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REDEFINING VERNACULAR ARCHITECTURE IN CAIRO

an investigation into Cairo's built environment,
public space and spatial practices

تحقيق في البيئة العمرانية في القاهرة، والاماكن
العامة والممارساتظ\الانشطة المكانية

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URBAN IDENTITIES IN CRISIS

Redefining Vernacular Architecture in Cairo

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REFLECTION

Architectural discourse keeps the West as its compass with less attention being given to narratives that emerge from other parts of the world. As cities grow and references continue to be drawn from western culture, the culture and knowledge of production of space of non-western cultures are at risk of being lost. In this way, my graduation project was my way of contributing to the body of knowledge in real time as new cities are being built in the region.

Cairo has been the main drive and source of inspiration for who I am as a designer and an architect. So much of my approach to the practice of architecture is drawn from it. My graduation project stems from my critical reflection on the urban processes of growth that trigger the construction of new cities in Egypt, in particular the development of the New Administrative Capital (NAC) that sits 45 km to the East of Cairo. Over the last 50 years. Cairo's built environment has exploded onto its agricultural land, both formally and informally, within its urban fabric, and into the desert around it, in the shape of desert archipelagoes. I took the position of looking within Cairo's at its complex layers to research the notion of vernacular architecture through a lens that has yet to be explored, the relationship between the physical form of the built environment and the phenomenological dimension of spatial practices. This project presents a possibility, a framework for future public architectural discourse and challenges the notion of architecture as a static object in time. By delving into the intricate relationships between the built environment and spatial practices in Cairo, emphasizing the significance of the architectural

and urban scales, the project explores an alternative approach to the design process that stems from the context and the simple yet precious acts of daily life.

As an Egyptian student in the Netherlands, I see this as an opportunity to contribute to the architecture discourse and present an image of my home that reflects its richness and vitality. It is almost a responsibility to address issues, such as urban identity and resilience, which have been left dormant for years, through a critical lens that looks within itself as opposed outside itself. And so, although the New Administrative Capital is well underway and is on an inevitable path, I wanted to keep the conversation and discourse alive for the sake of the future of our built environment and the preservation of the Cairene identity. Therefore, my approach required an awareness and a degree of objectivity to be able to not only see matters through rose colored lenses, but instead see the complex nature of the reality with its inherent dichotomies.
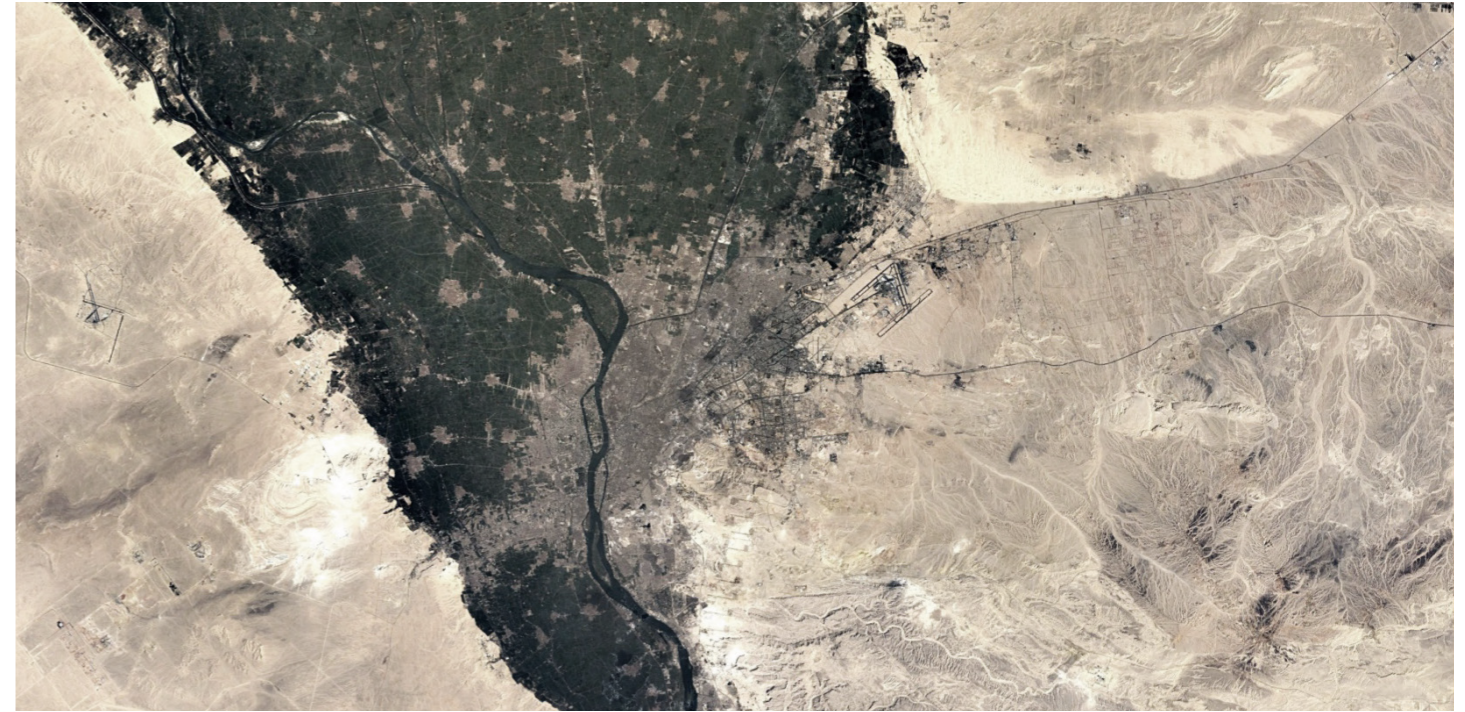
Cover Photo Islamic Cairo from above
Source: Author's Work

