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BRANDING, IDENTITY, AND SPATIAL NARRATIVES

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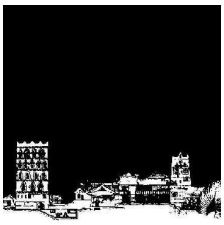

TRADITIONAL DWELLINGS AND SETTLEMENTS WORKING PAPER SERIES

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BRANDING, IDENTITY, AND SPATIAL NARRATIVES

Traditional Dwellings and Settlements
Working Paper Series

TIMELESS TRANSFORMATIONS: RESTORING HISTORY AND MEMORY THROUGH COSMOPOLITAN DESIGN IN BEIRUT, THESSALONIKI, AND ALEXANDRIA

Andrea Moneta, Maurizio Crocco

TIMELESS TRANSFORMATIONS: RESTORING HISTORY AND MEMORY THROUGH COSMOPOLITAN DESIGN IN BEIRUT, THESSALONIKI, AND ALEXANDRIA

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This paper explores the cosmopolitan nature of cities as hybrid, multicultural environments shaped by historical transformations and layered urban forms. It critiques modern and contemporary architecture for erasing historical connections, leading to placelessness and alienation. The authors introduce two design methodologies—Analysis-Design Interaction and Architecture by Elements—to restore the relationship between urban design, history, and memory, fostering a sense of belonging and cosmopolitan identity. Through case studies in Beirut, Thessaloniki, and Alexandria, the paper demonstrates how these approaches create timeless, adaptive designs rooted in historical processes rather than ephemeral styles. The projects highlight the importance of interpreting urban forms as processes of transformations, emphasizing the enduring relevance of cosmopolitan culture and architecture.

1. INTRODUCTION

The city is by its nature a hybrid-built environment within multicultural contexts[1]; this is even more true if we read the city from a diachronic point of view, to identify models of use that have occurred over time and that have generated urban forms. Sometimes, during time, these forms are reconfirmed through their reuse; sometimes, they are removed (in part or completely) for subsequent uses, or due to abandonment of the places. Therefore, any city—by its nature—has a cosmopolitan character if read from a historical perspective. This cosmopolitanism manifests both when different communities that inhabit it have been confirmed over time and when new communities have been added in subsequent eras up to the present.[2] The city, as a cosmopolitan and multicultural entity, possesses a dynamic and resilient historical identity, capable of maintaining its characteristics through physical and usage transformations while adapting to change. In this vision, the attributes of cosmopolitan urban form and architecture must be analyzed through a critical relationship with history and memory, using disciplinary and methodological tools capable of interpreting the built environment as a *Form of Transformations*. When we analyze settlements from a historical perspective, we can understand their characteristics through the definition of *Elements* and *sub-Elements*—organisms with their own identity, size, and finiteness. These *Elements* and *sub-Elements* can re-propose themselves through processes of use and reuse as the ways of use vary. They are connected by a dense network of relationships, from the closest to the most remote, which determine their intrinsically cosmopolitan nature and, by extension, the nature of settlements[3]. However, the globalizing model of modern and contemporary architecture has ignored and erased this historical system of relationships between the parts of the territory, from the local to the global scale. The intervention on cities in the modern era has broken the process of use-reuse, generating non-places devoid of identity and meaning. These globalized spaces, which lack the sense of

the polis, have placed a large part of humanity in a condition of alienation. Unlike cosmopolitan spaces, which are rooted in historical and cultural continuity, globalized spaces are placeless and disconnected from the layered identities that define urban life[4]. It is therefore necessary to rebuild the creative and fruitful relationship with history and memory to promote urban environments and architectures that foster a sense of belonging to places. This involves designing cities that are identitarian through their multiple and cosmopolitan identities, reflecting the dynamic interplay of past, present, and future. To achieve this, the paper introduces two urban and architectural design methodologies: Analysis-Design Interaction (ADI) and Architecture by Elements (ABE). The first methodology, ADI, is aimed at reading and understanding the historical structure of territory and settlements as an integral part of the character of the place (*genius loci*) through diachronic and synchronic analyses. These analyses, combined, provide a comprehensive understanding of how a place has evolved and how it functions in the present, enabling the design of territories, urban settlements, and public spaces that respect and enhance their historical and cultural character. The second methodology, ABE, considers design as any historical development that can be critically read as a process. History, in this context, is not merely a record of past activities but an evolutionary realization that shapes the present and future[5]. By treating history as a process, this methodology emphasizes adaptability and transformation, ensuring that designs remain relevant and meaningful over time. It focuses on the analysis of Elements and sub-Elements, interpreting their relationships and transformations to create architectures that are timeless and rooted in their specific historical and cultural contexts.

Through case studies in Beirut, Thessaloniki, and Alexandria, the paper illustrates the application of these methodologies in design interventions aimed at restoring the relationship with history and memory. These include the design for an Integrated Cultural Centre and New Hospital in Beirut's Mazraa district (Lebanon, 2000), the International Competition project for the Renewal and Redevelopment of Aristoteles Axis in Thessaloniki (Greece, 1997), and the International Competition project for the New Alexandrian Library (Egypt, 1989). These projects demonstrate how the methodologies generate architectures that are not tied to ephemeral styles but instead reflect timeless forms, following their specific historical transformation processes and remaining open to modifications and adaptations in the spirit of cosmopolitan culture and architecture.

This paper argues for a renewed emphasis on the historical and cultural dimensions of urban design, proposing that by engaging critically with history and memory, it is possible to create urban spaces that foster a sense of belonging and revive the cosmopolitan identities of cities. In an era where globalization often erases the historical and cultural layers that define urban life, this approach seeks to counteract the proliferation of placelessness and non-places, instead promoting cities that are deeply rooted in their past while remaining open to the future. Through case studies in Beirut, Thessaloniki, and Alexandria, the paper demonstrates how these principles can be applied in practice, offering a path forward for designing cities that

are both identitarian and cosmopolitan. These examples illustrate the transformative potential of methodologies that prioritize historical continuity, cultural memory, and adaptive reuse, providing a framework for urban design that respects the dynamic and evolving nature of the built environment.

2. METHODOLOGY: ANALYSIS-DESIGN INTERACTION (ADI) AND ARCHITECTURE BY ELEMENTS (ABE)

This paper introduces two interconnected methodologies—Analysis Design Interaction (ADI) and Architecture by Elements (ABE)—that together provide a comprehensive framework for interpreting and designing urban environments rooted in history, memory, and cosmopolitan identity. These methodologies, developed and refined through prior research and practice, are grounded in the understanding of the built environment as a *Form of Transformations*, where urban spaces are seen as dynamic, layered, and evolving entities. By combining diachronic and synchronic analyses with a focus on the historical and cultural dimensions of urban form, ADI and ABE offer tools for creating timeless architectures that foster a sense of belonging and adapt to the needs of diverse communities.

The Analysis-Design Interaction (ADI) methodology was conceived and developed by Professor Gianfranco Moneta during his research between the 1980s and 2000s within CIRTER (Inter-University Research Centre for Territory Studies) and his Architectural Design module at the Faculty of Architecture of the University of Rome La Sapienza. ADI was designed as a tool to read and interpret the natural and anthropic elements of the territory, their processes of use, reuse, and transformation, with the goal of applying these insights to sustainable urban and architectural design. Rooted in the pioneering work of Italian architect Saverio Muratori, whose research in the 1950s and 1960s laid the foundation for urban morphology and the anthropology of territory, ADI builds on the typo-morphological analyses developed by Muratori's disciples, such as G. Cataldi, G. Caniggia in Italy, and M.R.G. Conzen in the UK[6]. ADI considers the form of territory and settlements as a temporary phase in a never-ending process of transformation, where the environment acts as a stable heritage of civilization[7]. The methodology is aimed at reading and understanding the historical structure of territory and settlements as an integral part of the character of the place (*genius loci*) through diachronic and synchronic analyses. ADI's temporal framework aligns with Enzo Paci's phenomenological insight that 'time is not linear but a network of relations where past, present, and future coexist dialectically'.[8] The diachronic approach examines the evolution of a site over time, tracing the historical processes that have generated its current form. It identifies the models of use that have been confirmed, modified, or erased through reuse, abandonment, or transformation. By understanding these processes, designers can uncover the deep historical and cultural roots of a place, ensuring that new interventions resonate with its enduring identity. The synchronic approach, on the other hand, focuses on the present state of a site, analyzing its

current functions, relationships, and spatial configurations. It provides insights into how a place is used and experienced today, highlighting the connections between its physical form and its social, cultural, and economic contexts. When combined, these two analyses enable a holistic understanding of a site, bridging its past and present to inform future design interventions. ADI emphasizes the importance of interpreting history as an ongoing process that shapes the present and future. This methodology ensures that design interventions are not only responsive to the immediate needs of a place but also rooted in its historical and cultural continuity. ADI operates through five key phases. The first phase, *Territory as Global Architecture*, involves reading the territory through historical-morphological analysis to understand its transformations over time. The second phase, *Transformations and Reuse*, focuses on identifying invariant historical structures, such as territorial grids, boundaries, settlements, and pathways, through morphological analysis. The third phase, *Systems and Subsystems*, overlays historical periods to understand the relationship between the physical environment and anthropic systems. The fourth phase, *Structure of the Element*, uses diachronic and synchronic readings to identify elements as particular forms of transformation and their relationships within the historical use of the territory. Finally, the fifth phase, *Between Memory and Future*, applies models of use and processual reuse in urban and architectural design, reutilizing historical territorial supports while reconstructing structures of interdependence.

The Architecture by Elements (ABE) methodology, introduced by Gianfranco Moneta in his book *Logica e Complessità dell'Architettura*[9], focuses on the inner processes of architecture and its mechanisms of configuration. ABE is inspired by the works of philosophers such as Husserl and Paci (phenomenology), Heidegger (existentialism), and Wittgenstein (philosophy of language), and it seeks to restore the identity of architecture as an intertwining of art, technique, thought, and ideology. ABE considers history as a fundamental guide for the architectural design process, treating it as an evolutionary realization rather than a static record. Designers are encouraged to critically read historical developments as processes, freely selecting forms and compositional principles from both the past and present. This approach aligns with Louis Kahn's paradigm shift from *form follows function* to *form generates function*,[10] emphasizing the symbolic and archetypal nature of architectural forms. Key to ABE is the analogy with linguistic principles, particularly Wittgenstein's theory of *language-games*[11] which describes parts of language as containing both language and actions. In architecture, this translates to viewing the built environment as a city composed of different *language-games*, each with its own rules and lexicon. ABE treats architectural design as a language-game, where the lexicon (forms), syntax (relationships between forms), and semantics (meaning) are defined and combined to create new architectural *sentences*. The ABE design process involves three main steps. The first step is the *Choice of Lexicon*, where forms are selected from historical and contemporary sources. The second step is *Syntax*, which defines the interrelation criteria between forms. The third step is *Semantics*, where meaning is assigned to the selected forms, allowing the form to generate function. ABE organizes architectural elements through three

methods: *Juxtaposition, Interpenetration, and Translation, Rotation, Subtraction*.[12] In *Juxtaposition*, elements are placed in relation to each other, creating interdependence and formal stability. In *Interpenetration*, elements intersect and overlap, forming complex organizational units while retaining their individual identities. In *Translation, Rotation, Subtraction*, elements yield parts to others, creating stronger structures through controlled deconstruction. By reusing archetypal forms and principles from history, ABE ensures historical continuity while allowing for innovation through reinterpretation and decontextualization. This approach is particularly relevant in heritage contexts, where the integration of time and context into design is crucial. Together, ADI and ABE provide a robust framework for designing urban environments that are both rooted in their past and open to the future. These methods have been applied to hundreds of architectural design projects in European and Mediterranean contexts developed by Gianfranco Moneta and the authors between the 1980s and 2005, both in professional practice and academic activities at the Faculty of Architecture, University of Rome La Sapienza, of which the three case studies are part of. ADI offers the analytical tools to uncover the historical and cultural layers of a site, while ABE provides the design principles to interpret and transform these layers into meaningful, adaptable architectures. This integrated approach ensures that design interventions are not only responsive to the immediate needs of a place but also contribute to its long-term resilience and identity. Through case studies in Beirut, Thessaloniki, and Alexandria, this paper demonstrates the practical application of ADI and ABE, illustrating how these methodologies can restore the relationship between urban design, history, and memory. By fostering a sense of belonging and reviving the cosmopolitan identities of cities, ADI and ABE offer a path forward for creating urban spaces that are both timeless and transformative.

3. CASE STUDY 1 – INTEGRATED CULTURAL CENTRE AND NEW HOSPITAL IN BEIRUT, LEBANON (2000)

The city of Beirut retains, on a territorial scale, the same morphological order derived from the Greek-Roman period, consisting of three main axes: one along the coast, leading to Tripoli and Byblos; another toward Damascus and Baalbek; and the last toward Sidon and Tyre (Fig. 1). The proposed architectural design was a combined thesis project in Architectural Design at the Faculty of Architecture of the University of Rome "La Sapienza" (supervisor: Gianfranco Moneta), conceived in 1999-2000 by designers Maurizio Crocco and Fausto Frontera for the Integrated Cultural Centre, and Maurizio Crocco, Elsa Manara and Luca Falchi for the New Hospital. The project is in the southern outskirts of the city and is structured along the historical axes leading to Damascus and Sidon. The project is strategically situated within Beirut's Mazraa district, a nexus of historical, cultural, and civic significance. Its proximity to the Hippodrome places it at the intersection of the two ancient routes that once connected the city to Damascus and Sidon, and that are continuing to shape Beirut's territorial framework. Nearby landmarks include the National Museum of Beirut,

home to Phoenician and Roman artifacts, as well as educational institutions and the Military Hospital, highlighting the site's role as a convergence of heritage, education, and public health. The post-19th-century expansion of this area mirrors the organic growth of Mediterranean medieval towns, where dense urban fabrics radiate from historic cores. However, rapid modernization has fragmented this continuity, creating a need for interventions that reconcile Beirut's layered history with contemporary urban demands. The project responds by reinterpreting the ancient agora and forum as a metropolitan polarity, integrating green spaces, cultural facilities, and healthcare infrastructure to foster social cohesion.

Fig. 1: Map of contemporary Beirut with highlighted in red the historical roads leading to East (Baalbek) and North (Tripoli, Byblos), and leading to South (Damascus, Sidon, Tyre); highlighted in grey the area of design intervention (Source: Authors' archive, 2000).

