

Restoring porosity in Greater Cairo through architectures without architects

Case study of the “Koka” pigeon tower in
Garbage City

porosità
architettura senza architetti
Cairo
rizoma
torre per piccioni
porosity
architecture without architects
Cairo
rhizome
pigeon tower

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Citation: Carandente, A. (2024). “Restoring porosity in Greater Cairo through architectures without architects”, UOU scientific journal #08, 68-77.

ISSN: 2697-1518. <https://doi.org/10.14198/UOU.2024.8.08>
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Article Received: 15/09/2024
Received in revised form: 02/10/2024
Accepted: 09/11/2024



L'etimologia della parola "radicale" (dal tardo latino *radicalis*, "radice") suggerisce un legame con azioni spontanee e rivoluzionarie. Greater Cairo, un luogo di conflitti, mostra come gli impulsi dal basso possano sfidare i nuovi insediamenti urbani e ripristinare la porosità della città. New Cairo è progettata con micro-unità chiuse, focalizzate sulla sicurezza, mentre il vecchio Cairo resiste con la sua architettura spontanea. Analizzando i colombari, torri leggere e giocose, si comprende il loro ruolo nel favorire una città porosa, con strutture adattive che rinforzano i legami sociali. La nuova città può imparare da quella vecchia, migliorando la permeabilità degli spazi e favorendo l'interazione tra diverse classi sociali. Le non-architetture effimere, come rizomi sui tetti dei quartieri poveri, creano reti basate su ideali condivisi e accordi sociali non scritti, introducendo il gioco come elemento fondamentale per il pensiero evolutivo e la vita sociale. Il caso studio rappresenta una non-architettura auto-costruita, dedicata ai piccioni, che riabilita il valore della comunità e si inserisce nello skyline della città. Questi elementi definiscono una traiettoria futura per ripristinare la porosità a Greater Cairo, dalla scala urbana a quella residenziale, partendo dalla torre per piccioni "Koka".

The word "radical" comes from the Latin *radicalis*, meaning "root," which connects to spontaneous, revolutionary actions. Greater Cairo, Egypt, a place of tension and opposition, reveals how bottom-up impulses, without hierarchies, can challenge new urban settlements and restore porosity to the city. The new Cairo is designed with enclosed micro-units focused on extreme security, while Old Cairo resists abandonment with its spontaneous architecture. Through the dovecotes - slender, playful towers - the study highlights their role in fostering a porous urban space, showing both practical utility and their social value in enhancing communal connections. The new city can learn from the old by improving spatial permeability and encouraging social fluidity, promoting interaction across different classes. These non-architectural, ephemeral structures, like rhizomes on rooftops in poorer neighborhoods, create networks based on shared ideals. By reintroducing play as a key element, they contribute to societal and human growth. Ultimately, this case study represents a self-built, playful non-architecture that revitalizes community ties and occupies the city's skyline, offering a vision for restoring porosity in Greater Cairo.

INTRODUCTION

The etymology of the word radical, (from late Latin radicalis, der. of radix -icis 'root') suggests a connection to spontaneous, revolutionary and potentially irrational actions. Greater Cairo¹, Egypt, a place of friction and opposition, with its compounds² and simultaneously architecture without architects, shows how impulses from below and without hierarchies, can question the new urban settlements and restore porosity into the city. The new Cairo is being designed to accommodate enclosed micro-units, both in residential and commercial solutions, finding as a primary design expedient, the desire to guarantee extreme security for its inhabitants. Old Cairo, meanwhile, resists abandonment with its spontaneous architectures: through the case study of the dovecotes, slender and playful towers, the analysis leads to understanding their role in fostering a porous urbs³, revealing both

their tangible utility, through their adaptive, improvised structures, and their intangible value, in enhancing social and communal connections. Therefore, the new city has the opportunity to learn from the old one and from the actions of its inhabitants, solving a lack of permeability of spaces. This would ensure social and space fluidity, improving spontaneous interactions among people of different classes. These ephemeral non-architectures, like a rhizome⁴ spread across the rooftops in the poorest neighbourhood (Fig.1), foster networks based on shared ideals and unwritten social agreements. By reintroducing play as a fundamental element in modern evolutionary thought, they contribute to critical aspects of human life and societal function. In conclusion, the case study represents a non-architecture, self-built, dedicated to a non-human persona (pigeons) with a purely playful function, that rehabilitates the value of the community, through a physical network, occupying the city's skyline, forcefully entering in

the imagination of passers-by. All these elements merge to define a future trajectory to restore porosity in Greater Cairo, from the urban scale to the residential one, starting from the radical case study of the "Koka" pigeon wooden tower.