Figure 01 Satellite Image of Greater Cairo in 1985 (top) and 2020 (bottom)
Source: Google Earth

Although daunting in its open ended nature, the research followed the grounded theory methodology which offered a canvas of exploration into an array of methods that only together would stand a chance in questioning how the term 'vernacular architecture' can be redefined to reflect and regenerate the built environment and spatial practices of Cairo and future urban development?

The first method, the discourse analysis, brought into question the validity of the narrative circulating around the urban growth of Cairo as the root cause for the development of the New Administrative Capital as well as the image that this new capital represents. It did so by looking to the people, the politicians who set the collective public vision for the city and the practitioners who are seemingly (or not) involved in the production of its spaces. As such, the discourse analysis dove into archival research composed of newspaper articles from Egypt's leading newspaper "Al-Ahram" alongside digital state archive through the New Urban Communities Authorities website of promotional videos that reflect the promoted discourse in real time and provide insight into the narrative of the state. In an effort to balance the scales, a series of interviews were conducted with local practitioners, architects, urbanists, professors, researches, heritage and conservation managers, to investigate the nature of the discourse around the production of space in and around Cairo as well as provide a lens into the challenges facing the field and apparent struggle in identifying a local identity and defining the vernacular, in addition to illuminating

the apparent lack of discourse between public policy makers and practitioners. Although highly valuable, the discourse analysis offers perspective on a limited cross-section of narratives yet to be explored. For a more comprehensive perspective, further research must be conducted on other newspaper publications, politician interviews and a wider range of practitioners involved in Cairo's built environment.

With the apparent discrepancy in pinning down Cairo's vernacular, let alone the definition of vernacular architecture itself, the project followed a system of questioning and not taking ideologies for granted. The mere act of putting into question the definition of vernacular architecture, through the development of an extensive glossary, triggered the emergence of the theory of the relationship between architecture and spatial practices. The glossary examined a set of terms, problematized their notions and explained how each term has been used in the architecture field along with their meanings or interpretations. The set of terms in this glossary were chosen on the basis of their overlaps and crossovers in relation to the challenge of identifying what kind of architecture may be referred to as vernacular architecture in Cairo. The glossary was not intended as a final product. It was meant as an open-ended body of knowledge that can be changed and expanded upon in the future. This new perspective resolved vernacular architecture from inherent notions of "othering" that refer to an architecture that is associated with certain parts of the world and not others, belongs to specific groups of people and uses a particular process or limited set

of resources and materials. By linking the essence of the vernacular to people and spatial practices, it transcends its own limitations and transforms into a process of production of space belonging to everyone and yet being entirely unique based on where it is drawn from.