The architectural design follows the Analysis Design Interaction (ADI) method, which is structured across four distinct phases. The first phase, *Territory as Global Architecture*, begins with a diachronic analysis of Beirut's morphology, revealing the lasting influence of its Hellenistic grid. This influence is particularly evident in the alignment of the Hippodrome and the Damascus-Sidon axis. Historical maps and archaeological studies were instrumental in identifying territorial invariants, such as the Ancient Roman *Cardo and Decumanus*, which serve to anchor the project's orientation and provide a foundational framework for the design. The second phase, *Transformations and Reuse*, focuses on the repurposing of historical structures. The elliptical footprint of the

Hippodrome inspired the radial layout of the public plazas, while fragments of Roman era retaining walls informed the terracing of the site. Additionally, the communal ethos of the ancient agora is revived through the creation of open-air courtyards, which are framed by mixed-use buildings that encourage interaction and social exchange. The third phase, *Systems and Subsystems*, explores the layering of Ottoman, French Mandate, and post-independence urban structures. This overlay revealed tensions between heritage preservation and modernist sprawl, which the project mediates through strategic interventions. Green corridors, following the routes of ancient pathways, are incorporated to maintain historical continuity. Hybrid typologies are also introduced, merging Byzantine spatial hierarchies with modern modular healthcare design to foster both historical resonance and contemporary functionality. The fourth phase, *Structure of the Element*, involves a synchronic analysis of the National Museum's role as a cultural anchor. The new complex is designed to mirror the museum's axial relationship to the Hippodrome (Fig. 2), maintaining a sense of continuity between the two. Diachronic studies of Orthodox-Byzantine architecture informed the design of the hospital, with its basilica-inspired plan reflecting both historical and functional aspects of the space. Finally, the project embraces *Between Memory and Future* by employing processual reuse, where ancient techniques are reinterpreted for modern use. Roman opus quadratum masonry techniques are reimagined in the form of self-supporting limestone panels. Byzantine vaulting systems are translated into parametric copper-clad roofs, and ancient water-management strategies are integrated into sustainable drainage systems, ensuring that the design not only preserves the past but also adapts it to meet future needs. The architectural design also incorporates the methods of Architecture by Elements (ABE), which views design as a linguistic interplay between historical archetypes and contemporary needs[13]. The elements of ABE are structured across three key categories: *Lexicon, Syntax, and Semantics*. In terms of *Lexicon* (Formal Selection), the design integrates a synthesis of Byzantine and Roman influences. The hospital's tower adopts barrel-vaulted modules, evoking the architectural form of Roman thermae, while its tripartite apse references the typology of Orthodox churches. The Mediterranean Vernacular is also embraced, with irregular limestone coursing and shaded loggias that recall traditional Levantine liwan spaces. Finally, Modernist Rationality is evident in the cantilevered floors and gridded façades, which subtly nod to Beirut's 20th-century International Style legacy. The *Syntax* (compositional logic) of the design involves a deliberate juxtaposition of elements. The vertical tower of the hospital stands in contrast to the low-rise cultural center, creating a dialectic between monumentality and human scale. Interpenetration is another key strategy, as vaulted walkways intersect with rectilinear blocks, forming shaded courtyards that mediate the public and private zones. The principle of *Translation* also plays a crucial role in the design, with Roman forum proportions (1:2 axial ratios) governing the dimensions of the plaza, while Byzantine domes are reinterpreted as flattened parabolic roof profiles. In terms of *Semantics* (generation of meaning), the materials and form of the building convey symbolic significance. The copper-clad vaults symbolize Beirut's Phoenician metallurgical heritage, and their gradual oxidization over time is

intended to embody the city's resilience. The limestone cladding, quarried from Mount Lebanon, serves as a tactile archive of the region's geology, grounding the project in its local context. The tower's stacked vaults, which house patient rooms, reinterpret the healing ascension motif found in Byzantine pilgrimage sites, adding layers of meaning to the design.

The architectural design consists of two key components: an Integrated Cultural Centre and a Greek Orthodox Community Hospital (Fig. 2). These elements are intended to function as a cohesive whole, with each component serving both functional and symbolic purposes. The Integrated Cultural Centre, designed by Maurizio Crocco and Fausto Frontera, aims to revive the ancient concept of the agora as a democratic and communal space. A sunken plaza, flanked by seating, serves as the open-air forum, hosting public assemblies and art installations. The design also incorporates perforated enclosures, where self-supporting limestone blocks, laser-cut with geometric patterns, filter Mediterranean light into the exhibition galleries, creating dynamic visual effects. Additionally, green infrastructure elements, such as rooftop gardens and stormwater channels, are included, referencing the Roman impluvium systems while contributing to the mitigation of urban heat. The Greek Orthodox Community Hospital, designed by Maurizio Crocco, Elsa Manara and Luca Falchi, merges therapeutic functionality with symbolic resonance. Situated in front of the National Museum of Beirut, the hospital serves as a 120-bed facility for the Greek Orthodox Community of Beirut. The site, characterized by a predominantly longitudinal lot, has influenced the design approach, resulting in a vertical tower form dedicated to hospitalization, diagnosis, and care, while a low-rise building is allocated for public and semi-public functions (Fig. 3). The architectural elements draw inspiration from Orthodox-Byzantine tradition, which itself is derived from Roman spatial concepts. This influence is particularly evident in the use of the Roman *basilica* typology, with several apses forming the building's termination.

The tower is composed of a series of barrel vaults that culminate in arches, reinforcing the historical reference. The exterior cladding is made of rectangular panels of local limestone, laid in irregular courses, linking the building to regional architectural traditions (Fig. 4). The building's general distribution is organized across multiple levels. The two lower basement levels are designated for parking, while the upper basement accommodates parking, general services, and the morgue. The ground floor includes an entrance hall, a restaurant-bar, a conference room, administrative offices, emergency services, a dispensary, and a church. The first floor houses the dispensary and day-hospital facilities, while the second floor is allocated to surgical and intensive care units. Hospitalization services are spread from the 3rd to the 8th floors, providing patient care and recovery spaces. The uppermost floors, from the 9th to the 11th, are designated for doctors' offices and the health department, ensuring the centralization of medical professionals and administrative health services (Fig. 5). The tower's vertical typology optimizes the use of land, with the basement levels (B3–B1) accommodating parking, logistics, and the morgue. The ground floor includes the entrance hall, chapel, and

emergency services under a triple-height vaulted canopy, emphasizing the building's monumental scale. The upper floors, from the 1st to the 11th, feature modular patient wards, surgical suites, and administrative offices, all organized around central atria that allow for natural ventilation. In terms of materiality, locally sourced limestone panels, laid in irregular courses, combine durability with historical authenticity. The project also incorporates structural innovation, with external steel beams anchoring the copper-clad vaults, creating a hybrid system where historical forms meet modern seismic resilience. For its synthesis of regional identity and pan-Mediterranean dialogue the project was featured in the touring exhibition *Das Europa der Städte* (*The Europe of The Towns)* at the *Architektenkammer*, Berlin (Germany), at Bauhaus Universität, Weimar (Germany), and *Palazzo della Corgna* in Città della Pieve (Italy). By blending ADI's territorial rigor with ABE's phenomenological depth, it positions Beirut not as a city merely rebuilding from ruins, but as an urban palimpsest, where each historical layer—Phoenician, Roman, Ottoman, Modernist—actively contributes to shaping its future. The copper patina, weathering in the coastal air, serves as a metaphor for this ethos: a material testament to time, trauma, and transcendence[14].

Fig. 2: South view of the architectural design complex using a 3d overlay on Google Maps (Source: Maurizio Crocco, 2025).

Fig. 3: South view of the architectural design complex (Source: Maurizio Crocco, 2025).

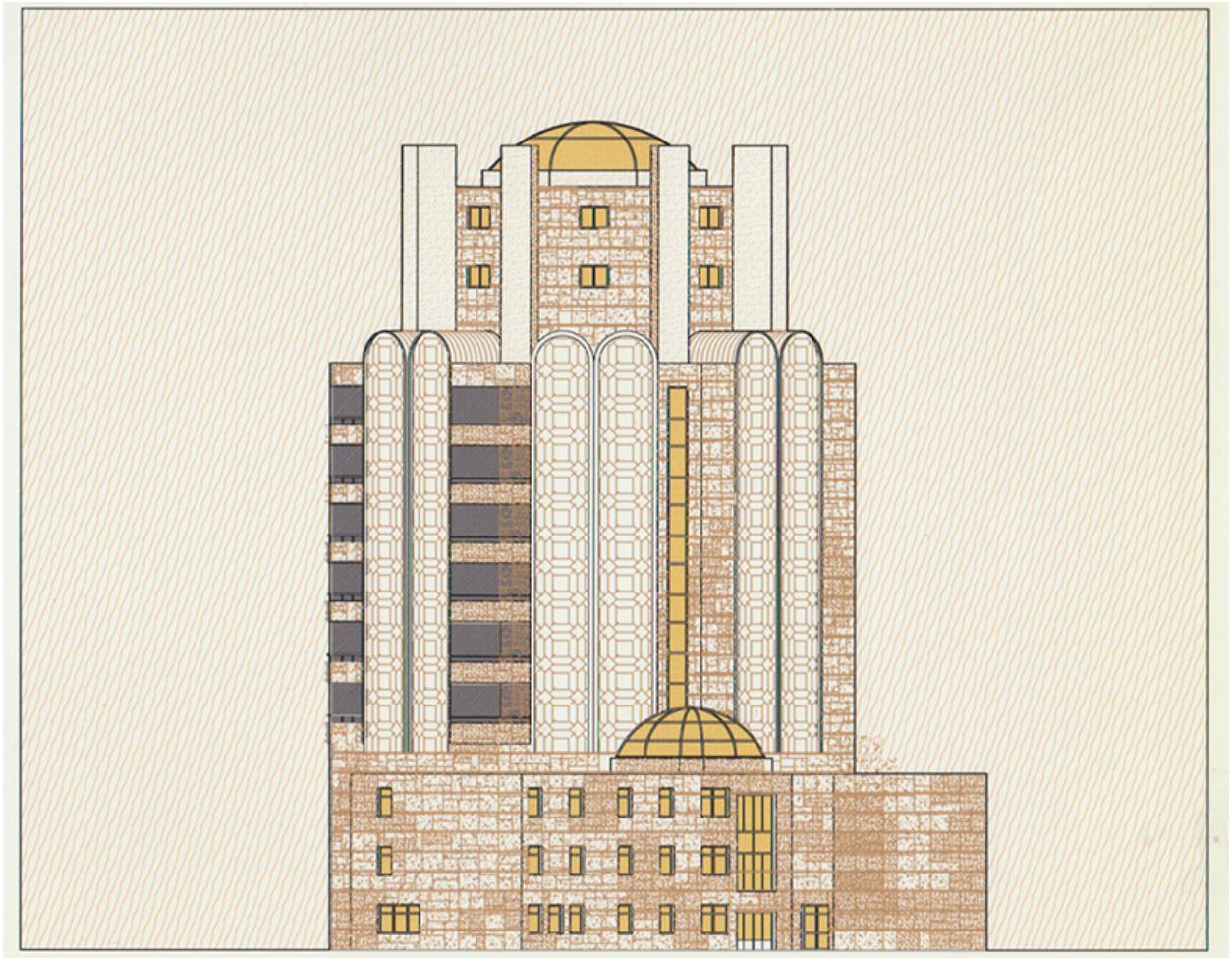

Fig. 4: New Hospital tower building (Source: Authors' archive, 2000).

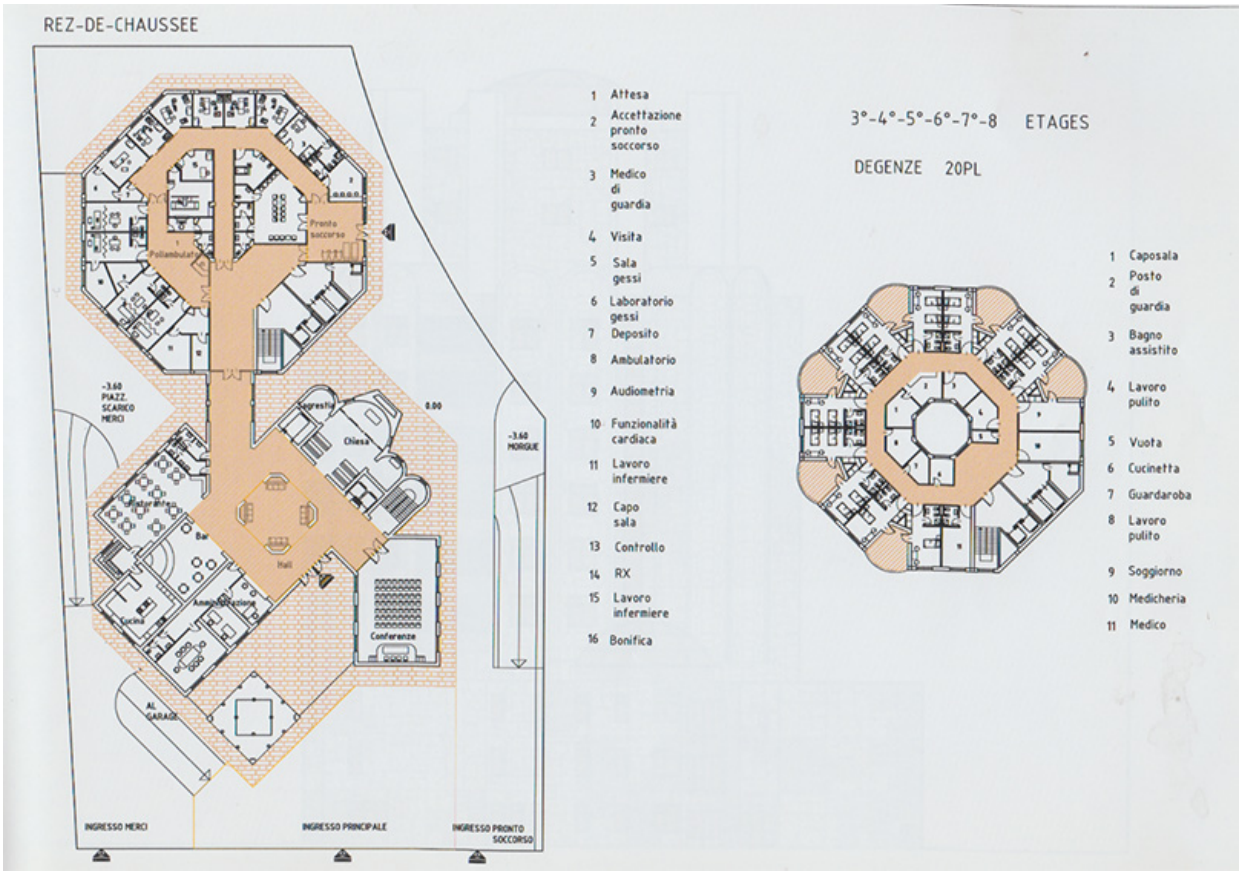

Fig. 5: Floor plan of the New Hospital tower building (Source: Authors' archive, 2000).

4. CASE STUDY 2 – COMPETITION FOR THE RENEWAL AND REDEVELOPMENT OF ARISTOTELOUS AXIS IN THESSALONIKI, GREECE (1997)

The project is located at the heart of Thessaloniki, where the Aristotelous Axis—a north-south urban spine linking the sea to the inland—intersects the ancient Via Egnatia, the Roman east-west thoroughfare connecting Rome to Constantinople. This junction has long served as a cultural and spatial anchor, as evidenced by the archaeological remnants of the Greek agora, the Byzantine Panagia Chalkeon church, the Ottoman Bey Hamam, and the Rotunda of Galerius. The site's current form, shaped by the 20th-century reconstruction following the Great Fire of 1917, erased much of the medieval fabric, particularly the Jewish quarter. The design seeks to resurrect this lost medieval layer while reaffirming the enduring orthogonal logic inherent in the city's urban DNA. The Aristotelous Monumental Axis stands as one of Thessaloniki's most iconic urban spaces, embodying its rich historical, cultural, and cosmopolitan identity. In 1997, an international architectural competition was launched to redesign this pivotal axis and square, aiming to

revitalize its urban fabric while preserving its historical significance and enhancing its role as a public space. The competition sought innovative proposals that would address the challenges of modernization while respecting the layered history of Thessaloniki, a city shaped by Roman, Byzantine, Ottoman, and contemporary influences. The redesign of the Aristotelous Axis required a delicate balance between honoring its monumental character and introducing contemporary elements. The competition emphasized the importance of interpreting the site's historical and morphological transformations, ensuring that new interventions would resonate with the city's collective memory and identity. The team was composed by Gianfranco Moneta, Maurizio Crocco, and Mauro Gasperetti within the Architectural Design Module at the University of Rome La Sapienza, and the project was also featured in the touring exhibition *Das Europa der Städte* (*The Europe of The Towns)*. The redesign of the Aristotelous Axis literalizes Italo Calvino's vision of the city as 'a place of exchange—not just of trade, but of words, desires, memories'.[15] The primary objective of the proposed masterplan is to reveal and emphasize the ancient urban scheme, notably the *Via Egnatia*, one of the most significant road axes that historically linked Rome to Constantinople. The trace of this road's ancient layout remains a historical mark in modern Thessaloniki, and the Aristotelous Axis is positioned perpendicular to it. Another key aim of the project is to enhance the use of monuments, archaeological sites, open spaces, and modern buildings, transforming the entire area into a pedestrian-friendly zone.