METHODOLOGY

As the research is a logically deduced theory, in its introductory phase of development, and based on ungrounded assumption (Glaser and Strauss, 1967), the structure of this study follows a progression from a broader field to a specific case study (Funnel Structure). Therefore, the process maintains a continuous correspondence, allying data collection and examination (Quantitative Methodology), on field interviews and observations (Qualitative Methodology) and the integration of all the methodologies. This mixed approach is based on "Grounded Theory" by Glaser and Strauss (1967), although it is not only data-driven. The aim

to integrate both qualitative and quantitative strategies is to foster a comprehensive and empathetic understanding of the research question at this preliminary stage.

This approach is intended to lead to future comparisons with other neighborhoods in Cairo and additional case studies, facilitating a deeper exploration of their connections within the residential community. Indeed, there is no distinct "Literature Review" chapter, as the investigation does not rely on pre-existing theories, but uses literature - and data - to investigate and support the themes that emerge during the study. Consequently, the analysis explores the case study of the "Koka" Pigeon Tower, to demonstrate, through an on-field visit and informal interviews, the capacity of an ephemeral, non-architecture, to question the urbs, by restoring the porosity in Greater Cairo. This lack of porosity is a theory based on the author's in field observation and direct experience, both of old and New Cairo, supported by a data collection of official governmental strategies, such as Cairo Vision 2050, the UN reports and World Data Bank statistics. The need for porosity is supported by a literature investigation that focuses on the Radical Period (1960s) and by the intangible elements observed mainly in the neighborhood of Downtown Cairo.

The study adopts a funnel structure due to its interdisciplinary nature, the diversity of layers, and the complexity of its objectives. It begins with a holistic overview of Greater Cairo, gradually narrowing down to a specific area: Garbage City⁵, which hosts the case study. The focus then narrows further, to examine the ephemeral case of the pigeon towers and their role in the urban and social fabric of the metropolis. The "Koka" pigeon tower has been documented by the author through field observations and a one-on-one interview (date: 7th September 2024) with Mr. Waseem, the owner of the tower and the building that hosts it. This specific section will have a narrative style and report some of the personal

considerations of the tower's owner.

The conclusion reports objective and empathetic consideration of the research, with the ambition of expanding the case studies not only to Cairo, but also to the other urbs, to investigate further non-architectures that might question the designed settlements, in their lacking of empathy and porosity, to assess whether it is possible to achieve a sustainable balance between formality and informality.

GREATER CAIRO

Cairo is the most densely populated city of the Middle East (World Bank, 2008), originally developed along the Nile, currently spreading through the desert areas, due to an abnormal and significant expansion, started in 1950 (UNHabitat, 2016), from Nasr City to New Cairo, then the relocation of governmental offices to the New Capital, which now marks the limit of Greater Cairo. During the last decade, the government has implemented a strategy initiated in 2008, to promote a futuristic vision of the city, named Cairo vision 2050 (UN-HABITAT, 2006). The initiative provides incentives for those who could relocate in these new areas; "there are (...) universities, libraries, movie studios, and specialized hospitals and museums, all of the highest international standards" (Sims D., 2012). These satellite cities are now populated by privileged citizens, motivated by the ideal of living in neighborhoods inspired by exotically Americanised models. Simultaneously, those who could not afford such aspirational ideals converted into compounds, established in these areas and started irregular occupations, next to these closed cities, secured by high walls and gates. Therefore, the gap between social classes is even clearer, highlighting the possibility of contributions from the informal settlements, from whom we can discover a porosity ignored in the formal neighborhood: not only the ashwa'iyat, the informal settlements occupied by 60% of the population (Piffero E., PDP, 2009), but also the ephemeral structures of "burj el hamam", the pigeon

house, which still survives and rises above the roofs of poor Cairo's neighborhoods, while the awamats, floating houses on the Nile, have been dismissed (only few still survive) in order to pursue the new governmental plans.

