in paper form and delivered to the Faculty of Engineering Research Office.

Applicant full name Malathe Hamid – Continuation of study

Reviewed by:

Name

Signature (paper based only)

.....

Date 02/11/2017

- ☐ **Approval awarded - no changes required**
- ☐ Approval awarded - subject to required changes (see comments below)
- ☐ Approval pending - further information & resubmission required (see comments)
- ☐ Approval declined – reasons given below

Comments:

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Please note:

1. The approval only covers the participants and trials specified on the form and further approval must be requested for any repetition or extension to the investigation.
2. The approval covers the ethical requirements for the techniques and procedures described in the protocol but does not replace a safety or risk assessment.
3. Approval is not intended to convey any judgement on the quality of the research, experimental design or techniques.
4. Normally, all queries raised by reviewers should be addressed. In the case of conflicting or incomplete views, the ethics committee chair will review the comments and relay these to the applicant via email. All email correspondence related to the application must be copied to the Faculty research ethics administrator.

Any problems which arise during the course of the investigation must be reported to the Faculty Research Ethics Committee

2016-17 academic year only

Ethics Committee Reviewer Decision

This form must be completed by each reviewer. Each application will be reviewed by two members of the ethics committee. Reviews may be completed electronically and sent to the Faculty ethics administrator (Donna Astill-Shipman) from a University of Nottingham email address, or may be completed in paper form and delivered to the APM Hub

Applicant full name .....Malathe Hamid.....

Reviewed by:
Name .....Dr. Genovefa Kefalidou.....
Signature (paper based only) .....
Date .....06/11/2017.....

Approval awarded - no changes required
Approval awarded - subject to required changes (see comments below)
Approval pending - further information & resubmission required (see comments)
Approval declined – reasons given below

Comments
"A list of names will be provided to students"...in the information sheet. It is not clear what these names are? Please remove it and just say something like that students will be provided with available focus group time slots to choose from for their participation. Also, where will the focus group with the graduating students take place?.....
Also, please add in the consent form a separate sentence (to be signed) that says that participants understand that they will not be reimbursed/paid in any way for their participation.
.....
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Please note:
1. The approval only covers the participants and trials specified on the form and further approval must be requested for any repetition or extension to the investigation.
2. The approval covers the ethical requirements for the techniques and procedures described in the protocol but does not replace a safety or risk assessment.
3. Approval is not intended to convey any judgement on the quality of the research, experimental design or techniques.
4. Normally, all queries raised by reviewers should be addressed. In the case of conflicting or incomplete views, the ethics committee chair will review the comments and relay these to the applicant via email. All email correspondence related to the application must be copied to the Faculty research ethics administrator.

Any problems which arise during the course of the investigation must be reported to the Faculty Research Ethics Committee

D. Focus groups

D.1. Focus groups information and questions

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

Focus groups Information and questions

Background information:

The research is focusing on the contemporary architecture of Khartoum. It aims to study the role of its emerging architectural patterns in shaping the architecture and its identity of the city from the period of the 90s till now and will study that on the case of its city centre.

The research broader aim is to fill the gap in architectural research in Khartoum. Thus, the first step was to investigate then document the current situation of Khartoum's architecture and that was achieved on the first round of data collection. It was successfully achieved by conducting semi-structured open-ended interviews with 25 architects, architectural academicians and experts. Now, this current round of data collection aims to 'triangulate' the findings in the data analysis from the initial interviews. It will investigate closely the essence of Khartoum's built environment and explore certain buildings that represent the everyday scene in Khartoum's architecture. In an attempt to answer the question of its architectural identity.

How a newly emerging city like Khartoum can ever define its contemporary architectural identity?

D.2. Focus group questions

Theme 1: the essence of Khartoum's city centre (30 minutes)

(Panoramic images will be shown with this question):

- Very general question: what is your personal experience with the architecture of KCC (it could be with one or some of the buildings)?
- What is, do you think the essence of KCC built environment? (the thing either physical or natural, element or feature that allows you to distinguish it as this is Khartoum). Please **list** them in the paper.