The project applies the Analysis Design Interaction (ADI) framework across five phases to decode and reimagine Thessaloniki's palimpsest. The first phase, *Territory as Global Architecture*, involves a diachronic study of the city's evolution. This study traces the development of Thessaloniki from its Hellenistic grid to the Ottoman organic fabric, revealing the persistence of two orthogonal axes: the *Via Egnatia*, which operates at the territorial scale, and the Aristotelous Axis, functioning at the urban scale. These axes, which intersect at the agora, form a sort of genetic code that is reiterated through Roman colonnades, Byzantine processional routes, and Ottoman bazaars (Fig. 6).

The second phase, *Transformations and Reuse*, reactivates historical invariants within the urban fabric. The Roman *cardo-decumanus* logic is echoed in the design of orthogonal pedestrian pathways. Additionally, the medieval Jewish quarter's diagonal alleys, which were erased after the Great Fire of 1917, are revived through the introduction of a misaligned central building. The spatial hierarchies of the Ottoman hammams, particularly their subterranean courtyards, also inspire the design of public spaces. In the third phase, *Systems and Subsystems*, maps overlaying Hellenistic, Byzantine, and Ottoman periods expose conflicts between the 19th-century Haussmann-inspired boulevard and the medieval organic layout of the city. The design mediates this tension by reintroducing covered porticoes along the *Via Egnatia*, referencing Roman stoae and Ottoman souks. Additionally, a hypogeal plaza is excavated to restore the original ground level of the Greek period, enhancing the site's historical continuity. The fourth phase, *Structure of the Element*, focuses on synchronic

analysis, which highlights the Rotunda of Galerius as a temporal landmark within the city. The new central pavilion, conceived as a glass volume encased in brick *ruins*, dialogues with this heritage. Furthermore, diachronic studies of Byzantine masonry techniques inform the design of the pavilion's textured brick cladding, creating a visual connection between past and present architectural forms.

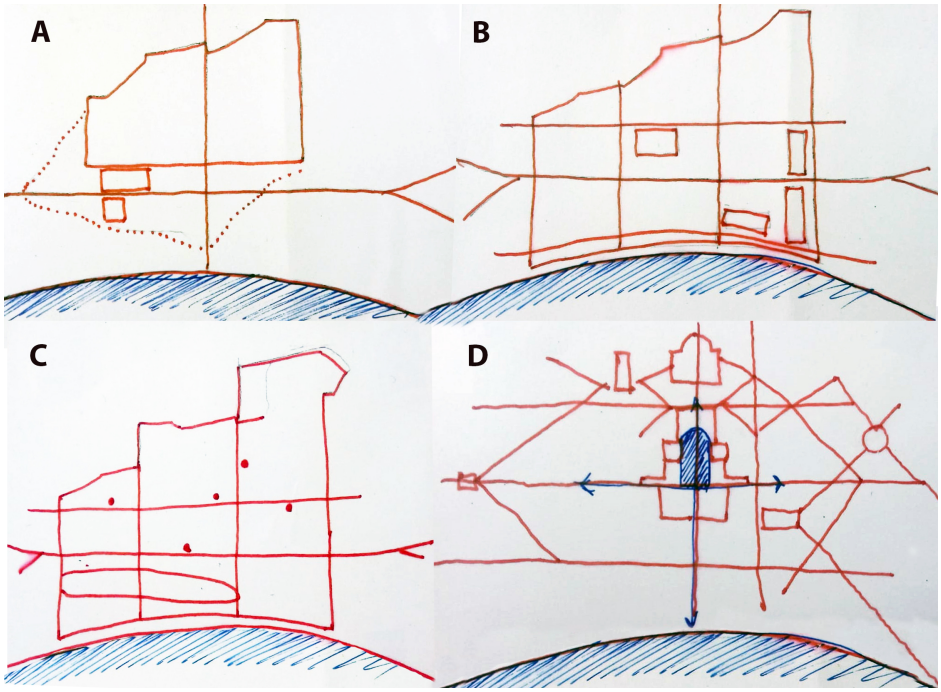

Fig. 6: Sketches of the diachronic analysis of Thessaloniki: A- Greek; B- Roman; C-Roman-Oriental; D- 19th C. (Source: Authors' archive, 1997).

Finally, the fifth phase, *Between Memory and Future*, employs processual reuse to engage with the layers of history embedded in the site. Hypogeal layers are used to evoke archaeological strata, transforming the plaza into a living museum that honors the passage of time. Copper-clad porticoes reinterpret Roman roofing techniques, with their oxidized patina reflecting Thessaloniki's maritime climate. The diagonal pavilion, aligned with the medieval street grid, becomes a phenomenological marker of erased histories, connecting the present with the lost narratives of the past and fostering a dialogue between archetype and innovation. The *Lexicon* of the design, which concerns formal selection, draws upon classical, medieval, and modern references. Classical influences are evoked using travertine porticoes, reminiscent of Roman stoae, while brick vaults nod to the narthexes of Byzantine churches. Medieval revival is reflected in the fragmented geometry of the diagonal pavilion, which recalls the lost alleys of the Jewish quarter. The design also incorporates a modern approach to transparency, with a crystalline glass core emerging from the brick *ruins*, symbolizing the city's layered identity. The *Syntax* of the design -concerned with compositional logic- incorporates

juxtaposition, interpenetration, and subtraction. The orthogonal grid of the portico contrasts with the diagonal orientation of the pavilion, creating a tension between order and memory (Fig. 7).

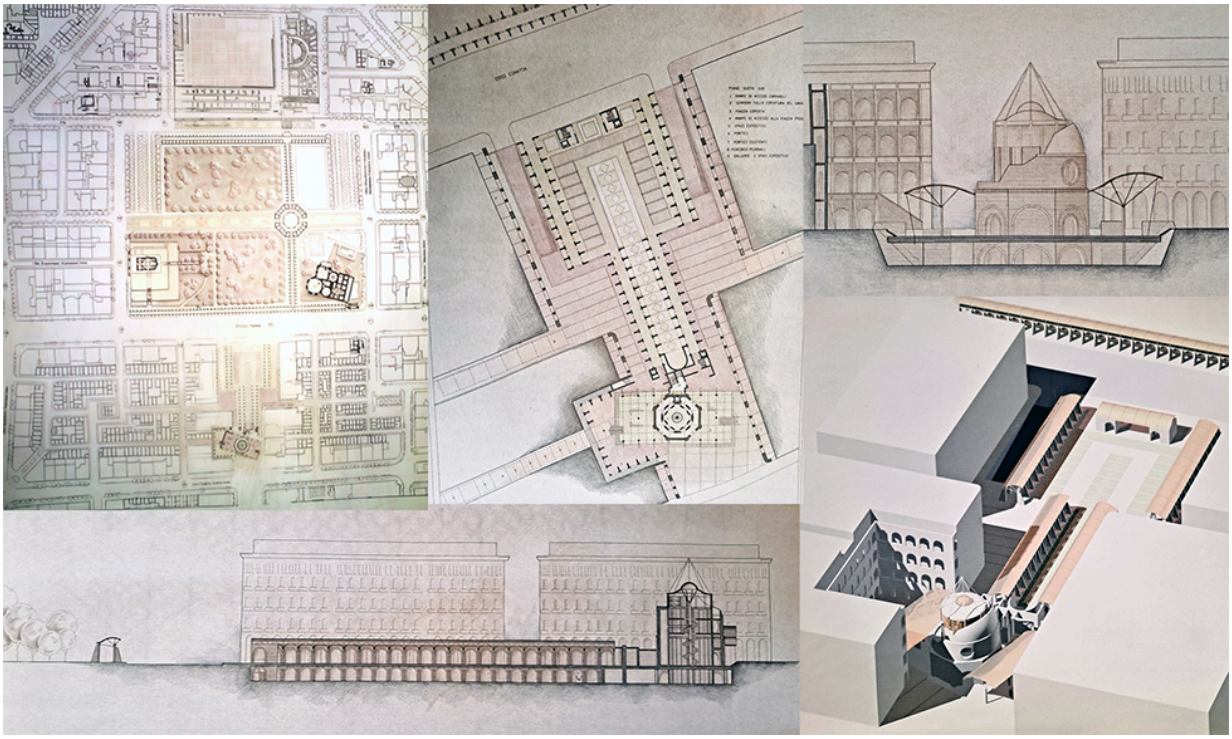

Fig. 7: Design proposal's masterplan, floor plan, cross-sections, and axonometry. (Source: Authors' archive, 1997; Maurizio Crocco 3D elaboration, 2025).

Subterranean galleries intersect with surface plazas, blurring the boundaries between past and present. Excavations reveal the ancient agora's foundations, framing them as voids of collective memory, emphasizing the cyclical nature of Thessaloniki's history. The *Semantics* of the design—focused on generation of meaning—imbue the project with deep cultural significance. The brick *ruins* symbolize the city's recurrent cycles of destruction and rebirth, while the glass core embodies Thessaloniki's aspirational future. The copper used for the portico roofs ties the project to the Rotunda's domed silhouette, establishing a material continuum between the city's past and present. Finally, the hypogeal agora functions as a social space, hosting exhibitions that explore the city's historical heritage. The project's components are structured as a stratified urban intervention. The surface plaza and portico network extend the Aristoteles Axis, uniting the dispersed monuments of the area. Covered walkways with brick arches and copper roofs link the square to the Archaia Agora, fostering connectivity across the site. The central, misaligned diagonal pavilion houses a multimedia archive documenting pre-fire Thessaloniki, with its brick shell—partially collapsed—framing a glazed exhibition space. Beneath the surface, the hypogeal layer reveals Thessaloniki's deep historical layers. The excavated agora, accessed via ramps, exposes Roman shops and Byzantine cisterns, integrated with temporary

exhibition spaces. A glass-floored corridor reconstructs the route of a medieval street, illuminated by embedded LEDs that mimic historic lanterns, reintroducing the medieval pathway into the city's urban experience. In terms of material and symbolic continuity, the project makes use of locally sourced materials such as Thassian marble and Macedonian brick, ensuring tectonic authenticity. The copper patina of the roofs, which will oxidize over time, blends harmoniously with the weathered dome of the Rotunda, visually linking different epochs of the city's history. Featured in the touring exhibition *Das Europa der Städte* (*The Europe of The Towns)*, the project transcends mere reconstruction. By applying ADI's analytical rigor and ABE's phenomenological depth, it positions Thessaloniki not just as a city which is rebuilding its past, but also as an evolving urban narrative. Each historical layer—Hellenistic, Roman, Byzantine, Ottoman, Jewish—actively shapes the city's identity. The diagonal pavilion, serving as both ruin and beacon, embodies Louis Kahn's axiom: "A city is a place where a small boy, walking through it, may see something that will tell him what he wants to do his whole life." In our design, the boy encounters not just the remnants of history, but its living, evolving dialogue.

5. CASE STUDY 3 – INTERNATIONAL COMPETITION FOR THE NEW ALEXANDRIAN LIBRAY, EGYPT (1989)

The 1989 UNESCO competition for the New Library of Alexandria transcended conventional architectural discourse, becoming a global crucible for the redefinition of architecture's relationship with history, memory, and cultural identity. With over 1,300 participants from 77 nations, the competition demanded proposals that reconciled Alexandria's mythic past—the ancient Library of antiquity, a beacon of Hellenistic scholarship—with its aspirational future as a Mediterranean crossroads of knowledge. The theme proved so rich in suggestions and provocations that it demanded rigorous control and a careful selection of historical references. The relationship with history is not without risks: formalistic attitude could potentially "universalize and smooth out the dissimilar"[16] dealing with the effect and not with the causes, to the point of taking the effect as a model, a downfall that involved many protagonists of post-modern architecture. Conversely, a critically engaged approach that thoughtfully identifies gaps in the development of modern architecture transforms criticism into a constructive tool, allowing a truly meaningful relationship with the past. Alexandria's urban fabric is a palimpsest of Mediterranean civilizations—a living testament to Lévi-Strauss's assertion that "the city is a place where time becomes visible, layered in the stratigraphy of its streets." Here, Ptolemaic grids, Roman colonnades, Byzantine basilicas, and Ottoman markets are layered beneath modernist boulevards. The project's site, located adjacent to the harbor and the University of Alexandria, called for a design that would mediate between the city's scholarly legacy and its maritime identity. Rejecting historicist mimicry, the proposal, driven by ABE methodology, engaged with the processual

memory of architectural forms—exploring how geometries, materials, and spatial relationships persist and transform across epochs.

Gianfranco Moneta, Maurizio Crocco and his collaborative team reimagined the Library not as a nostalgic homage, but as a phenomenological *language-game* where geometric archetypes, historical strata, and symbolic narratives come together.[17] The project was conceived as a monumental unicum, rising above the urban continuum of the city, echoing models found in medieval, Christian, and Islamic urban traditions. Internally, the Library is defined by its rich spatial articulation across multiple levels, where spaces visually interpenetrate one another, creating a dynamic and fluid experience for users (Fig. 8). This design serves a diverse range of reading and learning activities, reflecting the Library's multifaceted purpose. The historical reference for this spatial organization can be traced to the great transept of the medieval cathedral, with its structured yet articulated and multi-layered spaces. The design is focused on a central hexagonal core, alternating *chapels* with *naves* that gradually decrease in size. This approach draws inspiration from Narciso Tomé's innovative lighting technique, experimented in the Cathedral of Toledo, which employs indirect, *inverse motion* lighting to illuminate multiple levels of the space. Externally, the volumetric articulation stands out prominently as a singular entity, emerging from a continuous slab inspired by the geometric typology of Islamic covered markets. This slab houses the massive book repository, while the opposite side accommodates the school and various ancillary services. The volumetric sequence of the three main elements—Library, School, and services—opens toward the University, forming a large geometric square that naturally incorporates the pre-existing Congress Centre as a defining feature. In contrast, the composition facing the sea adopts a more enclosed character. From the continuum of the warehouses, interpreted externally as a long defensive wall, emerge the distinct volumes of the Library and School, reminiscent of the mosque typology. This duality—openness toward the University and enclosure toward the sea—creates a compelling dialogue between the Library and its surroundings, reflecting its dual role as a cultural beacon and a guardian of knowledge.

The ABE framework, inspired by Husserlian phenomenology and Wittgenstein's linguistic theories, structured the design process into three primary categories: *Lexicon, Syntax, and Semantics*. The *Lexicon* of the design focused on geometric archetypes, drawing from two primary figures: hexagons and rectangles. The hexagon, a deliberate departure from the Roman octagon, was employed as a symbol of stability and centrality. However, its inherent instability—resulting from its lack of a single axis—became a metaphor for Alexandria's fragmented history and fluid identity. Radial sectors organized around the hexagons, evoking Roman insulae and Islamic modular grids, formed the secondary geometric language.