The chosen method to investigate this theory on ground was through urban narratives which followed the process of moving through Cairo as a passive observer, with a limited active role in the daily lives of the people inhabiting it, to uncover the traces of how people engage and appropriate spaces in Cairo. The purpose of this method was to observe the city and test if there truly is a relationship between people and place, how space and place influences their behavior and if there is repetition of behavioral patterns that may be categorized as vernacular. The sites chosen for exploration represented a cross-section of Cairo's neighborhoods from the urban core to the desert cities. Due to limited time and accessibility, informal settlements were not explored in this research method. Although the journey through each district was not entirely premeditated, the urban geometry including significant landmarks, nodes, districts, edges and pathways guided the experience. This resulted in the cataloging of patterns across the city. The patterns were identified upon recurrence in more than one neighborhood in Cairo, across varying socio-economic scales. The lens used to extract patterns from Cairo's built environment looked at seemingly mundane and inconsequential everyday occurrences that took on more than their intended life as a direct result of

people's interference with them. This pattern language becomes the starting point for developing a design process that reflects the vernacular architecture that is derived from spatial practices.
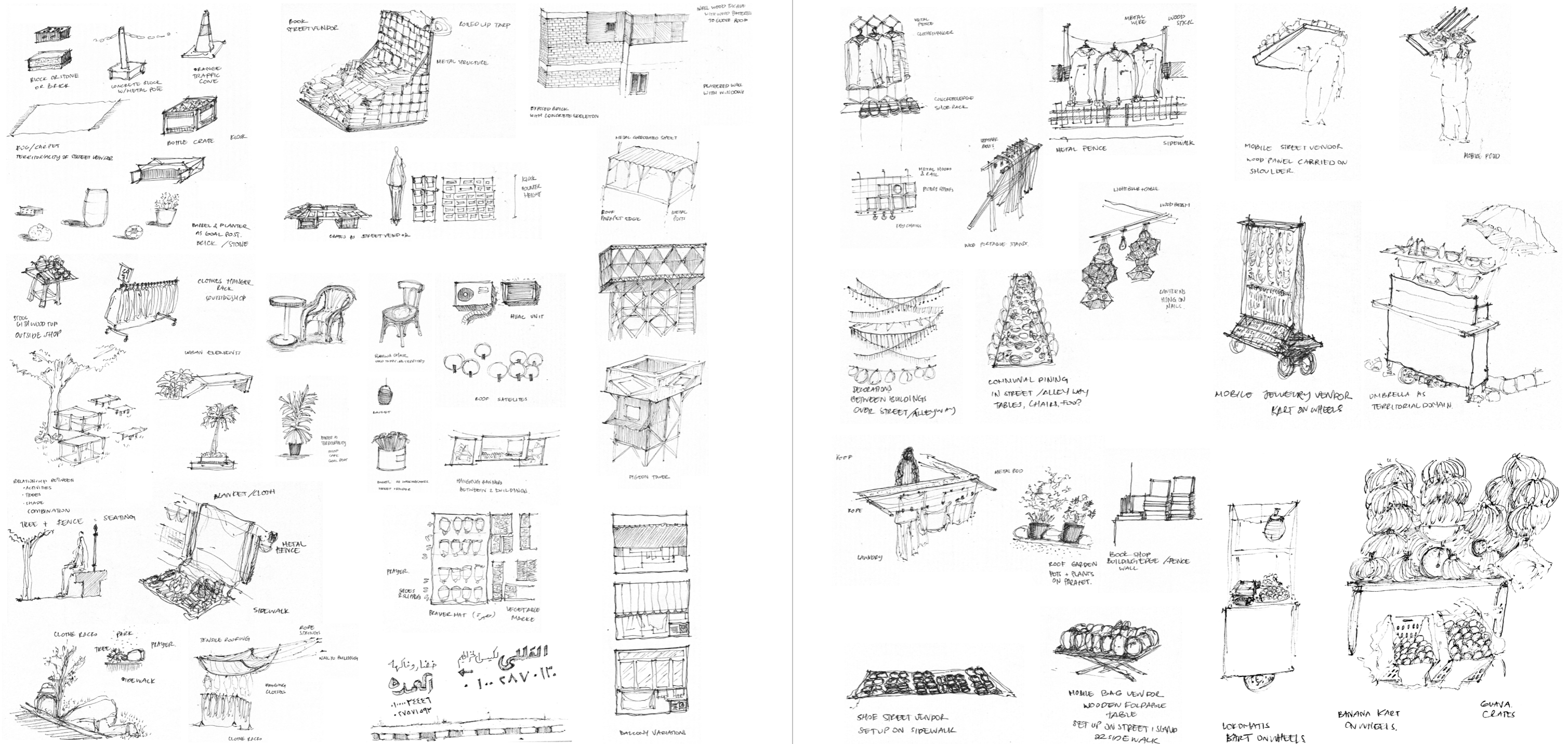
Figure 02 Patterns of spatial practices extracted from the city and practices of daily life