  Action 1: highlight to them a quick analysis of their list, whether they were patterns, certain characters that can be translated into patterns. Whether they mentioned something architectural or urban, or whether they related to the form only or the street only (e.g) (either transitional or form patterns), this is the first step to introduce the concept of patterns and define what patterns mean.

  Action 2: when they understand it, ask them further if they want to add any patterns
- What is your opinion of the centre of Khartoum being described by these patterns? (cues: agreement, disagreement a certain feeling?)

  Action 4: Interim summary 1 (p. 114)

****

Theme 2: Exploring distinctive architecture in Khartoum's city centre (30 minutes)

(Images of the buildings will be shown with this question):

- **List** the three most distinctive buildings of the following representative buildings in Khartoum's city centre that create a unique urban landscape. What is specifically distinctive about these buildings?

  Action 1: Do a list of the buildings, mark how many said significant in each building, then those who said significant will be allowed to speak about his/her reasons for each of the three buildings.
- Do – any of these reasons of distinctiveness – match the list you generated earlier about the essence of Khartoum's city centre built environment?

  Action 2: Probe on these significant things that they have mentioned try to quickly analyse whether they are: form patterns/ transitional patterns or / spatial patterns? Try to highlight in which category are the majority of patterns, then I can compare them back with the list of patterns that I have created.
- If we replicate those distinctive patterns in Khartoum's city centre, What do you think the architectural character of the city centre will be?
- *Action 3:* Interim summary 2



****

Theme 3: Testing different utilisations of the interpretive pattern language tool.

- Compare these distinctive buildings above with the messages communicated by the buildings below whose architects claim that they deliver a local architecture/ Sudanese architecture
- Did you notice they used certain repeated forms/ materials patterns? Can you name them?

  Action 1: Here, I need to prompt them to extract the patterns. I will help them

  - Do you agree with the architects that these (forms) reflect a local/ Sudanese architectural character?
    - If yes; why?
    - If no; why?

  Action: how many say yes and how many say no, count them loud and allow them to speak about the reason

- So do you think by following these ideas of local architectural form patterns we could generate/enhance a local Sudanese architectural identity? Agree/ or disagree and why?
- Which phrase do you prefer? (local or Sudanese)

- Which of the two groups you go with (first group of distinctive buildings/ or second group of local buildings) to represent Khartoum's city centre architecture. Or you would go with a mix between the two (a more diversified architectural identity)

Action 1: I think here just to clarify the participants with what they have said, I should state to them the architectural patterns in the certain group they have chosen, list the main ones for the two-building groups and let them compare and choose between the two

Action 2: Interim summary 3

Action 3: Final Summary by the research assistant



D.3. Consent form

The University of Nottingham
UNITED KINGDOM · CHINA · MALAYSIA

Consent Form for External Participant (Focus group)

Project Title: **Shaping Identities:** Investigating the Role of the Emerging Patterns of Khartoum's Contemporary Architecture (the 1990s to present)