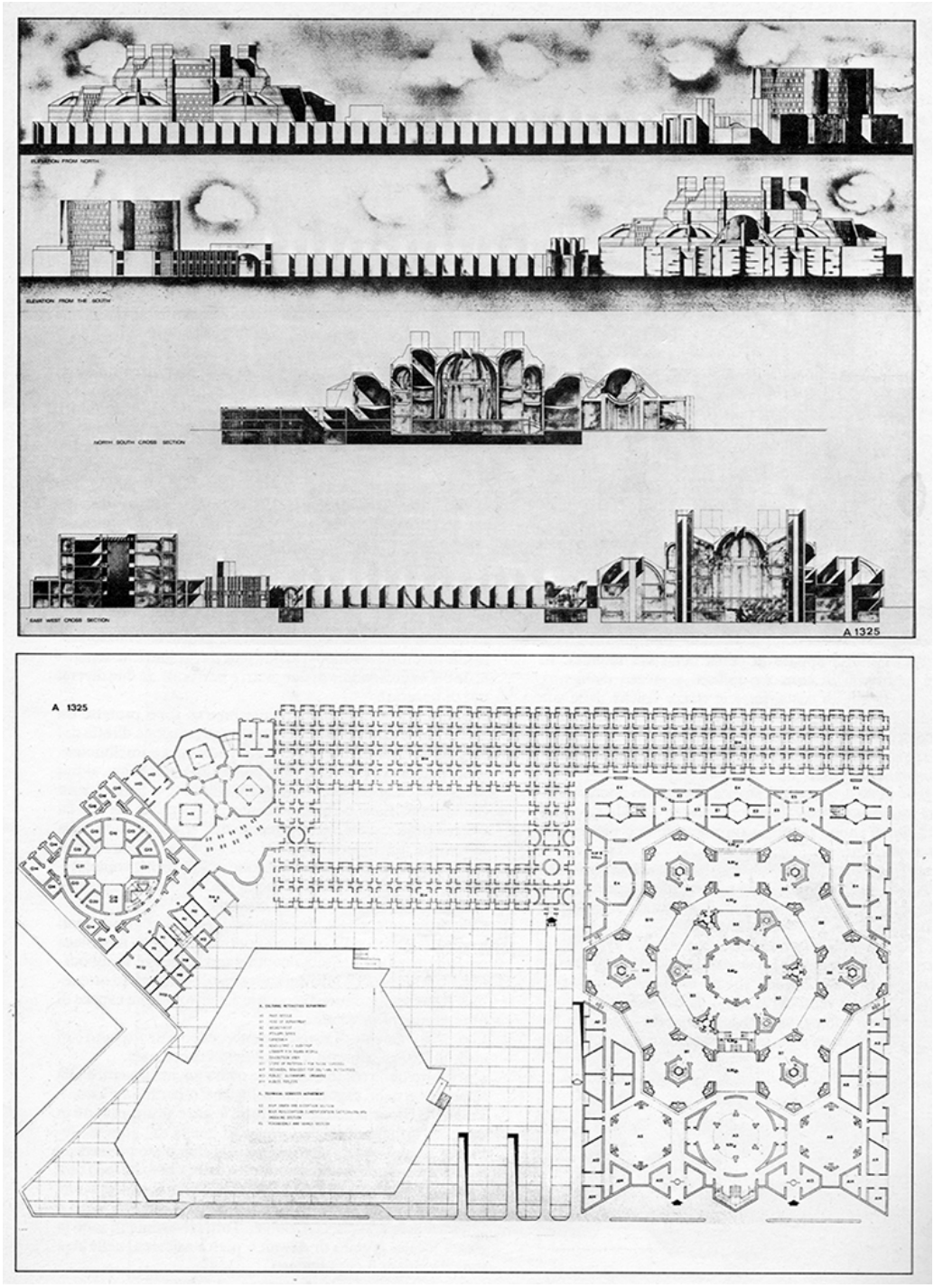

Fig. 8: Design proposal's masterplan, side elevations, cross-sections. (Source: G. Strappa, ed. *La Biblioteca Ritrovata.* Rome: Carte Segrete, 1990, p. 41)

These formal choices were rooted in historical anchors, including Roman thermae, Byzantine cloisters, and Islamic muqarnas. The hexagonal vaults, supported by external radial beams, echoed the structural logic of Roman baths while subverting their symmetry. Closed hexagonal modules, with continuous masonry walls,

referenced the seclusion of Byzantine monastic cloisters, in contrast to the library's more communal mission. Islamic geometric lacework, exemplified by the perforated screens adorning the rectangular sectors, recalled the intricate patterns of Cairo's Ibn Tulun Mosque and filtered light into abstract forms. In terms of *Syntax*, the compositional logic of the design hinged on dialectical relationships. The contrast between solid and void was emphasized through hexagonal masonry volumes, which were juxtaposed with radial travertine walls (the void), whose surfaces were pierced by laser-cut screens. The tension between centripetal and centrifugal forces was explored through the central hexagonal atrium, which acted as the focal point of the design, while the radial rectangles extended outward toward the University and the sea. Light and mass were also explored as opposing elements: indirect lighting cascaded through the perforated screens, creating a chiaroscuro effect that dematerialized the vaults and blurred the boundary between the architectural elements and the surrounding space.

Semantics were concerned with the generation of meaning, imbuing each element with symbolic significance. The hexagonal instability, for example, served as a critique of Alexandria's *unfinished* identity—a city that is perpetually rebuilt but never fully resolved. The copper-clad vaults, which would oxidize over time, mirrored the corrosive effects of the Mediterranean humidity, symbolizing the fragility of knowledge. The central atrium, reinterpreting the Roman impluvium, served as a gathering space for scholars, akin to water collected in a basin, representing both the secular and the scholarly mission of the Library. The Library's program was organized into three interconnected systems that balanced archival preservation with public engagement. The first, the Hypostyle Hexagons, featured twelve closed hexagonal vaults, each housing rare manuscripts. These vaults, with their continuous masonry walls, symbolized archival permanence. Structural innovation was introduced through external steel beams, cantilevered like skeletal ribs, which supported the vaults while exposing their construction, evoking the dramatic etchings of Piranesi's *Carceri*. Materiality played a key role here, as local limestone blocks were left rough-hewn, referencing Ptolemaic quarrying techniques, and contrasted with the polished brass fittings. The Radial Rectangles (agora) represented the public and interactive aspect of the design. The stepped stone partitions, descending in terraced levels, created amphitheater-like reading nooks. These were complemented by perforated screens, whose algorithmic perforations, derived from Islamic *jali* patterns, cast ever-shifting shadows that synchronized with the solar cycle. Functional hybridity characterized these spaces, as they morphed from quiet study zones during the day to lecture halls at night, embodying Louis Kahn's famous axiom, "Form generates function." The Base Continuum, or connective tissue of the entire design, was integral to its spatial organization. A network of tunnels linked the Library to the University and surrounding archaeological sites, with stone panels embedded in the walls revealing strata of Hellenistic pottery and Ottoman foundations. A submerged courtyard, flooded with filtered seawater, mirrored the harbor's tides, serving as a kinetic homage to Alexandria's maritime soul. The materials selected for the project underscored the ABE methodology, creating a dialogue between the

ancient and the modern. Limestone and copper were the key materials, both quarried from the Nile Delta. The limestone blocks, left unpolished to reveal their fossilized textures, narrated the geological passage of time. Meanwhile, the copper used for the vault cladding oxidized to a malachite green, blended with the horizon of the Mediterranean Sea. Light itself was employed as a medium, with fiber-optic filaments woven into the perforated screens to project digitized manuscripts onto the vaulted ceilings—a fusion of ancient craft and digital ephemerality. The Library mediated between two distinct urban realities. Toward the University, a geometric plaza paved with hexagonal basalt tiles extended the campus's intellectual energy. The pre-existing Congress Centre was reimagined as a porous threshold, with its façade dissolved into a lattice of climbing jasmine. Toward the sea, a fortified seawall, echoing the mythic silhouette of the Pharos Lighthouse, shielded the Library from coastal erosion. This seawall, incised with Coptic and Arabic calligraphy, became a palimpsestic ledger of Mediterranean languages, symbolizing Alexandria's role as a crossroads of cultures (Fig. 9).

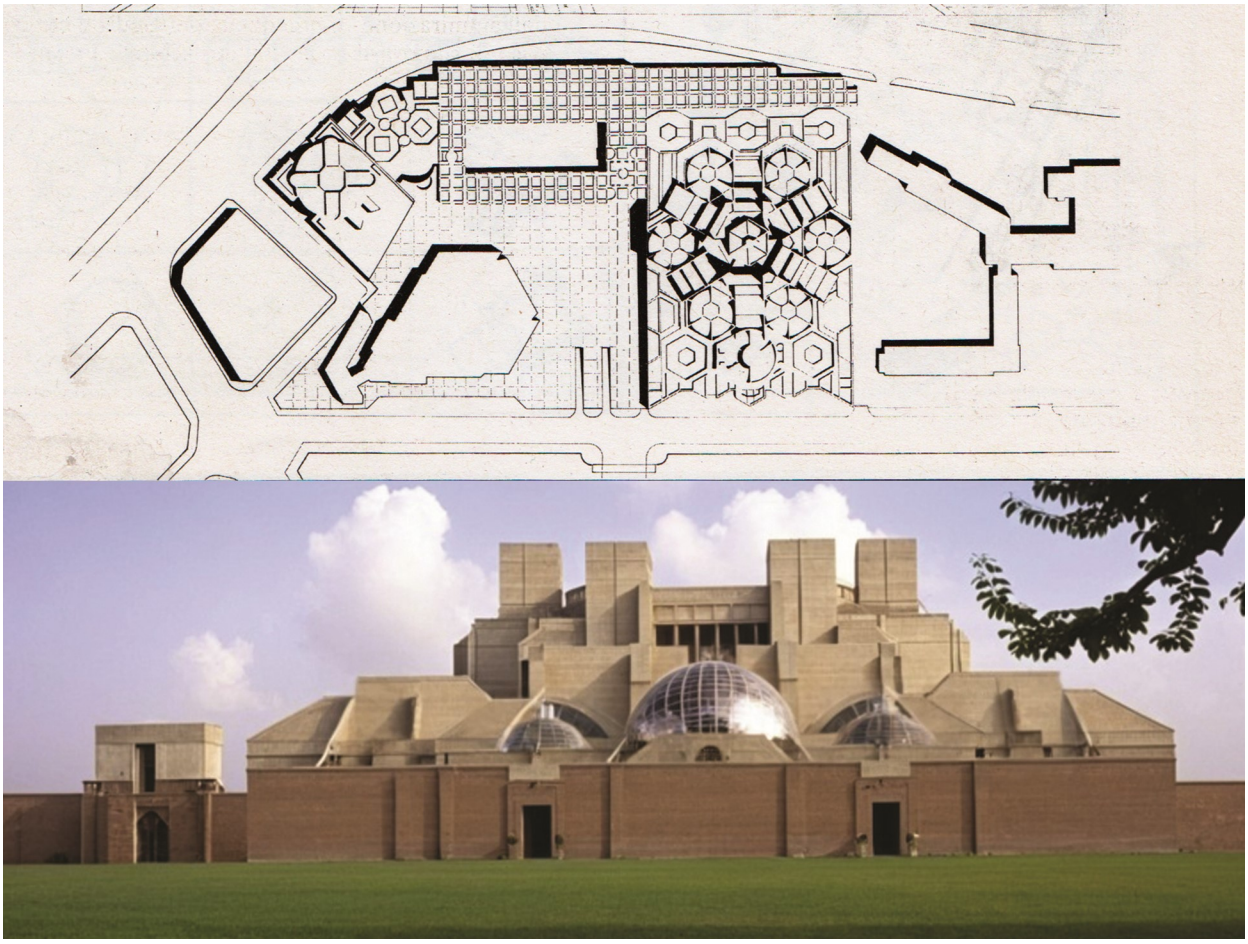

Fig. 9: Design proposal's original masterplan (top) and 3d model (bottom). (Source: G. Strappa, ed. *La Biblioteca Ritrovata*. Rome: Carte Segrete, 1990, p. 39; Maurizio Crocco, 2025).

The ABE-driven design transcended formalism, treating architectural elements as linguistic units—hexagons as verbs, rectangles as adjectives, and light as punctuation. This approach constructed a narrative in which Alexandria's past and future coexisted in tense harmony. The Library emerged not merely as a repository of books, but as a *machine for thinking*, where scholars could navigate spatial paradoxes: solidity dissolving into light, history colliding with algorithm, and silence reverberating with latent voices (Fig. 10). Through this design, Alexandria's layered identity was not only preserved but actively engaged, allowing the city's cultural and intellectual legacy to continue evolving in dialogue with its past. Remarkably, the design, conceived 36 years ago, continues to feel fresh and timeless, its relevance undiminished by the passage of time.

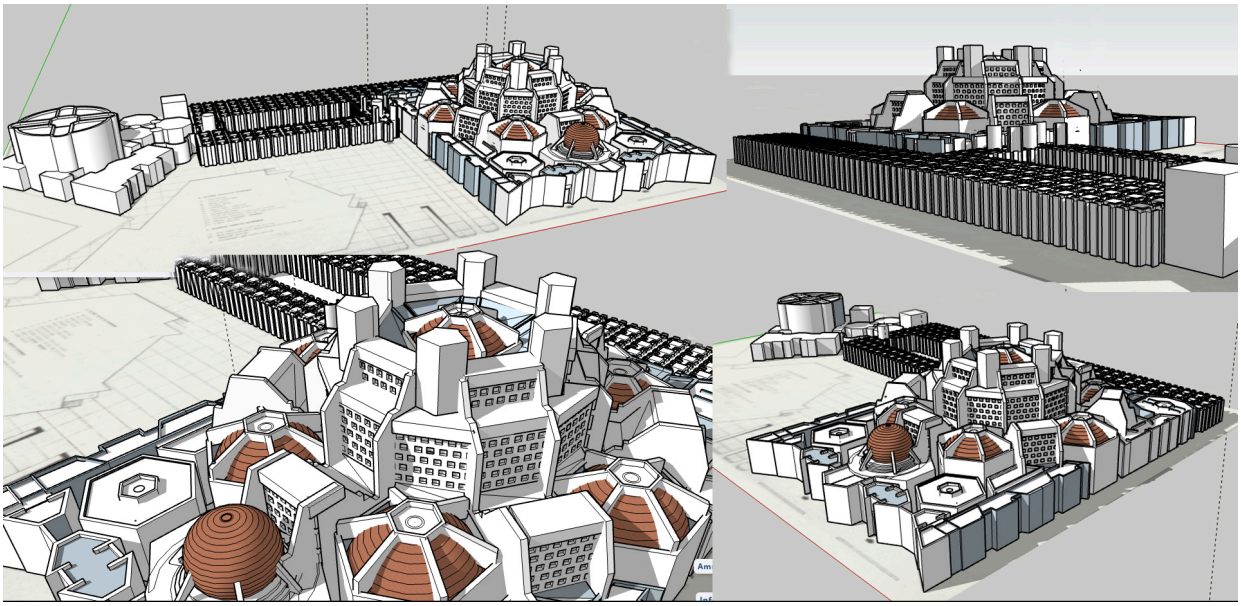

Fig. 10: Design project 3d model. (Source: Maurizio Crocco, 2025).

6. CONCLUSIONS

The Modern movement disrupted the flow of historical transformations by establishing a decisive break with the past, creating an "eternal present" that excluded dialectics, conflict, and the continual processes of change that define cultural and architectural evolution.[18] As a result, modern architectures often seem detached from the evolving dynamics of history; they do not age naturally, but rather remain fixed in time, disconnected from the processes that shape their context. The three case studies presented in this paper were intentionally selected from the earliest projects in our portfolio to demonstrate how the combined application of our two methodologies—ADI and ABE—avoids tying architectural and urban design to fleeting trends or ephemeral styles that often characterize modern and contemporary architecture. Instead, these methodologies generate

forms that emerge from an ongoing process of transformation, embracing transitional states and remaining open to adaptation. Decades after their original design, these projects continue to feel fresh and relevant, demonstrating an architecture that resists becoming outdated or surpassed by shifting styles. They remain adaptable and enduring, reflecting their continuous relevance in a constantly evolving built environment. This approach embodies a spirit of architecture that is both rooted in local identity and open to cosmopolitan influences. Yet, the tension between identity and cosmopolitanism raises an important and politically charged question. Critics argue that cosmopolitanism risks undermining traditional cultures by promoting homogenized, globalized views that challenge local traditions. This critique often focuses on the global dominance of Western media, technology, and cultural values. If identity is seen as something fixed and static, then attempts to preserve it might result in an architecture that is homogenized, disconnected from historical context, and devoid of memory.[19] By introducing the concept of the *Form of Transformations* through the ADI and ABE methodologies, identity is redefined as something open to transformation yet firmly rooted in the past. Here, *roots* must always be understood in the plural, reflecting the layered and dynamic nature of cultural and historical identity. This approach allows for an architecture that is both deeply connected to its context and open to the evolving needs of a cosmopolitan society.

NOTES AND REFERENCES

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19. As Agamben reminds us, 'the coming community is not a community of substance but of "whatever being"—singularities that escape fixed identity, embracing belonging without boundaries.' See: G. Agamben, *The Coming Community* (Minneapolis: University of Minnesota Press, 1993).