Source: Author's Work

The research outcome, derived directly from the pattern language, resulted in a series of design guidelines that reflected the principles of the new found vernacular process. Manipulating these design guidelines and changing the order of their priority lead to different possibilities of spatial configurations. The counter program also emerged from the pattern language as a response to the neglect of people's needs and their action to use the cities voids to self-build spaces that satisfy their unfulfilled needs. The spaces are designed in a way that allows for the possibility of changing and shifting programs over time, and so the same space is able to host more than one type of programmatic function. This resulted in a dynamic ever changing spatial experience that is influenced by time. The passage of time inherently played a pivotal role in how space is occupied, how the city is shaped and its influence on the dynamics of operation of space, leading to the development of an operation scheme to support the organization of space and the overlapping interests of different user groups. Different times of day as well as changing seasons and events result in a diverse array of experiences within the same spatial configuration. The context serves as a major driver for the process where the city acts as the backdrop for experimentation and testing of the hypothesis of the vernacular process of generation of space, allowing for a process of growth and appropriation. Three tests sites were chosen, Downtown Cairo, New Cairo and the New Administrative Capital. This allowed for an incremental process of testing the theory on different sites, learning from each and moving back and forth between them. This process opened up a world of possibilities and outcomes that were much more valuable than testing within a static set of conditions. Although challenging to juggle four changing variables, design guidelines, program, time and place, this provided the opportunity to place the design in a forum and question its eligibility as vernacular every step of the way.

The process of testing and questioning through design, i.e. the forum, occurred on the level of the user, the organization, the materiality and the architect. The user was placed at the forefront of the design process by following the story of a diverse set of existing users. Following the journey of each user and how they engage with space became a tool to determine the spatial requirements of the design. The organization changed a lot over time. It started with the micromanaging every aspect of the space and then developed by taking a step back as intentional minimal interventions that once repeated encourage spatial practices to occur. They were designed as suggestive and open for interpretation and appropriation reflecting the influence of time and people on space instead of as pre-choreographed and predetermined outcomes. The spatial arrangement and configuration of this elements was constantly called into question to test the limits of what qualifies as the least choreographed solution to facilitate spatial practices. The materiality played a pivotal role in how the narrative of the project, it became a tool to talk about appropriation and spatial practices, mirror the influence of time, weather and decay as well as being part of the local dialogue and library of available materials in Cairo, how they are used, perceived and how the city plays a role in the design decisions. It also become a tool in creating distinction between temporary and permanent aspects of the design based on perception of materials and user engagement. The role of the architect was also brought into the forum for questioning on multiple occasions and where it resides in the vernacular process. The challenge to define the line between design, appropriation and ownership was eminent in a project that is derived from how people are already using existing space, what is considered over-designed vs. under-designed in search for the balance. Personally, this became simply about catering to the human scale in a growing city, providing a basic need as simple as shade and shelter, addressing the need for public space in the city and the protection of values and knowledge of the social production of space.