GARBAGE CITY

Manshiyat Naser, known as 'Garbage City' or 'Hay El-Zabbalin', is an urban settlement in Cairo defined by three properties:

The first is **morphological**, given the presence of Mokattam Mountain and the impact it has generated on urban development.

- The second is **employment-related**, as residents support themselves by collecting, sorting and disposing of the majority of the city's rubbish.
- The third, is a defined **religious cult**, in this case, the Coptic one.

Garbage City is developed as "an informal area built on former state land, which spreads out from an initial authorised nucleus." (Fig.1) The "garbage collectors relocated to the area by the government in the 1960s" (Piffero E., PDP, 2009). A city occupied by garbage, dust from the mountains, sand brought by the desert wind, and by the fumes of incinerators: during the on field observation (date: 7th of September 2024), the informal interviews collected through the visit, enhance an understanding of how the desire is to invest earnings in buying property outside the city, to ensure a better life for children. In spite of this, many declare themselves fearful of the recycling system that is being implemented, especially in the grand malls, which from their point of view, could be highly deleterious. They seem so overwhelmed by everyday life, that the only vision of the future they have is for the next generation and not for their own. Such radical, real concerns represent an oxymoron compared to both economic and time investment towards the care of pigeons and their homes, but probably the driving force of Cairo lies in its strident contradictions.



Fig.1 – Garbage city seen from a high point of the area, next to the Monastery of San Simon. Copyright to the author.



Fig.2 – Wasseem, the owner and the Koka Tower. Copyright to the author.

THE WOODEN PIGEON TOWERS

The *Burj Al Hamam*, pigeon towers, are rooted in an ancient Egyptian tradition that continues to thrive today. According to Elinor Husselman, "the raising of pigeons, both for food and for the production of manure, was widespread in ancient Egypt, as it is in Egypt today, and the dovecotes at Karanis were both large and numerous" (1953). Although the traditional mud-brick⁶ construction methods are still in practice, Cairo's modern landscape is now predominantly characterized by wooden pigeon towers. The cultural significance of raising pigeons remains integral to Egyptian society, particularly among communities of the red-bricks neighbourhoods: the interest lies in flying competitions. This is indeed the function of these self-built wooden towers that rise as high as possible (even 25-30 m high). From an informal discussion with some pigeon tower owners, the goal seems to be to build a new floor and race with the most beautiful and smart pigeons.

The wooden structures are modular, anchored to the roofs with metal joints on which cement is poured: an improvised connection that anchors to what remains of the roofs of unfinished buildings, from which the pillars expose their reinforcement, meeting that ideal of growing in height. We might compare this thought of perennial growth to that of the no-stop cities⁷, which used infinite modularity as a provocation to the proposals of the ideal modern city in the 1960s. Here the provocation is not designed, as well as these structures themselves are not designed.

THE "KOKA" PIGEON TOWER

On-site interview with Mr. Waseem (interview mediator Patrycja Dybich), conducted in Garbage City, Cairo, in [September/2024]. The narrative description is a result of the insights gathered from on-site visits and informal discussions.

The "Koka" tower in Garbage City (Fig.2) is positioned near the entrance, rising approximately 12 metres above the roof of a skeletal building that serves as a plastic recycling center (Fig.3). Mr. Waseem, the owner of the recycling centre and the pigeon tower, proudly

emphasises that all incoming waste is pre-sorted and cleaned. To demonstrate his success, he enthusiastically shows pictures on his phone of his new residence in New Cairo, from where he continues to come to Garbage city everyday to oversee both his recycling facility



Fig.3 – Mr. Waseem plastic factory in Garbage city (pigeon tower is on the roof of this building). Copyright to the author.



Fig.4 – View from the first floor of the “Koka” pigeon tower. Copyright to the author.

and the pigeon tower, for which his employees are also responsible. The tasks they have to perform for the animals well-being are indeed diverse and solved by simple and effective technologies.