Traditional Dwellings and Settlements
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RETROFITTING STRATEGIES FOR ENERGY EFFICIENT COMMERCIAL BUILDINGS: PROMOTING COSMOPOLITAN IDENTITY IN DOWNTOWN ALEXANDRIA

Sarah Essam, Mohamed Assem Hanafi, Wessam Abbas

RETROFITTING STRATEGIES FOR ENERGY EFFICIENT COMMERCIAL BUILDINGS: PROMOTING COSMOPOLITAN IDENTITY IN DOWNTOWN ALEXANDRIA

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This research explores the potential of retrofitting to enhance the sustainability and energy performance of commercial buildings in downtown Alexandria. It proposes a holistic framework that aligns with the area's architectural style and cosmopolitan identity while addressing existing challenges. By integrating energy-efficient solutions, the research aims to reduce energy consumption and greenhouse gas emissions, support economic and social vitality, and preserve heritage. The study emphasizes the importance of comprehensive planning and policy development to meet the needs of diverse stakeholders, ultimately revitalizing Alexandria's historic character while achieving modern energy efficiency standards.

1. INTRODUCTION

1.1. Context of the Study

Retrofitting process plays a crucial role in enhancing energy efficiency while preserving the architectural heritage of commercial buildings, particularly in historically significant urban areas such as downtown Alexandria. As a city with a rich cosmopolitan identity reflected in its diverse architectural fabric, Alexandria's commercial buildings often embody historical and cultural value but suffer from outdated construction methods and inefficient energy performance. Many of these structures were built before the adoption of modern sustainability standards, resulting in excessive energy consumption and poor indoor environmental quality (IEQ).

Implementing retrofitting strategies in commercial heritage buildings allows for the integration of contemporary energy-efficient technologies without compromising their historical integrity.
The study of retrofitting in the context of energy efficiency and heritage conservation is particularly important in Alexandria due to the growing pressures of urbanization, climate change, and energy crises. Focusing on this area contributes to sustainable development goals by promoting resource efficiency, reducing carbon emissions, and preserving the city's unique architectural legacy. Furthermore, as global interest in sustainable heritage conservation increases, developing tailored retrofitting strategies for Alexandria's commercial buildings offers valuable insights that can be applied to similar contexts worldwide.

1.2. Aims of the Research

By examining the architectural evolution of downtown Alexandria, this research will propose context-sensitive interventions such as passive design strategies and modern energy-efficient technologies that align with the original aesthetic and structural integrity. It will also address policy frameworks, regulatory challenges, and the best practices according to literature to guide the implementation of effective retrofitting solutions. Additionally, the study can emphasize the broader socio-economic and cultural benefits of preserving Alexandria's diverse architectural identity, reinforcing its role as a living historical and commercial hub while adapting to contemporary sustainability demands. This aim is achieved through a simple structure of four main sectors apart from the introduction and conclusion sections, illustrated in Fig. 1 as follows:

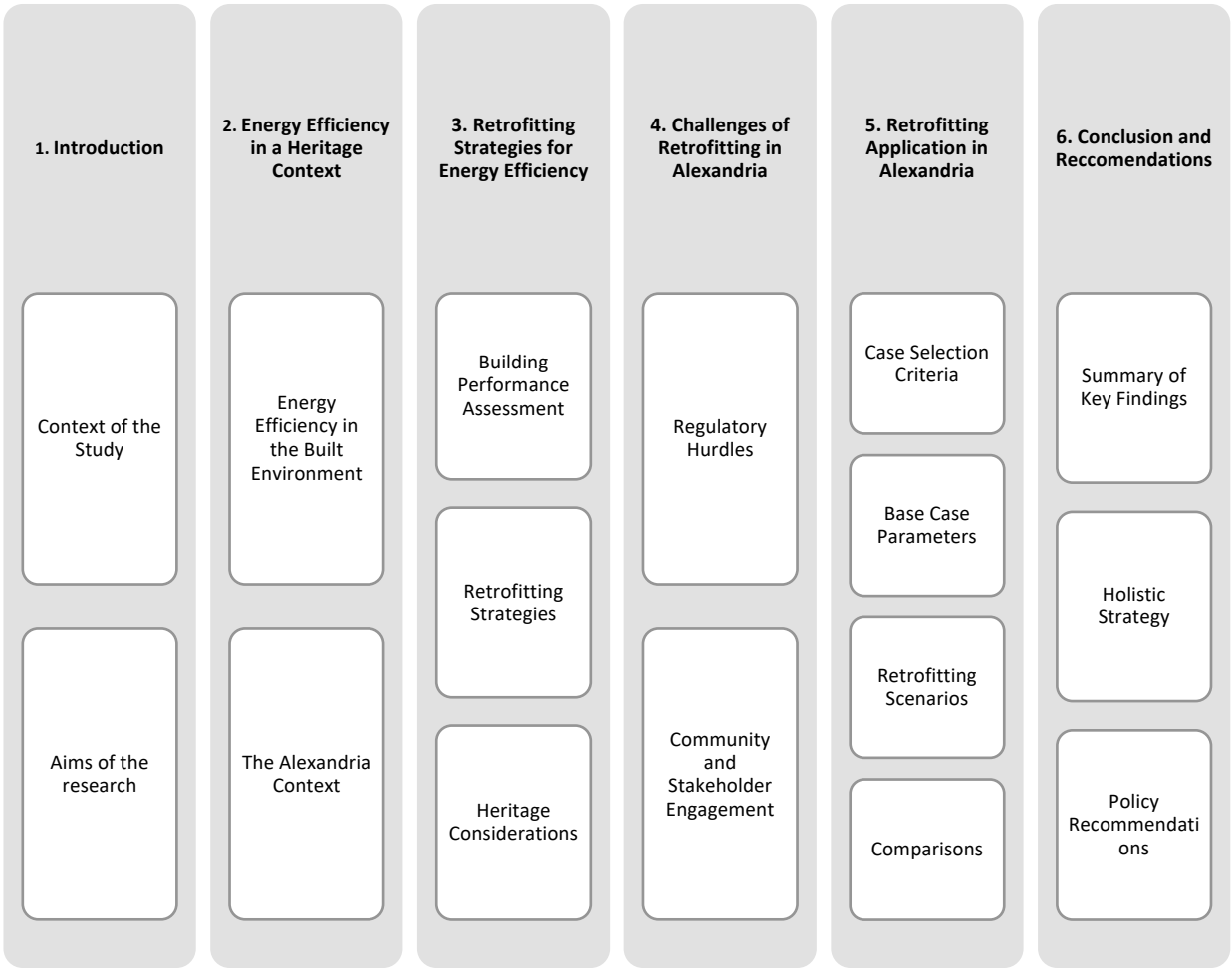

Fig. 1: Research Structure

2. ENERGY EFFICIENCY IN HERITAGE BUILDINGS

2.1. Energy Efficiency in the Built Environment

Energy efficiency in the built environment refers to the optimization of energy consumption in buildings to reduce waste while maintaining or improving occupant comfort and functionality. It involves using advanced technologies, smart design strategies, and operational practices to minimize energy demand and enhance performance. Energy-efficient buildings are designed to consume less energy for heating, cooling, lighting, and ventilation while relying on renewable energy sources whenever possible. According to the United Nations Environment Programme (UNEP), buildings consume about 40% of global energy, 25% of global water, and 60% of global electricity as well as contribute to more than 30% of global greenhouse gas emissions[1]. Improving energy efficiency is a crucial step toward mitigating climate change and reducing dependency on fossil fuels. In commercial buildings, which often have high energy demands due to lighting, HVAC systems, and operational equipment, implementing energy-efficient measures not only lowers costs but also enhances workplace productivity and comfort.

Unlike new constructions designed with energy efficiency in mind, many older buildings were built without modern energy standards, hence contribute significantly to energy waste. Retrofitting involves upgrading various building components to improve performance and reduce overall energy consumption. Additionally, integrating smart building management systems (BMS) and renewable energy sources further enhances efficiency and reduces environmental impact. By prioritizing retrofitting strategies, cities can transform their commercial building stock into more sustainable, cost-effective, and environmentally responsible assets, helping meet global climate targets while preserving urban heritage and functionality.

2.2. The Alexandria Context

Retrofitting commercial buildings in downtown Alexandria presents unique challenges due to the district's blend of modern and historical architecture. One of the primary difficulties is balancing the need for energy efficiency with the preservation of the city's cosmopolitan architectural identity[2]. Many heritage buildings were not designed to accommodate modern energy demands and retrofitting them requires careful interventions that do not compromise their historical integrity. Additionally, financial constraints, lack of clear regulatory frameworks, and resistance from property owners further hinder large-scale retrofitting efforts. The high cost of advanced energy-efficient technologies, combined with limited government incentives, often discourages investment in retrofitting projects. Moreover, the absence of specialized expertise in integrating sustainability solutions within heritage structures complicates implementation.

Despite these challenges, retrofitting presents significant opportunities for enhancing Alexandria's commercial and cultural appeal. By adopting best practices from global retrofitting initiatives, the city can develop tailored solutions that improve building performance while preserving historical aesthetics[3].

Alexandria's rich historical significance presents a unique challenge in balancing heritage conservation with sustainability. As a city that has long been a crossroads of cultures, its commercial buildings reflect a diverse architectural heritage, blending European, Ottoman, and local influences[4]. However, many of these structures were not designed with modern energy efficiency in mind, leading to high energy consumption, thermal discomfort, and maintenance difficulties. Retrofitting these buildings requires a delicate approach that respects their historical identity while integrating contemporary energy-saving solutions. Striking this balance involves navigating strict heritage preservation regulations, ensuring that alterations do not compromise architectural authenticity, and selecting materials and technologies that align with the original design. Additionally, the coastal climate is another layer of complexity, demanding passive cooling strategies and resilient building envelopes. Addressing these challenges calls for innovative, context-sensitive retrofitting strategies that enhance energy performance without diminishing the city's distinctive urban character.

3. RETROFITTING FOR ENERGY EFFICIENCY

3.1. Building Performance Assessment

Before starting a retrofitting project, the current state of the building and its energy use must be studied and assessed. This initial stage is referred to as an energy audit, it is a systematic process that establishes the base case of the building, recognizing and categorizing energy losses in the building to aid through the decision-making process later[5]. In heritage buildings like those in Downtown Alexandria, energy audits are essential to understand and identify the existing energy-efficient aspects and how they function, as well as to understand and identify its character-defining features to ensure they are preserved.

An energy audit usually reveals three performance aspects: areas of energy waste, energy saving opportunities and system operating schedules[6]. Based on the outcome of the energy audit, a suitable retrofitting strategy can be formulated to minimize wastes and maximize efficiency. Table 1 summarizes the most common audit aspects and their impact on energy waste.

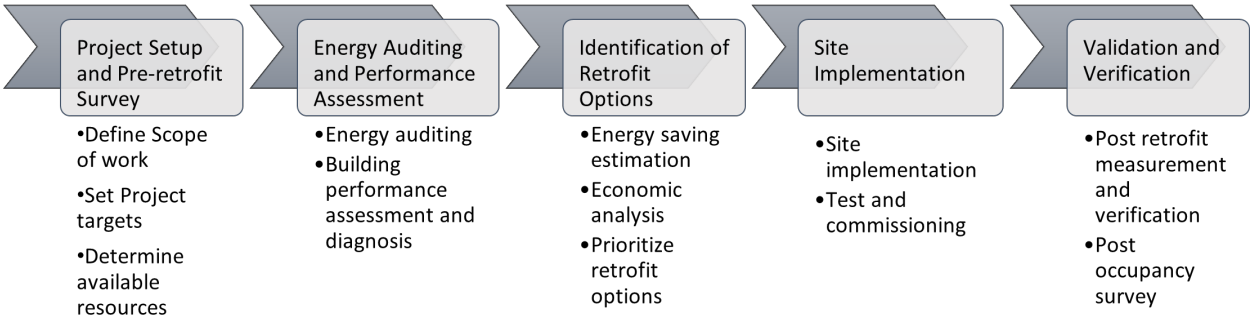

Figure 1: Retrofitting Process Phases[7]

ASPECT	PURPOSE	OPPORTUNITIES	CHALLENGES	ESTIMATED ENERGY WASTE
BUILDING ENVELOPE	Detects thermal leaks in walls, roofs, and floors.	Reduces heat loss/gain and improves comfort.	Heritage restrictions require reversible insulation choices.	15-25%
WINDOWS & DOORS	Identifies drafts, glazing inefficiencies, and solar heat gain.	Enhances daylighting minimizing energy loss.	Window replacement is highly restricted.	10-20%
HVAC SYSTEM	Analyzes heating, cooling, and ventilation efficiency.	Identifies inefficient units and suggests replacements.	HVAC changes can be costly and disruptive.	20-30%
LIGHTING	Assesses fixture efficiency and daylight utilization.	Suggests LEDs and motion sensors**.**	Heritage-compatible lighting is expensive.	5-15%
PLUG LOADS AND APPLIANCES	Measures energy consumption of appliances and office equipment.	Identifies standby power waste and suggests automated controls.	Requires behavioral change from tenants and replacing equipment.	5-10%
RENEWABLE ENERGY FEASIBILITY	Evaluates solar PV potential.	Supports sustainability goals and long-term savings.	Limited roof space and placement restrictions.	10-15%

Table 1: Energy audit aspects, purposes, energy saving opportunities and challenges due to heritage restrictions.

3.2. Retrofitting Strategies

Studies show that different environmental conditions and types of buildings require distinct retrofit strategies to achieve viable environmental, economic, social and technical results. So, it is essential to identify and select which strategies are most appropriate for each situation, considering the local and climate conditions and building characteristics. Knowing the main strategies commonly used in building retrofits, combined with specific methods and criteria, helps in the decision-making process for choosing the ideal set of interventions.

According to Rey[2] there are three main types of strategies, the stabilization strategy (STA), which fundamentally preserves the characteristics and the appearance of the building, the substitution strategy (SUB), which completely changes certain elements and transforms both the characteristics and the appearance of the building; and the double-skin façade strategy (DSF), which partially stabilizes the existing façade and adds a new glass skin. This strategy involves a complete metamorphosis of the building's appearance but maintains a large portion of the original characteristics.

Another method to illustrate retrofitting strategies is active and passive approaches[8]. Active strategies involve upgrading building systems such as HVAC, lighting, and water heating, and incorporating renewable energy sources like photovoltaic panels and geothermal heat pumps. Passive strategies focus on optimizing natural resources, including building envelope insulation, phase change materials, natural lighting, and ventilation.

A different approach to categorize retrofitting strategies divides them into construction and system retrofits, each addressing energy efficiency in heritage buildings. Construction retrofits focus on reducing energy consumption through measures like glazing upgrades, insulation, and enhancing doors and windows[9]. On the other hand, system retrofits aim to optimize natural and mechanical ventilation, upgrade lighting, and incorporate photovoltaic (PV) systems to generate renewable energy, balancing energy efficiency with heritage preservation[10]. This holistic approach ensures heritage buildings remain functional and energy-efficient[11].

The design, materials, type of construction, size, shape, site orientation, surrounding landscape, and climate all play a role in how buildings perform. In order to understand the effect of each of these components, the building is divided into Six Shearing Layers of Change[12]. The development of Brand's Shearing Layers is the Adaptive Future[13] which conducted a set of surrounding layers that explain how a building and its constituent parts will change over time. Combining the work of Austin and Schmidt with existing retrofitting strategies results in the following (Table 2), matching each layer of the building with the possible intervention[14], keeping in mind the need to preserve its historical and cultural value.