The process of production of this type of vernacular architecture is derived from the pattern language of the place it is intended to be implemented in. It acts as a pure reflection of people's needs and how they respond to their built environment. If one were to look closely enough within any context, the patterns are there. It becomes the task of the architect to translate the pattern language into a design language. And so, although the project itself is unique to Cairo and its people, the process itself is transferable and is expected to yield different results based on where it is implemented. The responsibility rests with the architect to draw the line between what to design and what to leave open ended for appropriation and personalization. Through following this process, the architecture detaches itself from preconceived notions of what architects are supposed to design and asks questions of what people need not just on the scale of the building but on the scale of the city.
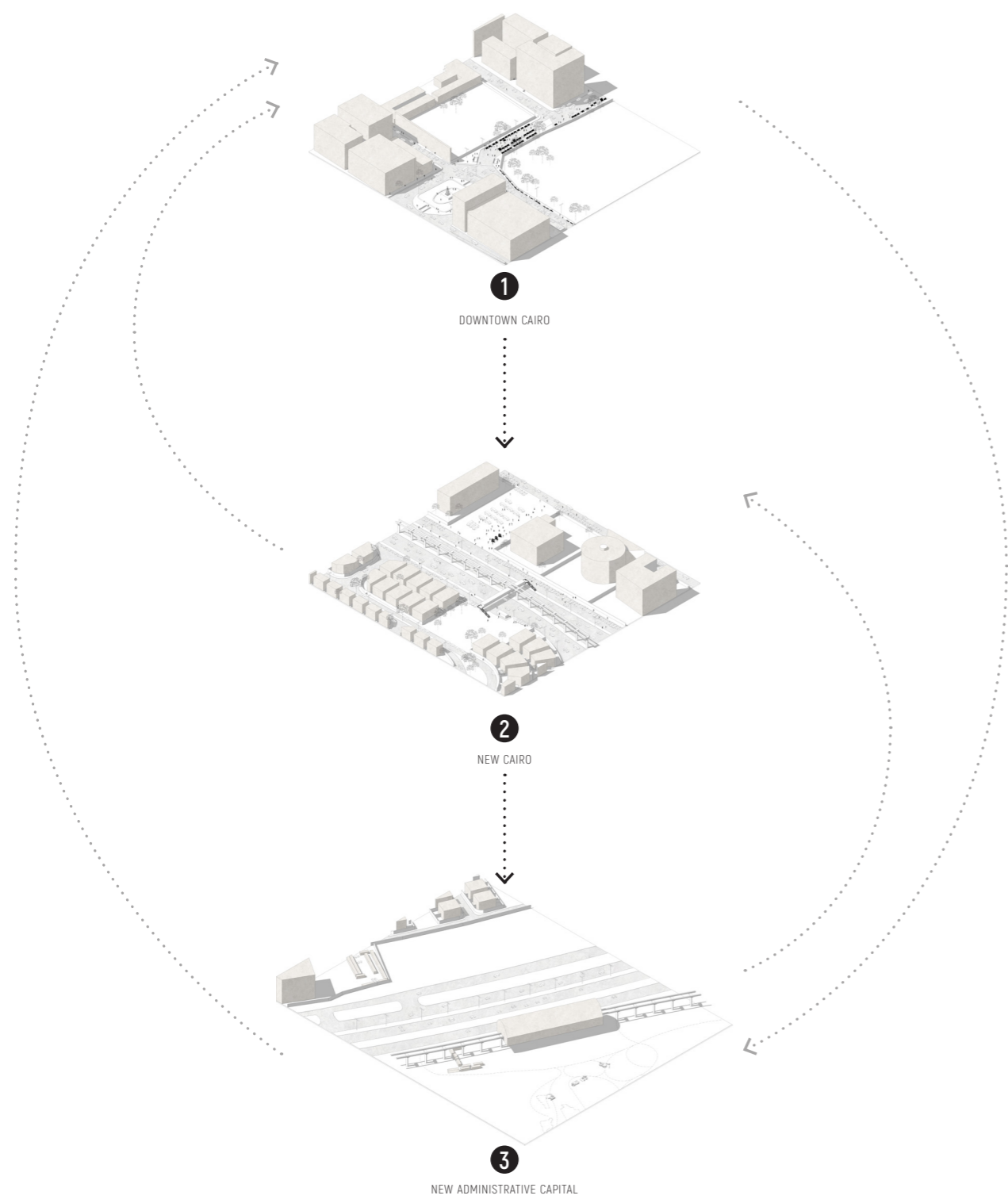
Figure 03 Incremental design process as extracted from research outcomes
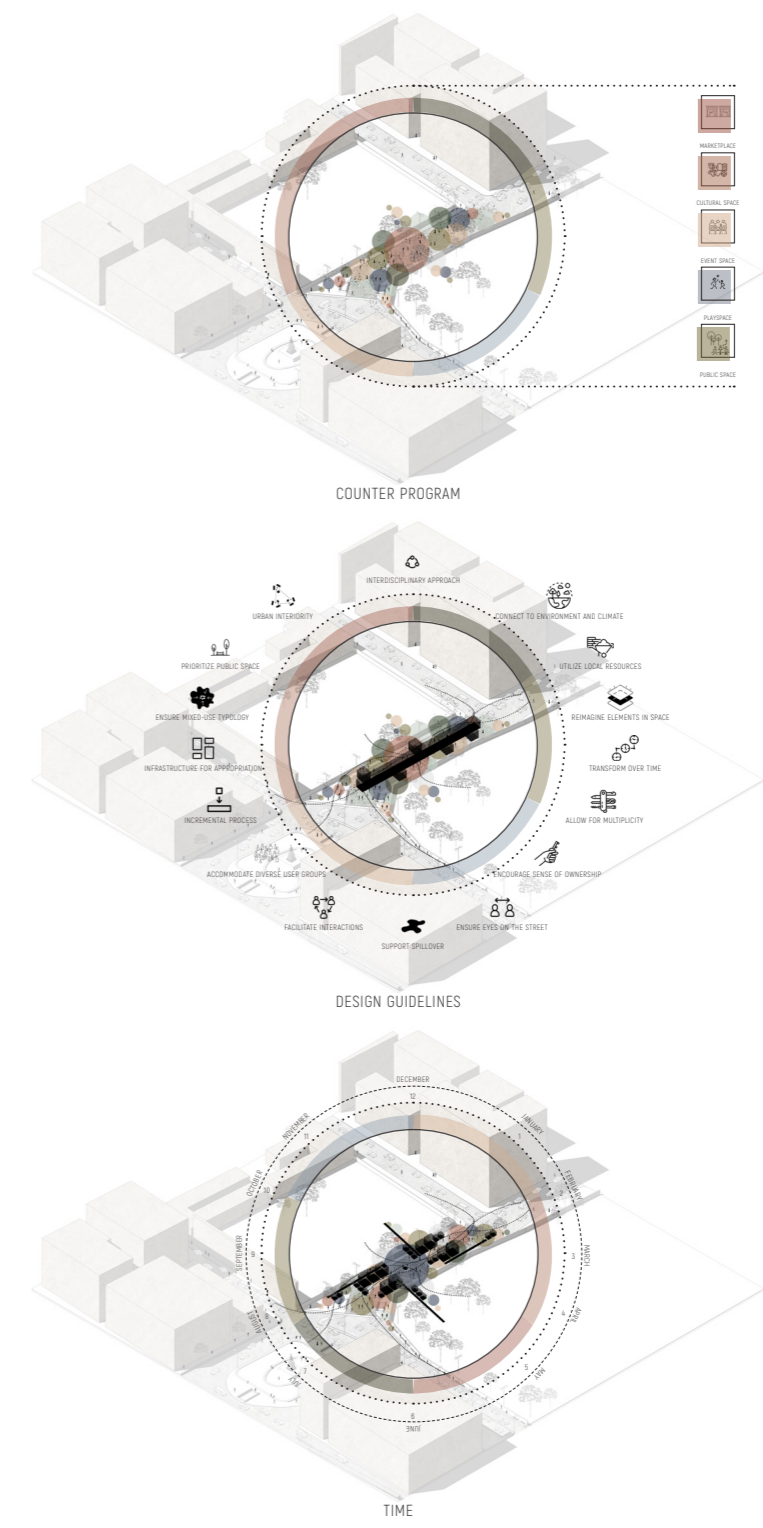
Source: Author's Work