Climbing the stairs of the tower, the effectiveness of the porous module, not rigorous, but possibilistic, becomes evident: the structure under analysis is divided in plan into 9 sections, each approximately 2.00 m x 2.00 m x 2.00 m high. This modular design, developed through the wooden framework, accommodates essential domestic functions: cables are pulled among pillars to dry clothes, while another module incorporates integrated LEDs into the beams, which also serves the drainage system with pipes. Additionally, the space is personalised with a video camera and a life-sized photo of Mr. Waseem, reflecting both the practical and personal elements embedded within the structure. As the structure rises, it appears to frame the surrounding neighbourhood, offering a distinct perspective of the crowded road beside it, buildings drowned by garbage bags, and the mountain looming in the background, offering a sense of authority and protection. The experience of rising and observing, evokes the feeling of participating in a contemporary art exhibition, close to visiting modern galleries, such as the Guggenheim in New York. This deep contrast, abstracts the author from the raw, chaotic context of the environment (Fig.4).

As we ascend the stairs - each step with a rise and tread of 20 cm - the modular structure fragments, and each floor gradually shifts toward more functional purposes. This transformation of space allows for a growing focus on practical needs, reducing the emphasis on modularity in favor of fulfilling the demands of daily life, such as pigeon care and living space. The space transitions into a room, the “gheya”, (Fig.5), where the less valuable pigeons are kept for hatching eggs. This space is organised as a corridor of cages,



Fig.5 – The gheya. Copyright to the author.



Fig.6 and 7 – The entrance of the humans' living room in the pigeon tower and the mashrabiya of the pigeon tower's roof. Copyright to the author.

equipped with a watering system powered by pipes connected to a small water tank. The tank is regulated by a valve that automatically refills the water supply as needed, constantly ensuring the birds' necessities.

On this particular floor, Mr. Waseem has established a quintessential Egyptian living space. Beyond a wooden door intricately decorated with the figure of Jesus (Fig.6), lies a room encompassing three of the nine total floor modules (each measuring 2.00 m x 2.00 m x 2.00 m). This human-centric space is equipped with amenities like a mini-kitchen, refrigerator, TV, air conditioning, comfortable seating, and windows, still covered in protective foil, as many Egyptians would do. The stark contrast between the functionality of a pigeon tower and the presence of a spacious, convivial human area underscores the enduring Egyptian culture of hospitality and community, even in spaces primarily intended for ludic pigeon care.

Once the pigeon break is over, it is time to reach the last section of this architecture: the roof, where the pigeons fly free and then return, attracted by the red flag waved vigorously by Wasseem, who grabs them with a system of traps, which he manages to activate by hiding in a very special mashrabiya⁸ (Fig.7). The magic that can be perceived in this place, in every moment, the path from the bottom to the top, the flight of the birds, with the attention towards their capture and care, does not rationally explain how it is possible to invest so much in an architecture that is a playground, a heterotopia (Foucault, 1967) that ideally transforms the destiny of unprivileged places, in a silent and shared way, transporting the inhabitants from garbage city to the place of possibilities. Even their definition as Zabbaleen (literal translation is garbage people), cannot be fair to these inhabitants, as many are in fact claiming their right to be called instead the cleaners of the city, as suggested by Father Samaan⁹.

The pigeon tower has a notable

urban impact, operating as a landmark on the rooftops of a neighbourhood defined by unfinished, red-brick buildings, with no architectural differentiation (Fig.1). The structure's towering height, its association with communal joy, and the role of religious practices may serve as catalysts, fostering a sense of community through the social participation among local residents. Although it is situated on a private property, the towers promote a sense of openness and inclusivity: neighbourhood residents often gather in their human living rooms, or climb all the structure to witness the sunset and take photographs. Beyond its architectural presence, the tower facilitates social cohesion and mutual respect, reinforced by pigeon-flying competitions

During these events, each pigeon is marked with a ring bearing its owner's identification, and when a pigeon inadvertently joins another tower, it is promptly returned to its home - a practice that strengthens community bonds (Angélil and Malterre-Barthes, 2018; Rancière J., 2022).

CONCLUSIONS

The case study of the pigeon tower in Garbage City provides a profound reflection on how informal architectures can challenge conventional urban paradigms and contribute to restoring porosity in Greater Cairo. While this study does not focus on the modern development of New Cairo, which would require a more in-depth analysis, it instead emphasises the potential of "architecture without architects" (Rudofsky, 1964). In this context, porosity is not limited to the physical accessibility and permeability of spaces, but also encompasses social openness that facilitates the free flow of human interaction across different social classes. This dynamic helps restore a sense of community based on shared ideals, rather than capitalistic power structures.