BUILDING LAYER	DESCRIPTION	RETROFITTING STRATEGIES	CONSIDERATIONS FOR HERITAGE BUILDINGS
SITE (URBAN CONTEXT)	The surrounding environment, climate, and infrastructure.	Green roofs or cool pavements for heat reduction. Smart urban shading (trees, pergolas).	Maintain historic streetscape aesthetics Use reversible urban elements.
STRUCTURE (LOAD-BEARING ELEMENTS)	Foundations, columns, and load-bearing walls.	Reinforcement with carbon fiber wraps or steel plates. Seismic retrofitting for structural resilience.	Avoid heavy modifications that compromise historical integrity. Ensure reversible strengthening techniques.
SKIN (BUILDING ENVELOPE)	External walls, windows, doors, and roofs.	Breathable insulation (aerogel, cork panels). Secondary glazing for thermal efficiency. Reflective lime-based coatings to reduce heat absorption.	Maintain façade appearance with non-invasive insulation. Ensure materials allow moisture diffusion to prevent damage.
SERVICES (HVAC, ELECTRICAL, PLUMBING)	Heating, cooling, lighting, and water systems.	Energy-efficient VRF HVAC systems. LED lighting & daylight sensors. Smart water management systems.	Hide modern electrical & HVAC components behind existing architectural features. Avoid invasive modifications to plumbing systems.
SPACE PLAN (INTERIOR LAYOUT & PARTITIONS)	Room organization and furniture arrangements.	Flexible, modular partitioning for future adaptability. Passive cooling & cross-ventilation strategies.	Keep historical interior proportions & decorative elements intact. Use reversible partitions where possible.
STUFF (FURNITURE, FIXTURES, AND EQUIPMENT)	Office furniture, lighting fixtures, bookshelves, etc.	Sustainable furniture choices. Ergonomic, energy-efficient appliances.	Maintain historic aesthetics in furniture choices. Adapt heritage-compatible LED lighting designs.

Table 2: Possible retrofitting strategies based on building layers and heritage considerations.

Incorporating renewable energy technologies into retrofitting projects can significantly enhance energy efficiency and reduce carbon footprints. Solar panels can be installed on rooftops or facades to harness Alexandria's abundant sunlight, providing clean and renewable electricity[15]. Wind turbines, although less common in urban settings, can be adapted for smaller scales on rooftops or integrated within building designs. Energy storage systems, such as batteries, can store excess energy generated for later use, ensuring consistent power supply[16]. Additionally, integrating photovoltaic glass in windows and facades can generate electricity while maintaining natural lighting. These technologies not only reduce reliance on fossil fuels but also offer long-term cost savings, contributing to the sustainability of retrofitted buildings.

Another opportunity to consider while retrofitting is Building Management System (BMS), it is an advanced control system that integrates smart technologies like automated controls, sensors, and data analytics to optimize energy use, reduce waste, and enhance building performance[17]. This can be seamlessly integrated and managed using BIM software like Revit, where the focus is on accurate modeling and performance validation before actual system integration. Revit enables designers to create detailed digital twins of buildings, allowing for comprehensive energy simulations and performance analyses during the strategy formulation and pre-retrofitting stage. This facilitates the evaluation of different energy management strategies to optimize building systems and layouts for energy efficiency[18]. BMS also enables predictive maintenance by identifying equipment issues before they escalate, reducing repair costs and downtime[19]In retrofitting projects, integrating BMS can maximize energy efficiency, reduce operational costs, and support sustainability goals by enabling smart energy management and real-time performance monitoring[20]

3.3. Heritage Considerations

Preserving Architectural Integrity:

In 2006, Alexandria's authorities enacted Law 144 to protect buildings of significant historical and architectural value[21]. This law led to the listing of 1,135 heritage buildings, imposing restrictions on demolition and modifications that could alter their character[22]. Owners of these properties are required to maintain their structures and seek approval from relevant authorities before undertaking any restoration or renovation efforts. As for energy efficiency specifically, the Egyptian code ECP 306-2005 provides guidelines for any additions or modifications to existing commercial buildings [23], whilst respecting the cultural and heritage value and the requirements of Law 144.

Sustainable Building Materials:

Retrofitting heritage buildings using sustainable, local materials can significantly enhance energy efficiency and indoor air quality while preserving cultural identity. The regulations of the Supreme Council of

Antiquities strictly regulate modifications, requiring the use of compatible materials and techniques to maintain building authenticity[24]. For instance, materials like natural stone, terracotta, and lime-based mortars are breathable and moisture-regulating, reducing the need for mechanical ventilation and improving thermal performance[25]. Additionally, using locally sourced, low-emission materials minimizes transportation emissions and supports the local economy. Such practices align with adaptive reuse strategies that prioritize sustainability without compromising heritage value.

4. CHALLENGES OF RETROFITTING IN ALEXANDRIA

Retrofitting commercial buildings in cosmopolitan downtown Alexandria requires careful navigation of local building codes, zoning laws, and heritage preservation regulations to ensure both compliance and the safeguarding of the area's architectural legacy. It also needs to consider the financial barriers and stakeholder's resistance to nonsubsidised retrofitting projects.

4.1. Regulatory Hurdles

The existing legal framework lacks clarity and enforcement mechanisms, making it difficult to implement preservation laws effectively. Specific interior codes for the adaptive reuse and rehabilitation of heritage structures are absent, and only general building regulations apply[26]. These regulations do not account for the unique needs of historic buildings, leading to challenges in integrating modern amenities without compromising structural integrity, and inconsistent application of preservation principles.

4.2. Community and Stakeholder Engagement

Property owners may resist retrofitting due to the high cost, particularly when using specialized materials and skilled labor to preserve the historic character. Many owners lack financial incentives or subsidies to justify the investment, especially if rent control or zoning laws limit potential revenue gains. Moreover, obtaining approvals from heritage conservation authorities can be time-consuming and restrictive, discouraging owners from undertaking upgrades[27]. Some may perceive regulations as too rigid, preventing practical improvements such as modern insulation, window replacements, or HVAC upgrades. Some owners worry that major renovations might reduce the building's heritage authenticity, affecting its perceived value. Others fear gentrification, where increased property values lead to higher taxes or pressure to sell.

Businesses operating in heritage buildings, such as bookstores, cafés, and offices, may resist retrofitting due to noise, dust, and temporary closures[28]. Disruptions to work schedules and productivity losses can be a major issue. If landlords pass retrofitting costs onto tenants, rental rates could increase, making it harder for small

businesses to stay. Upgraded energy systems might reduce utility bills, but some tenants may not perceive the long-term benefits as outweighing immediate cost increases.

Some stakeholders may resist changes due to a belief that modern energy-efficiency upgrades will compromise authenticity. Lack of awareness about heritage-friendly retrofitting solutions (e.g., reversible insulation techniques) could contribute to resistance. Addressing these challenges necessitates a holistic balanced approach that harmonizes development goals with the imperative of conserving Alexandria's rich architectural heritage. Figure 2 illustrates the different factors affecting the retrofitting process.

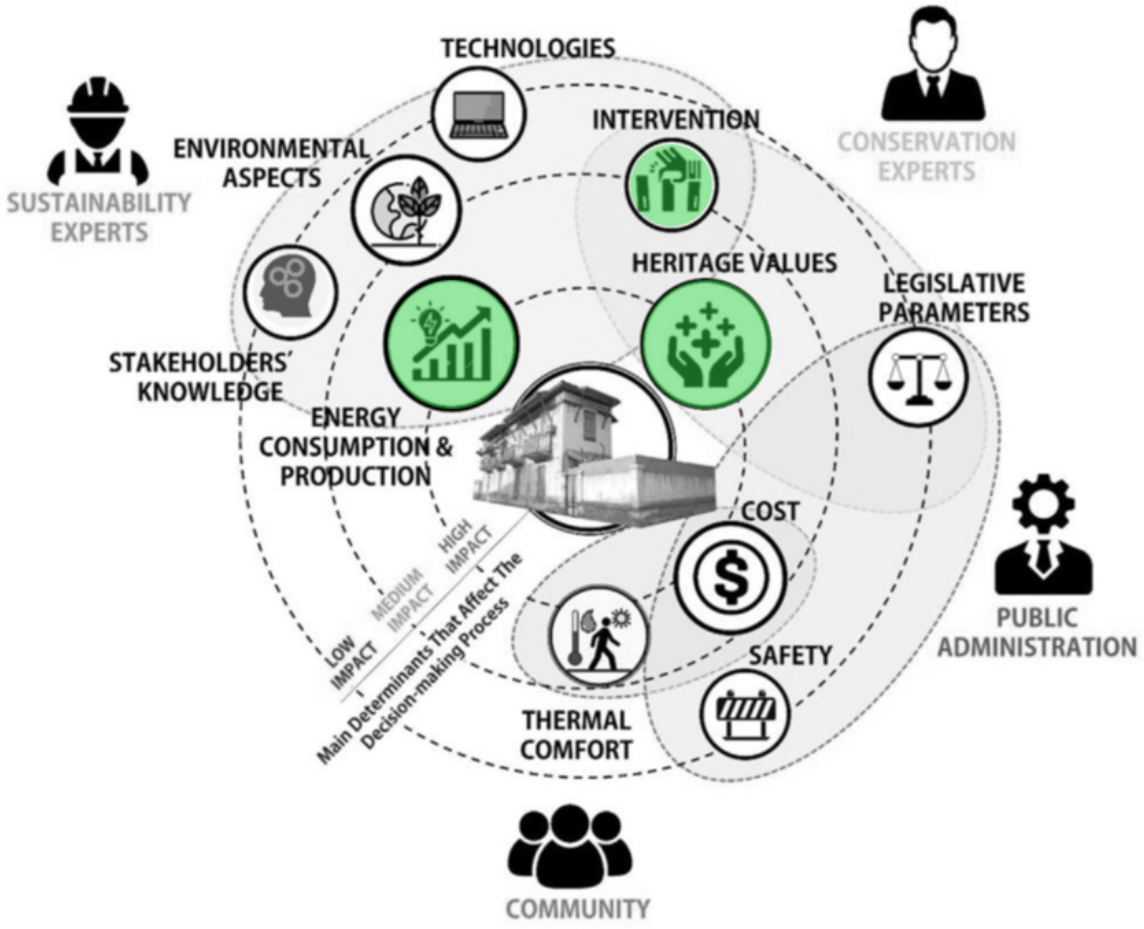

Figure 2: The main aspects that affect the retrofitting decision process[29].

5. APPLYING RETROFITTING IN ALEXANDRIA

5.1. Building Description and selection criteria

The Palazzina Aghion, designed by Italian architect Antonio Lasciac in 1885, is a significant representation of Alexandria's Italian architectural influence during the late 19th century. Commissioned by the Aghion family, the building reflects a blend of neoclassical and eclectic styles, characteristic of Alexandria's cosmopolitan heritage at the time.[30]

Today, it is known as Al Ahram Building, and the ground floor houses Al Ahram bookstore, while the upper three floors serve as administrative offices (Fig. 3). This adaptive reuse has ensured that the building remains an active part of Alexandria's urban fabric, continuing to serve commercial and professional functions without losing its historical identity, especially after the urban regeneration initiatives along Nabi Daniel Street and Fouad Street, which played a crucial role in maintaining Alexandria's historic core. These projects aim to enhance pedestrian accessibility, restore heritage buildings, and revitalize cultural and economic activity. However, while these efforts have helped preserve the district's character, they have also introduced challenges, such as increased commercial pressure and the need for updated infrastructure to accommodate modern demands.

Figure 3: Before and After Photos of Al Ahram Building, previously known as Palazzina Aghion[31]

The building consists of 4 floors, each of an area about 270 m^2 , the total area is about 1000 m^2 and the ceiling height in the ground floor and mezzanine is 6 m, while in the typical floor it is 4.75 m. The exterior walls are made of terracotta bricks with no extra insulation, and the all the windows are wooden casement windows with a wooden shutter and single glass glazing. The northern façade has no shading while the southern façade has recessed openings and balconies acting as shading devices. The HVAC units are all split of an old model, and the lighting system is manually controlled hybrid between LEDs and fluorescent bulbs. Based on the occupancy patterns and activities, the total energy consumption is around 100,000 kWh/year.

When applying the energy audit based on the layers of the proposed strategy, the following energy wastes are detected (Table 3). Dividing the wastes according to the layers facilitate specific strategy proposals that target the problem areas and improve efficiency.

ASPECT	ISSUE IN AL AHRAM BUILDING	ESTIMATED ENERGY WASTE (%)
BUILDING ENVELOPE (INSULATION & AIR LEAKAGE)	Terracotta bricks have poor insulation, leading to high heat gain/loss. No added insulation.	25-30%
WINDOWS & DOORS	Single-glazed wooden windows allow significant air leakage & solar heat gain.	20-25%
HVAC SYSTEM	Old split units likely oversized or inefficient, struggling with high heat loads.	15-20%
LIGHTING	Fluorescent and LED mix; daylighting is underutilized in some office spaces.	5-10%
PLUG LOADS & APPLIANCES	Laptops, PCs, printers, and standby loads contribute to phantom energy use.	5-8%
RENEWABLE ENERGY FEASIBILITY	No solar integration despite ample rooftop space.	10-15% (potential savings missed)

Table 3: Al Ahram building energy audit outcome

5.2. Retrofitting Scenarios

In response to the audit findings, and based on the strategies mentioned earlier, and Alexandria's Mediterranean climate, three retrofitting scenarios accounting for seasonal variations are derived to optimize thermal comfort and energy efficiency. Each scenario focuses on season-specific challenges while preserving the building's heritage value and aligning with EPC 306-2005 recommendations.

The first scenario (Table 4) is targeted to optimize building performance during summer, to reduce cooling loads and prevent overheating. Based on Alexandria's climate profile, summer weather is hot and humid, with temperatures varying between 26°C to 32°C and humidity often exceeds 70**%** with strong solar radiation.

BUILDING LAYER	PROPOSED RETROFITTING MEASURES	ENERGY IMPACT
SKIN	Apply reflective lime-based coatings on the roof to reduce heat absorption. Use secondary glazing with UV-filtering films to minimize heat entry while preserving window aesthetics.	15-25% reduction in cooling loads.
SERVICES (HVAC-ELECTRICAL)	Install VRF air conditioning system with smart zoning controls. Optimize ventilation strategies (encouraging cool night air circulation). Use motion sensors for lighting & AC automation in unoccupied rooms.	30-40% reduction in electricity usage during peak summer months.
URBAN CONTEXT & LANDSCAPE	Apply cool pavement materials in surrounding areas. Introduce vegetation on roof to decrease heat gain.	5-10% reduction in localized heat buildup.

Table 4: Summer retrofitting strategy

The second scenario is concerned with reducing mild heat loss and enhancing passive comfort during winter, the main goal is to achieve thermal comfort during winter without active heating systems. As winter is mild and rainy, with temperatures ranging between 10°C to 18°C, and frequent rainfall and coastal winds. The main issue during winter is moisture control to minimize salt damage is Al Ahram building. It utilizes passive measures and draft reducers.

BUILDING LAYER	PROPOSED RETROFITTING MEASURES	ENERGY IMPACT
SKIN (ENVELOPE)	Apply thermal curtains or interior secondary glazing to reduce drafts. Seal air leaks using reversible caulking and draft excluders. Use thermal shutters to trap heat at night.	10-15% reduction in heat loss.
SERVICES (HVAC & ELECTRICAL)	Implement smart ventilation controls to regulate airflow Install ceiling fans with reverse mode for gentle air circulation.	5-10% reduction in mild heating demand.
SPACE PLAN & INTERIORS	Optimize thermal mass by exposing brick walls to capture solar warmth. Rearrange office spaces to maximize natural sunlight exposure.	5-10% passive heating efficiency improvement.

Table 5: Winter retrofitting scenario

The third and last proposed scenario examines aims to balance heating, cooling and natural ventilation needs, focusing on the equinoxes during spring and autumn. The weather for the majority of the year is pleasant, with temperatures varying between 18°C to 25°C with moderate humidity and no need for active heating or cooling. However, heritage buildings such as Al Ahram, experience seasonal fluctuations and need a balanced strategy to transition seamlessly between heating and cooling seasons while maintaining stable indoor temperatures.