Figure 04 Experimental design process as extracted from research outcomes

Source: Author's Work

With a project that focuses on spatial practices that are constantly flowing and changing, time was an integral dimension that had to be considered and represented. The patterns of spatial practices revealed the process of time and how depth and layers are formed within Cairo. Therefore, there was a direct relationship between the forces of time and people when addressing notions of appropriation and ownership. The methodology of the research in addition to the design strategy offered a sense of incompleteness that was deliberate and intentional. There is no finality to the vernacular process, it is a regenerative one that changes over time. As long as people are not static objects in time, space will not be a static object in time. Therefore, neither the research nor the design were intended to be final objects, they are part of a larger discourse and process of discovery and experimentation over time.

As a consequence to this position, the design reached at this stage represents only one moment in time guaranteeing that if further investigation is conducted, where more users, sites, materials, configurations, timelines are tested, new results would emerge. That being said, the design accounts for multiple scenarios within this one given moment in time. This was particularly perplexing to translate into drawings, how can complex dynamic concepts be translated into static drawings. These scenarios try to the greatest extent to document and depict the reality of what will happen, avoiding romanticizing situations and exposing the raw reality of the lifetime of the design. They also depict the transformability of the same

elements in space over time, during different times of the day and night as well as during events and seasonal variations. One of the ways the design opens itself up is by utilizing flexible and adaptable elements that are manipulated by the users to activate space. The intervention takes into account a phasing strategy where not the entire intervention is constructed in a single moment in time. It grows over time with new elements being added allowing it to grow over time. Furthermore, the materials were chosen intentionally as a result of their ability to document the passage of time, with an invitation to expand over time and also to offer potential for other lives after the lifetime of the intervention or to accommodate people's evolving needs over time. This directly reflects on the culture of reuse evident in Cairo's cityscape. This approach ensures that the architecture remains relevant and functional as spatial practices evolve enriching the human experience of space.

To design with the scale of time entails designing not only for the current site conditions but also for future conditions. Therefore, the intervention on each of the three sites takes into account the projected future of how the site will change and how behavior will change accordingly. In Downtown, the intervention accounts for the development of the Continental Hotel which jeopardizes the space currently occupied by vendors in the closed off vehicular street and aims to preserve the right of people to the city and quality public space. In New Cairo, the intervention envisions the operation of the monorail station nearby, accounting for an increased demand for mobility and supporting

services. In the New Administrative Capital, where little to nothing exists currently on the chosen the site, the intervention imagines a future scenario that follows in the trail of New Cairo with isolated commercial blocks and highways dividing the city. Therefore, although the interventions are designed in the present, they reflect the influence of time. This was especially difficult as in certain moments, the choice between imaging what will happen and what one wants to happen is critical. This project wasn't about imaging an alternate reality it was about improving the foreseeable one.

Figure 05 Photocollage of concept design depicting the influence of people and time on space
Source: Author's Work

This project has been very personal journey for me as it all started with my own fascination with Cairo and the potential to learn from the complex layers of the city and its people. Although I had no predetermined outcome for the research and where the design would lead, I was and continue to be excited by the possibilities that the city has to offer.