Researcher's Name: Malathe Hamid

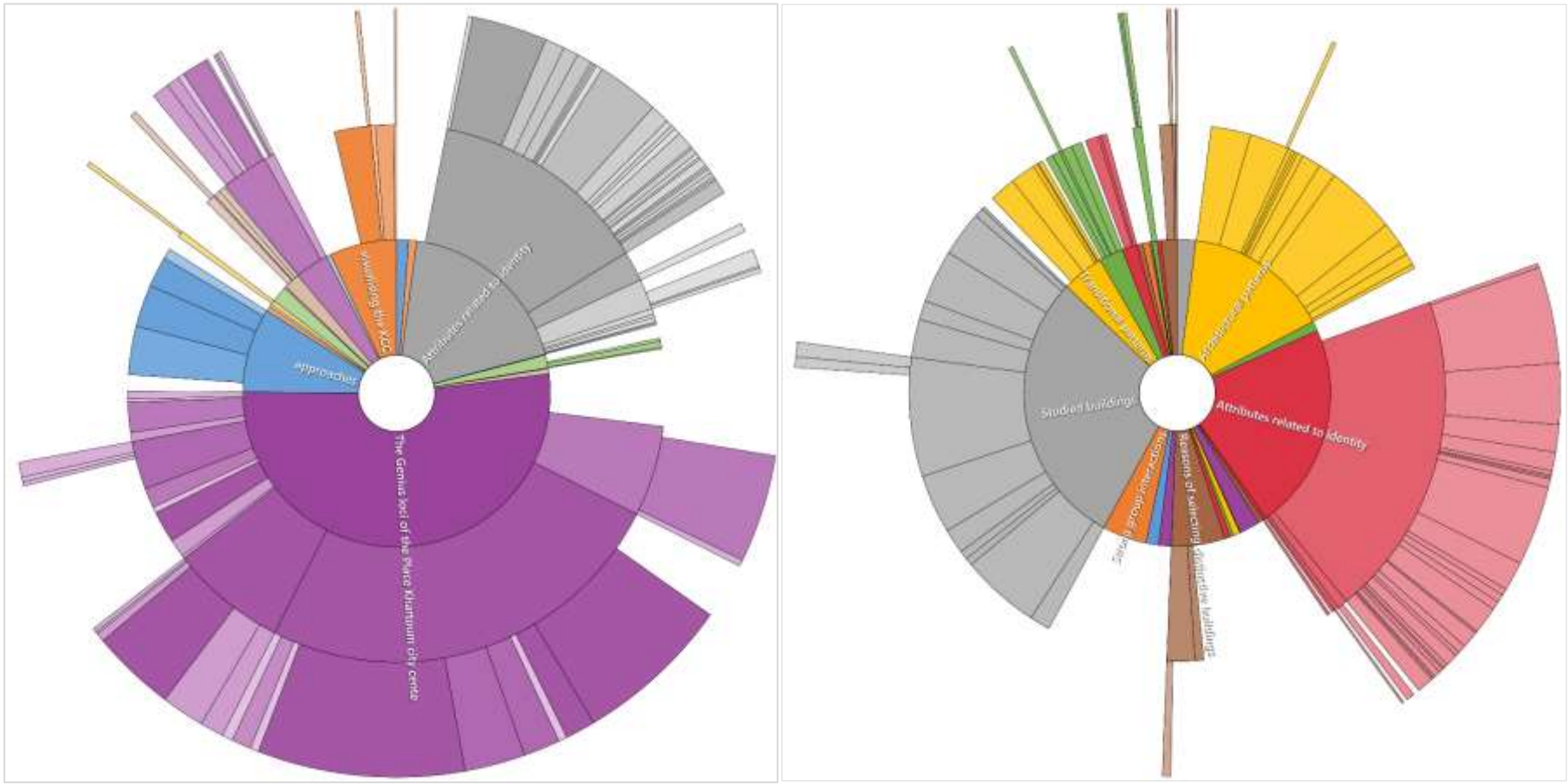
Supervisors' Names': Laura Hanks – Wang Qi

- I am over 18 years old.
- I have read the Participant Information Sheet and the nature and purpose of the research project have been explained to me. I understand and agree to take part.
- I understand the purpose of the research project and my involvement in it.
- I understand that I may withdraw from the research project at any stage and that this will not affect my status now or in the future.
- I understand that while information gained during the study might be presented in academic conferences, published in journals and used for future research, I will not be identified (anonymised) and my results (audio data and text) will remain confidential and only used for research purposes and within the research collaborators including; the researcher, her supervisors and the internal examiner. However, if you decided to withdraw from the study all your data will be destroyed and will not be used.
- I understand that I will be audiotaped during the focus group interview.
- I understand that electronic data will be stored in a password-protected computer and a password protected harddisk that only the researcher has access to.
- I understand that I may contact the researcher if I require further information about the research.

Signed ..... (Research participant)

Print name ..... Date .....

D.4. Focus groups analysis



Hierarchy charts generated from NVIVO Software showing the dominant provisional core codes from data of the focus groups. (Theme 1 (left): showing the exploration of the *genius loci* of Khartoum as the core code(in purpule) and Theme 2 (right) shows attributes related to identity as the core code (in red))

E. Mahdiist dome