BUILDING LAYER	PROPOSED RETROFITTING MEASURES	ENERGY IMPACT
SKIN	Operable external shutters to adapt to changing daylight conditions. Adjustable secondary glazing (open during mild weather, closed for insulation). Use phase change materials (PCMs) in ceilings or walls to regulate indoor temperatures.	15-20% reduction in heating & cooling demand.
SERVICES (HVAC & ELECTRICAL)	Implement dynamic HVAC control systems that switch between heating & cooling as needed. Use ceiling fans and stack ventilation to enhance airflow. Optimize natural daylighting to reduce artificial lighting use.	20-35% total reduction in seasonal energy use.
URBAN CONTEXT & ADAPTATION	Promote rooftop solar PV integration for energy self-sufficiency.	10-15% reduction in long-term energy costs.

Table 6: Equinoxes retrofitting strategy

5.3. Energy Comparison

Effective retrofitting requires a nuanced approach that balances energy efficiency, heritage preservation, and user comfort. The three scenarios presented cater to Alexandria's distinct seasonal demands while reflecting insights from the various strategies presented. The Summer Optimization scenario focuses on reducing cooling loads by enhancing the envelope layer, optimizing ventilation, and offering the highest energy savings but requiring moderate investment. The Winter Optimization scenario prioritizes thermal comfort and energy conservation by upgrading the envelope and services layers to reduce heat loss, making it cost-effective and minimally invasive. In contrast, the Equinox Optimization scenario takes a wider approach, simultaneously targeting multiple layers—envelope, space plan, services, and finishes—to handle transitional conditions with dynamic solutions like adjustable shading and smart controls, providing balanced year-round performance. While all three scenarios share a commitment to reversible, minimally invasive measures that preserve heritage aesthetics, they differ in focus, investment, and complexity.

Criteria	Summer Optimization	Winter Optimization	Equinox Optimization
Estimated Energy Savings	15-25% reduction in cooling loads	10-15% reduction in heat loss	15-20% reduction in heating & cooling demand
Cost	Medium- 30-50% of full retrofit budget	Low-Medium 20-40% of full retrofit budget	Medium-High 40-60% of full retrofit budget
Disruption Levels	Low- Phased implementation possible	Low- Minimal invasive work needed	Moderate- Staggered implementation required
Heritage Sensitivity	Low impact, reversible interventions	Preserves heritage features, non-invasive	Balanced approach, adaptive and respectful of heritage

Table 7: Scenario comparison between the three proposals

6. CONCLUSION AND RECOMMENDATIONS

6.1. Summary of Key Findings

The analysis of the three seasonal scenarios demonstrates how context-sensitive retrofitting can effectively balance energy efficiency with heritage preservation. By adopting a layered approach, critical issues in the original building—such as poor insulation, single-glazed windows, outdated materials, and inefficient systems—were identified. The proposed scenarios implemented effective solutions, including modern insulation, double glazing, efficient HVAC systems, and photovoltaic cell integration. This methodological approach detects major sources of energy waste and mitigates them with targeted, context-specific, and heritage-aware solutions.

6.2. Holistic Strategy

Retrofitting commercial buildings for energy efficiency is crucial in promoting sustainability, reducing environmental impact and aligning with global climate goals. In Alexandria, this approach not only optimizes energy performance but also preserves the city's unique cultural identity by maintaining architectural heritage. A holistic retrofitting strategy embraces the concept of viewing the building as a collection of interconnected layers—structure, services, space plan, and finishes—allowing for accurate waste estimation and targeted, efficient, and minimally invasive interventions. By implementing tailored strategies that respect each layer's role and heritage value, buildings like Al Ahram can reduce energy consumption, enhance indoor comfort, and extend the lifespan of historic structures while maintaining their cultural significance.

6.3. Policy recommendations and action plan

Recommendations focus on three main points:

Governmental Involvement to streamline permitting processes and provide technical support for retrofitting heritage buildings and provide tax breaks or grants to encourage energy-efficient upgrades.

Education and Awareness to engage stakeholders, including building owners, engineers, and conservationists, to align interests and expectations. As well as raise awareness about the long-term benefits of retrofitting through educational programs and campaigns.

Further Studies and Research comprehensive studies must be conducted on context-sensitive retrofitting techniques for heritage buildings. Investigate innovative materials and technologies that balance energy performance and heritage preservation.

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Traditional Dwellings and Settlements

Working Paper Series

FINDING THEIR VOICES: DESIGN OF MOSQUES IN AN AMERICAN METROPOLIS

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FINDING THEIR VOICES: DESIGN OF MOSQUES IN AN AMERICAN METROPOLIS

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The United States is a nation of immigrants from all over the world, some by choices while others by necessities. This demographic make-up informs its social, political, and cultural dimensions. One of the consequences of this situation is the emergence of spaces that relate to and reflect their social and cultural aspects, including religions. This paper examines religious space of the Muslim communities in the city of Atlanta. This community is a small but growing segment, comprised of immigrants as well as local converts. A mosque is not simply a place of worship, but a collective and social space. Thus, a design could serve as spatial and formal projections of shared and collective values, hence a visual identity. However, mosques in Atlanta demonstrate a wide range of designs. This paper inquires ways different congregations imagine and give forms to their collective identity and negotiating their place.

1. INTRODUCTION

In today's globalized world, the sub-alterns have moved in reverse directions into the metropole and become a part and parcel of the heterogeneous society in the Western world. This includes the fabric of the United States, which is essentially a nation of immigrants. Americans called themselves by hyphenated designations such as African-Americans, Italian-Americans, or Asian-Americans. Further, the hyphenation is not limited to the cultural or ethnic origins, but also to the religious affiliation, hence American-Catholics or American-Muslims. These dimensions manifested in the built environment, from urban structures to architecture of the city. Indeed, many cities in America possess a constellation of ethnic enclaves, in which each ethnic group resides in certain areas, as in Chinatowns or Italian quarters. One of the consequences of these diversities is the emergence of spaces that relate to and reflect their social and cultural aspects. Along this line, Atlanta is one of the major cities in the country and the economic and cultural center of the American South. Originally a bi-racial city with a history of racial and spatial segregations, it experienced influx of immigrants from other ethnic groups, such as Latinos and Asians, since the 1990s. This paper intends to examine religious space in the city, particularly that of the Muslim communities, the mosques. Architecture becomes a vehicle for the questions of identity, including dynamics and negotiations between primordial connections and cosmopolitanism. How are these collective identity manifest spatially and formally? Conversely, how do spatial and formal manifestations speak to the sense of identity?

2. ISLAM IN AMERICA AND AMERICAN MOSQUES

Islam came to America along with the Atlantic slave trade that brought Muslims from West Africa to the new World. Captured in wars or by slave traders, these Muslims were then enslaved and sold to the European slave traders who trafficked them to work on plantations on the other side of Atlantic. Once arrived in the

new land, some of them continued to practice the religion. Waugh noted the intertwining history between the growth of Islam there and the African American social, cultural, and political movements.[1] However, he also noted the roles of conversions to Islam, both from the African Americans and Caucasians. Eventually, immigrations, especially after changes of the immigration policies in 1965, became a major force for the growth of Islam and the Muslim in America. These include various groups of Muslims, such as Sunni, Shi'a, and other traditions. Along the line, Hepworth illustrated the history of Islam in the case of Georgia.[2] He noted that enslaved Africans arrived in the colony as soon as slavery was allowed in 1750. However, after the first generation of enslaved Africans, Islam disappeared from Georgia up until the early twentieth century. In his account, three movements brought about the revival of Islam in this state. They were the Ahmadiyya Muslim Community from India and the Black Nationalist movement of the Moorish Science Temple of America and the Nation of Islam. Similar to the national scene, the latter played an important part for the growth of the Muslim community, gaining substantial converts. After the death of its leader, Elijah Muhammad in 1975, his son, Warith Deen Muhammad took over the leadership of the movement and guided his followers to embrace Sunni Islam.

Waugh's and Hepworth's accounts also point to the consequence of the establishment of the Muslim community on the built environment in the shape of buildings accommodating their needs. Ihsan Bagby pointed out that the facility serves two purposes, as a place of worship and as a community center.[3] This goes along with the meaning of the word "masjid" which is a place of prostration and that a mosque is not theologically a sacred place.[4] Further, he divided American mosques into two eras. The first era was the formation period from 1890 to 1964.[5] The first recorded mosque was a designated area in Manhattan for an organization by an American convert Alexander Russell Webb dated in 1893. The oldest surviving mosque is a Lithuanian Tatars' mosque in Brooklyn, NY, from 1931 which was a converted church. The oldest purpose-built mosque that is still active is the Mother Mosque, in Cedar Rapid, Iowa, dated from 1934, built by the Syrian Lebanese community. Bagby noted that in this era, American Muslims tended to build mosque in a way that was different from traditions in the Islamic world. He argued that this approach came out of the pressure to assimilate to the American society for immigrants. Further, it also related to the perception of the Muslim as a backward society in the colonial era. The second era spans from 1965 to the present in which he pointed out the growth of American Muslims as a more confident, cultivating their own tradition and less receptive to the idea of assimilation.[6] It is an era driven by the arrival of Muslim migrant from Islamic countries. He pointed to the sharp increase of the numbers of mosque in the US, from an estimated number of 598 in 1984, 962 in 1994, to 2,769 in 2020. In this latest survey, the data showed that about half of this number is a converted structure, while a bit more than a third or thirty-seven percent is purpose-built mosque.[7] The main concerns for these mosques are the construction budget and the incorporation on common design elements from traditions.[8] In the period from 2010 to 2020, the number of mosque grew

31 %, driven by the growth of the community by immigration and birth rate.[9] The locations of these mosque shift to more suburban area and the participants are also growing. However, the numbers African American mosques and their participants are decreasing from 23% to 13 %. The numbers of the purpose-built mosque increased from 30% to 37% in a decade. The survey also noted that the resistance from the Neighborhood Zoning Board also increased. As a note, the building permits process in the US require approval from the neighborhood level.

The presence of mosques in the Western world, including the United States, deeply intertwine with the existence of the immigrant communities. As such, their presence also speaks about these communities and provide a means for visibility of such communities as a sign of identity. In most cases, designs of mosques include familiar iconographic elements of domes, minarets, and arches, referring back to their places of origins. The appearance of mosque becomes a part of the conversation of the presence and the place of immigrants and minorities in the West. This relates to the colonial and post-colonial relationship and the relationships between the metropole and the subaltern. Avcioglu argued that mosques served as "the official repository of identity" for the Muslims that operates for all actors involved, whether the host communities or the Muslim migrants.[10] Although these designs were completely executed in contemporary techniques and procedure, they were still based on the same repertoire of stylistic types and iconographic elements. He continued that designs of mosques tended to get entrenched to stereotypical design, which in turn, articulated and amplified the sense of the "other" and the "otherness."[11] He posited that domes and minaret, as a signifier of a mosque, has merged with the signified, forming a new role as "a structural metonym of Muslim identity."[12] Erkocu and Bucdaci. also writes that mosques in the Western world, past and present, tend to fit to the visual language of colonial time.[13] In this line of thought, Avcioglu identity four phases of design of mosques within the congruence of the colonial and post-colonial world. They are the orientalist, the nationalist, the diasporic, and the emancipated mosque.[14] The orientalist mosques served as a mechanism of imperialism to demonstrate the extent of the imperial power, their tolerations of the other subjects, as well as the loyalty of their Muslims subjects. Constructed in the metropole such as London and Paris, these mosques transplanted traditional designs from the colonies. By contrast, the nationalist mosque aimed to project reform in the newly independent nations. These mosques embraced modernism to demonstrate progress. The diasporic mosques are mosques of Muslim diaspora that reflected the desire of these communities to legitimate their existence as well the desire to reconnect with their roots. This tendency continued with the emancipated mosque, which manifests the dialogue, interactions, and hybridization between the diasporic communities and their hosts.

3. DESIGNS OF AMERICAN MOSQUES

The designs of American mosques in the second era bear certain distinctive traits. Omar Khalidi argued that designs of mosques were dialogues between American Muslims and the wider community.[15] He categorized the tendencies in designs as importation, adaptation, and innovation. As an importation, the design brought traditional design from Islamic communities to America and transplanted them in its entirety. They could come from a particular part of the world or a combination of traditions from multiple parts. Khalidi pointed to the Islamic Cultural Center in Washington D.C., by the Egyptian-Italian architect Mario Rossi as an example of the imported design. Designed and built in 1950s, the center featured an amalgamation of design features from Andalusian, Ottoman, and Mamluk traditions. Meanwhile, adaptation was attempts to reinterpret traditional forms of design to meet contemporary conditions. The Islamic Cultural Center in Manhattan, New York, by the firm Skidmore, Owing, and Merill exemplified this. Dated from 1990, the design demonstrated a free interpretation and abstraction of the Ottoman single dome mosque. Further, the architect organized of the space for prayers by placing the female area on the second floor which was suspended from the roof and provided a visual continuity to the main area. Another example was Dar al Islam in Abiquiqui, New Mexico by the great Egyptian architect Hassan Fathy in 1981-82. It was based on Byzantine and Sassanid vaults and domes. The third category was innovation, in which he pointed to designs that were fresh attempts to design mosque without resorting to traditions. The headquarter of the Islamic Society of North America, in Plainsfield, Indiana, designed by Pakistani-American architect Gulzer Hayder in 1979, did not use domes. Instead, it was an organization of a series of simple rectangular forms. However, three domes appeared on the space inside the mosque. Another example was the Islamic Center in Alburquerque, New Mexico. Designed by the American architect Bart Prince, the design exhibited layers of long, linear features punctuated by vertical elements that resembled wind towers. Khalidi noted, however, that innovative designs tended to be less well-received by American Muslims.[16]

Along the line Akil Kahera also discussed design approaches of American mosques.[17] He argued that designs tended to be appropriation of multiple images from multiple sources in anachronistic manner as well as appropriation of forms. He analyzed designs approaches of American mosques in accordance to approaches in Islamic jurisprudence. Similar to Khalidi, he also referred to the four cases above. He regarded the Islamic Cultural Center in Washington D.C. as an example of syncretic and eclectic approach, which was similar to the tradition of referring to *sunnah*.[18] Meanwhile, the design of Islamic Cultural Center in Manhattan, New York was an exercise of judgment based on traditional form. As a form of innovation, it was similar to the exercise of judgment in *ijtima*.[19] The design of the headquarter of the Islamic Society of North America was a symbolic interpretation that appealed to the heart and mind.[20] Meanwhile, the design of Fathy's Dar al Islam was a transcendental gesture that transcend space and time.[21] In a way, Fathy's design was an archetypal

approach. Overall, Kahera categorized design approaches of American mosques as traditional, syncretic, and avant-garde.[22]

Recently, Riad K. Ali has conducted and produced a pictorial survey of American Mosque.[23] The report covers the documentation of mosques across all states in the mainland America. It demonstrates the growth of mosques in the country in the recent years as well as the extent of their presence in the built environment in North America. The designs of these mosques demonstrate varieties of design approaches. They also reveal in various degrees of the ways these designs relate to contemporary, typical American buildings, including both the morphology of the buildings as well as the techniques and materials of construction. Nevertheless, the presence of common iconographic elements of mosques from Muslims countries are prevalence in almost all the entries. Indeed, the organization of the book pointedly refers to the external and internal features of designs of mosques. Externally, in terms of formal expressions, the survey demonstrates the prevalence of common, traditional elements, that is, the dome and the minaret. The images also show the common use of arches. Internally, the survey identifies and organizes the presence of mihrab and mimbar, or niches and pulpit. Additionally, the report also identifies elements of a mosque, including the ablution areas, courtyards, decorations on floors, ceilings, and carpets, and signage. Ali's documentation in the mid of 2010s demonstrated that Khalidi's assertion of the preferences for the importation and adaptation of traditional designs and forms hold true. The design of mosques, from the formal and spatial appearance to details accentuate the recurrence of themes and motifs derived from traditions.

4. SCENES FROM ATLANTA

Of a particular interest for this paper, Bagby's reports showed that the number of mosques in the State of Georgia increased 43 % from 2010 to 2020 and the number mosque in Georgia in 2020 is 99.[24] The study will discuss examples of mosques in the city.