The pigeon towers create not only a unique physical space but also an environment where social

connections can flourish. Through the shared practice of pigeon racing, residents of Garbage City are brought together, fostering a sense of community and strengthening social bonds. These towers offer a space for collective engagement that transcends the boundaries of private property, promoting social cohesion, qualities often absent in the new privatised urban developments such as the ones in New Cairo. This example illustrates how informal spaces, born out of improvisation, contribute to community cohesion and collective engagement (Benjamin and Laci, 2020).

Although the pigeon towers are physically separated, each belonging to private properties, they remain interconnected through their shared purpose and competitive spirit. Their modular, possibilist design, similar one to the other, allows for the individual expression through the decorations; this adaptability aligns with the principles of rhizomatism (Deleuze & Guattari, 1980), where each component within a structure has the potential to connect to others, forming a decentralized, non-hierarchical network. These structures evolve according to individual needs, while maintaining a connection to the broader community, allowing for both personal and collective growth.

To reinforce the abandonment of hierarchical systems and encourage porosity, the concept of urbs is central. As Cerdà (1980) articulates, the terminology urbs examines the relationship between space, humanity, and the social fabric, advocating for a departure from traditional, hierarchical classifications of human settlements. In the case of Cairo, particularly through the example of the pigeon towers in Garbage City, we see how informal architecture transcends these rigid classifications. The absence of strict architectural discipline, combined with a strong sense of community, transforms the pigeon towers into living representations of utopian ideals on which cities should be based, such as social equality, inclusivity, and spontaneous,

organic community building. These ideals challenge the conventional top-down planning that often dominates urban developments. The towers act as heterotopias (Foucault, 2010), where the boundaries between private and public, individual and collective, are blurred, creating a space for shared goals and mutual support.

Informal structures could serve as the foundation for contemporary urban environments in Greater Cairo, integrating porosity and inclusivity into all designed spaces; while European urban theory often emphasises the genius loci¹⁰ (the spirit of place), Cairo's contemporary culture tends to focus on technological progress, security, and comfort (Cavalletti, 2020). However, by integrating traditional, spontaneous structures and intangible values into urban planning, a common ground could be found that fosters deeper connections with both the environment and the community.

This paper highlights the potential of informal structures to challenge conventional urban paradigms. Further investigations will extend this study to other examples of non-architecture, continuing to explore how such spaces, rooted in intangible community practices, can represent a silent revolution to restore porosity in our communities and urbs.

NOTES

1. Greater Cairo is the metropolitan area that includes New Giza, Giza, Cairo, New Cairo, New Capital (UNHSP, 2012).

2. Compounds are residential and commercial areas, physically defined by walls and gates: access is guaranteed only to certain social classes and they generate gated communities, "a form of residential community or housing estate containing strictly controlled entrances for pedestrians, bicycles, and automobiles, often characterized by a closed perimeter of walls and fences." (Angélil M. 2018)

3. Urbs, from Latin, means City, used in this paper, as terminology to refer to a non-hierarchical system, in the loosest and most general sense possible, to include all the different elements that belong to the complexity of Cairo (Cerdà I., 1867).

4. Gilles Deleuze e Félix Guattari coined the word "rhizome" (1980) in philosophy,

to indicate a network that can expand in different directions and doesn't have a hierarchical or linear organization.

5. Manshiyat Naser, commonly referred to as "Garbage City," is a terminology used in this paper purely for practical clarity. However it might result offensive and stigmatizing, reducing the community's identity to its waste management role.

6. Egyptian ancient brick, sun-dried, composed by Nile alluvium or desert, sediments/clays, sand, and water (Emery V., 2011)

7. No Stop City, an urban project not realized by Archigram, 1960, has strongly impacted the architectural community.

8. Mashrabiya is a typical Arabic architecture element, which with its wooden structure provides soft light, ventilation and privacy.

9. Father Samaan was a priest that founded the cave church in garbage city, which opened the city to many tourists' visits.

10. Genius Loci, understanding and analyzing a space starting from their physical, historical, cultural characteristics.

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