It has been an enlightening process to critically question notions at every point throughout the process as it lead me to develop outputs I could not have even imagined. The glossary of the vernacular, which I had not expected would open up so many avenues of exploration but managed to reach as a result of the diligent guidance and passion of my research mentor, provided me with the necessary critical perspective to put into question preexisting conditions. One of the many exciting moments throughout the project was the on ground field work, I thoroughly enjoyed exploring my city through a new lens and looking at what I had taken for granted as familiar with a whole new perspective. Although it was challenging to push myself out of my comfort zone and explore the city in depth, I am in awe of the discovery of spatial practices as my key to reimaging vernacular architecture, I couldn't have imagined how something so blatantly simple and right in front of my eyes be the key. Cairo's Pattern Language, the catalogue of patterns that attempted to answer the research question, was as equally challenging as it was rewarding to document patterns across the city and have a physical manifestation of the unseen elements and practices that make Cairo. If more time was allocated, I am certain that more

patterns would have emerged in addition to access to neighborhoods that were inaccessible due to limited time and resources. Another highly rewarding moment was the realization during the many dialogues I had with local practitioners. Researchers and educators, which I hold in high esteem and have been grateful for their valuable time to sit down and share thoughts, was the realization that the questions I was asking and the sparked curiosity was well placed and the support they showed in the value of discourse between individuals within the architecture practice in Cairo.

From the very beginning, I was certain that the design process would not be a straight forward one. With the creative liberty, enthusiasm, empathy and support of my design mentor, this gave me the freedom to question, test and explore the possibilities of what this new found vernacular architecture could look like when manifested into the city. It also meant that I was engaged in designing a process, a way of thinking and designing as opposed to a final product or object in space. The design itself became a test that could be placed within the vernacular forum, evaluated, criticized and modified until it responded in the necessary way. However, this did not mean that the task was an easy one. I was frustrated at multiple points and had to constantly go back to my research to center myself and reframe my purpose.

I was also constantly grappling with the role of the architect and how to avoid over designing as well as under designing. One of the greatest challenges that I faced when dealing with spatial practices as

a design tool was the ability to predict how people would respond to my design. People are not static objects and so I had to constantly imagine scenarios of behaviors based on my local intrinsic knowledge that may or may not happen, while also dealing with the fluidity of time and changes in patterns of behavior over time. It was critical for me to constantly keep in mind the political influence on the questions of spatial practices and realizing the direct relationship between politics and architecture in the relationship between people and their built environment as well as in the process of designing public space. Different political climates illicit different responses and patterns of behavior and occupation.

Materiality was a task that I also took great interest in when exploring the vernacular. I discovered that it was not only about using materials that are locally available but also the influence of material perception on appropriation and spatial practices. I became fascinated with transforming the brick, a humble and highly accessible material in Cairo, and the perception around it to that of openness and incompleteness instead of unfinished buildings associated with informality. I wanted to take on the challenge by modifying its color and its implementation to explore the potential of altering its perception. On the other hand, I was also interested in introducing wood as a material to counteract the harsh climate of the city and add a softer material that encourages people to be around it. Usually used in small scale around the city, I drew inspiration from the pigeon towers across the city as one of the few completely wood structures

present in Cairo. This awareness of material perception was supported by my building technology mentor who helped guide how these materials work separately but also how they come together.

Unsatisfied by a single intervention, I set myself the challenge to test my design approach on more than one site. However, it became evident along the way that this would be a daunting task given the timeline of the graduation project. Taking the advise of all three mentors, I had to let go of my expectations of detailing three full proposals and chose to focus on one and draw conclusions from the other test sites. This proved more fruitful as it provided me with the necessary perspective on what makes this type of architecture work on different levels of the city, different scales and different user groups. I have acquired a great deal of knowledge and insight from the journey and have discovered that my position on the role of the architect is in essence about designing space for people to exist, preserving that right to exist in space, providing quality spaces that responded to their needs and improved the quality of life within the city.