Al-Farooq Masjid of Atlanta

The mosque is the largest mosque in the city and one of the largest in the region. It is in Midtown Atlanta, near some of the prominent entities in the city, including the campus of Georgia Institute of Technology. The mosque complex is a part of the Home Park neighborhood, surrounded by residential buildings, occupying a block. The campus includes the mosque, a three-story parking deck, a school building, and a community center that is currently under construction. The masjid itself is a large, two-story building topped with a large and a small dome and a minaret stands tall at the corner. The scale of the building is quite imposing compared to the residential around it. The main building is abutted right to the edge of the primary street. Visitors enter the complex through the residential street on the side of the campus leading to a courtyard. A

secondary, vehicular entrance is located on the other side of the block, leading directly to the parking deck. In effect, the main facade of the building is on the inside, while the street facade is a long, solid wall. The courtyard facade is a portico with triple arches, with two entrances, one for female and the other for male. The main entrance leads to lobby then to a double-high, main prayer hall. Its grandeur is emphasized further by the dome of at the center of the space, with its underside exposed with detailed paintings. The space is a large open space, free of columns. The basic shape of the space is an octagon, which is also the shape of the small prayer hall. Structural columns are located on the edges of the space, defining its boundaries. The qibla wall, mimbar, and mihrab are located on the one of the sides of the octagon. Clerestory windows puncture the wall and bring in light to the space. Marble walls embellish the wall, with fine details of marble and wood works. Arch provides the theme for the design of the space. Details inside the mosque takes the geometric patterns of arts in the Islamic worlds as their base. The prayer hall for female congregants is on the second floor, with a series of windows connecting this space with the main space below.

The mosque started in the late 1970s, when a few doctors and international students from Georgia Tech formed the congregation.[25] The choice of location relate to the fact that most of the early members were Georgia Tech students. To this day, this neighborhood is a place where my students live. The congregations acquired two houses and in 1979, converted them as a house of worship. The congregation grew larger and decided to build a proper mosque. By swapping the properties, they were able to consolidate the land and then build the first iteration of the mosque. By the 1990s, as the congregation grew, the board decided to embark on a plan for the current masjid and launched fund raising campaigns. Simultaneously, they commissioned architects and construction company as well as engaged in the planning procedure to acquire the building permits. The construction broke ground in 2002, and the mosque was inaugurated in 2008. The architect worked closely with the board in developing the design. At the board initiative, the basic shape of the octagon drove the design to maximize the geometric shape of the lot. The board also intended to develop a mosque that is modern, unlike to other mosques. They did not want to make any reference to historical or traditional mosques elsewhere. However, the massing with the dome was inspired by the Badsahi Mosque in Lahore. As the project went along from 1990s to 2000s, Atlanta also experienced a rapid development. It was relatively a small, intimate city by 1970s, but it grew rapidly in the next decades. Atlanta Olympics 1996 signaled the rapid transformation of the city. Close by to the site of the mosque, the abandoned Atlantic Steel Factory was being developed into the Atlantic Station, an upper-level live, work, and entertainment area. The profile of the area also changed significantly. In the last few years, the area along the street experienced rapid development of upscale residential and amenities. One of the patrons of the board was a prominent developer, and the board responded by aiming for a very fine design for the mosque. Hence, the use of lavish materials including the Georgia marbles and many fine details in the mosque. Even the dome was specially

fabricated in Texas, with the interior painting done by hand by artists. The design intends to showcase the presence of the Muslims community in well-respected manners and to raise the visibility of the community.

Fig. 1: Al-Farooq Masjid of Atlanta. (Source: the author, 2025).

Al-Ikhlas Mosque

The Al-Ikhlas Mosque is a small mosque in the suburban area of Norcross to the north of Atlanta. It is located on a quiet neighborhood street just off one of the primary thoroughfares in the suburban Atlanta. The neighborhood is a typical American suburban development with their common layout in close proximity to strip malls and highways. From the outside, the only indication of the presence of the mosque is a street side signage. The building is conversion of a suburban house; a structure sits on a large plot with parking areas at the front and a large backyard. It still appears as a typical house, without any external ornamentation or decoration. It is a low-rise, horizontal form with sloped roof. As a conversion of a single-family residential building, the layout of the house is still intact. The mosque converted two larger rooms of the house into separate prayer rooms that are parallel to each other. One space is for the female worshippers and the other is for the male congregants. The entrances are also separated accordingly. Because the main entrance to the house leads directly to the main space, the mosque shut it off and instead the site doors. This move also accommodates the directions to Mecca, while adapting to the existing layout of the house. Indeed, the small area at the side of the house turns into the primary entry area for the mosque. Inside, the qibla wall is in the male prayer room. A decoration on the wall in the shape of a pointed arch indicates the qibla wall and the mihrab at the same time. This decorative element is very simple, articulating a plane without elaborate motifs. A few framed calligraphic decorations embellish the walls of both prayer spaces. The rest of the rooms in the house, including the kitchen, still maintain their original functions as way to support and facilitate various programs of the mosque.

Fig. 2: Al-Ikhlas. (Source: the author, 2025).

The mosques were founded by the Indonesian migrants community in Metro Atlanta. It is an outgrowth of the social group of this community. It originated from informal gatherings of Indonesian Muslims that met irregularly in early 2000's. Over time, the gathering became a monthly event. Eventually, the group formalized it into a non-profit organization with scheduled activities. The scope of their activities expanded over time. While stressing on activities that are related to religious acts, the programs of the group extend to include more social activities. The organization aim to address the needs of the community in religious aspects as they reside in a completely different setting. The congregants include Muslims from different origins and background, although Indonesian migrants still make up the majority. As they community grew over time, they resolved to acquire a physical space for them as their place. The current mosque is a rental property, while the community is building the capital and capacity to acquire a permanent home.

Atlanta Masjid of Al Islam

Atlanta Masjid of Al Islam is located in the East Lake neighborhood, one of the historic in-town neighborhoods in the eastern part of the city. The site is off the major highway going eastward. The mosque is a part of the strip mall complex, and the building is the biggest part of the complex. Typical to any American strip mall, the building sits at the edge of a large parking lot. An arcade lines up the facade of the mosque. The facade of the building is a series of large glass windows. At each corner of the building, a feature accentuates it in the shape that resembles a mini minaret. The roof of the building is flat. The facade of the structure is enlarged panel, similar to facade of that type of building. The facade is symmetrical, divide up evenly into equal units to the left and right of the entrance. Arches motives, closely resembled Indian arch, adorned the top part of the facade. A large double door leads to the lobby of the masjid. To the left is the offices of the mosque and a passage to the ablution room. The prayer hall lays behind the lobby, with two entrances leading into it. It is a large open space with a series of slender, steel columns supported the building.

The qibla wall is on the left of the entrance. Similar to the facade, a series of arches motives painted on the top side indicates the qibla wall. They are organized in a symmetrical arrangement on both sides of the mihrab and mimbar. Details of the building includes building elements and decorative elements brought by members from their travel overseas, such as door handles from Syria.[26] The space is a rectangular geometry with symmetrical organization of its space and forms. During the service, male prayers occupy the front part and female in the back. There is no physical or visual barriers between the male and female parts. At the other end of the room, opposite of the entrance, the area is reserved for prayers who cannot sit on the floor. A number of businesses, such as a restaurant and a barber shop, sit next the masjid, and they are parts of the property owned by the foundation. On Fridays, the mosque assumes a very festive atmosphere and the parking lots turn into a temporary market, with many pop-up vendors and stalls.

Fig. 3: Atlanta Masjid of Al-Islam. (Source: the author, 2025).

The mosque as an institution originated from the emergence of the Nation of Islam in the 1950s. The Atlanta community also followed the leadership of W. Deen Muhammad to move to Sunni Islam in 1975 and they turned into the current Atlanta Masjid of Al Islam. The place of worship for the community changed locations across Atlanta since their inception.[27] By 1973, the community purchased a property in the East Lake neighborhood. It was a former church that they converted into their mosque. In 1990, the community acquired a strip mall complex nearby. They converted the main part of the complex, a former thrift store, into the current masjid. The mosque officially opened in December 1990. They community pooled their resources and worked together in this process. Community members who had expertise and businesses related to construction industry contributed to the efforts. These included HVAC services and woodwork in the mosque. The conversion project did not involve an architect or professional designers. Instead, it was done by contractors. The mosque holds the ownership of property around the masjid. It consist of rental properties as well as rental housing for Muslim families. The leadership of the mosque encourage members of

the community to buy houses nearby. As a result, there are a significant number of members of the congregation reside in the area. The mosque also runs social services, including a school from pre-K to high school. The site of the previous mosque has been turned into these schools.

Fig. 4: Ismaili Jamatkhana and Center, Decatur. (Source: the author, 2025)

Ismaili Jamatkhana and Center, Decatur

The Ismaili Jamatkhana and Center is in Decatur, a suburb of Atlanta to the east of the city in an area that has variety of uses, including apartments, shopping malls, and light industrial area. It is a horizontal, low rise building that does not appear prominently from the highway. The building itself is set at a distance from the street edge. The building is a one-story building cladded in Georgia brick, sit amidst two large parking lots. At the front of building, visitor enter to an elongated courtyard that leads to the main entrance of the building. However, a secondary entrance on the right side of the building allow visitor to enter from the parking lot. The facade is a symmetrical organization divided up into five parts. The main entrance sits at center, flanked by identical wings on the left and right. Each wing consists of rhythmical units of seven panels. Each panel is rectangular unit, with glass window framed by marble lines. A larger unit terminates the rhythm of each wing. The design of the facade echoes a reference to the Fatimid Mosque in Mahdiya, Tunisia.[28] In this abstraction, the five parts remains, however, the circular geometry are translated into rectangular. The main entrance is square foyer adorned with calligraphy of architectural details. On the right of the main entrance is the loggia that leads to the main space of the Jamatkhana. However, on the straight direction from the foyer, it leads to the offices. The loggia leads to the ante room. To the left of the loggia, a secondary path that is perpendicular to it leads to the education facilities. The ante room, which also serve as secondary space, opens to the prayer hall. Two entrances lead to this space, for female and male congregants. The prayer hall itself is rectangular space laying on the longitudinal direction facing east. The qibla wall, mimbar, and mihrab are in this side of the space. The qibla wall is adorned by exquisitely installed wood panels. The ceiling is higher than the rest of

the building and divided up into three-by-seven grid. The windows are carefully placed along the top parts of the wall, allowing the sunlight to illuminate the space lightly. On the outside, two courtyards flank the ante room. The design of the Jamatkhana based on geometry, primarily rectangles. The rectangles form variants of grid that govern the plan of the building. The grids also appear as the underlaying patterns on the floor and ceiling as well. The rectangle also serves as the basis for the decorative patterns of the building. The plan, however, is not symmetrical, with the primary path off-axis of symmetry. The plan also demonstrates a processional choreography of movements.

The building was designed and built between 1987 and 1989.[29] At that time, the Ismaili population in Metro Atlanta was small, but growing. The identified a property in the area that would be developed into a Jamatkhana. As the area was a light industrial area, the property was actually a former industrial building. The council put together a plan to move the project forward and commissioned Farouk Noormohammed from Canada as its architect, assisted by local project architects. As the budget was limited, the board decided to do adaptive reuse of the industrial building, instead building completely from the scratch. Obviously, it needed site clean-up to meet the regulatory permissions. Traces of the industrial building is still presence in the structural grid of the building. The decision to use Georgia bricks aimed to relate the building to the contexts. The new addition to the old building was the prayer hall. The construction process was community efforts, with participations from the community. Even the details of the buildings were the results to the works of volunteers from the community. The Jamatkhana houses many social activities and programs. It has a great impact on the surrounding area. As Atlanta rapidly grows over time, the area around the Jamatkhana now abuzz with the development of residential and multiple services and amenities.

Mosques in Atlanta: spatial and formal considerations

These examples exemplify the range of mosque in Metro Atlanta. In accordance with the make-up of American landscape that separated into urban and suburban areas, these cases show the type of urban mosque, as in the Al-Farooq and Atlanta Al-Islam mosques, and suburban ones, as in the Jamatkhana and the Al-Ikhlas. These cases relate to the fabric of American built environment. The Al-Farooq Mosque is a new structure that was intentionally designed as a mosque from the scratch. Meanwhile, the other three cases blend with typical buildings in the US. The Jamatkhana was an adaptive reuse of an industrial building; and the Al-Islam Masjid was a conversion of a typical strip mall. The Al-Ikhlas was an appropriation of a typical suburban house.

Formally, one can identify a mosque from the exterior through the presence of common iconographic elements, including domes, arches, and minarets. In this sense, the Farooq Mosque incorporates a full repertoire of those iconographic elements in its massing. Meanwhile, the Jamatkhana draws a more subtle iconographic element in referencing to the use of pishtaq, a wall panel that projected out of a facade. The Al-Farooq masjid and the Jamatkhana demonstrate clear formal expressions. The shape of the two buildings communicates the intent of the building clearly, drawing to the form of common typology of mosque. In the other two examples integrate these iconographic elements is different ways. The Al-Islam Mosque incorporated imagery of arches as a two-dimensional, painted element on the upper panel of the facade. The minaret and dome are combined into a unit, forming three-dimensional decorative elements that are attached to the corners of the building. The iconographic elements are flattened out and applied as pastiche attached to the surface of the facade. In a way, it is similar to the design of typical strip mall are designed. Meanwhile, the Al-Ikhlas Mosque does not even have any element that indicates it as a mosque. Play of iconographic elements appears significantly in these spaces, although at different degrees. Obviously, the Al-Farooq and Jamatkhana integrate the iconographic elements of a mosque as designed details of the buildings. The prayer hall in the Al-Farooq incorporates arches and two- and three-dimensional details that are based on geometric motifs from arts in the Islamic world. These include carved wood, marble work, and painted panels. Similarly, the Jamatkhana integrates two- and three-dimensional details. Meanwhile, the Al-Islam and Al-Ikhlas mosques use much more limited iconographic elements. These elements appear as graphic motifs attached as ornamental elements on the surfaces of space.

Spatially, the Al-Farooq and Jamatkhana as a facility that were designed specifically to fit the purposes as a space of Muslims worship, fit effortlessly to it. Typologically, the Farooq Mosque follow the type of the single-dome, Turkish mosque. The characteristic of this type is the present of a large, single space unencumbered by the presence of columns under a grand dome. The Jamatkhana, meanwhile, demonstrate a free association with multiple spatial organization in the Islamic world. The plan of the building reflects the organization based on four-quarter plans. However, this plan shifted from a centralized order into a more dynamic one. The prayer hall itself is an open, large, rectangular space without columns. The geometry of the space reminisces the type of hypostyle mosque of Levant and North-Africa, with their rectangular space in the longitudinal direction. It creates a shallow space. Space in both Al-Farooq and Jamatkhana articulate the clarity of geometric shapes. Meanwhile, the Al-Islam Mosque seems to take advantages of the flexibility of spatial features of the type of strip mall. The modular, metal building system of this type of building allows for the emergence of wide-span space. The slender columns in a grid pattern gives an impression of the hypostyle mosque. However, the slenderness of these columns renders them to appear simply as lines, allowing the reading of space as flowing. Instead of a large figure in space that divide it up, the proportion of

these columns make theme appear as punctuation. The Al-Ikhlas Mosque makes do with the existing organization of a residential space. It appropriated the typical layout of a single-family residence.

5. SOME NOTES FROM THE MARGINS

The exposition above rests on the examinations of the formal and spatial aspects of these Muslims religious space. Religions, including Islam, possesses spatial dimensions. Obviously, the physical dimensions of the religious space play significant roles in the expressions of identity of such communities. However, the spatiality of religions goes beyond the formal appearances. Space is a vessel in which persons and communities perform ritual acts as wells as engage each other to form their community. In this sense, space and spatiality contribute to religious experiences and meanings. Indeed, all the cases in this paper demonstrate the social and communal dimensions of those mosque. The are a place in which the communal bond are forged. Indeed, the word "masjid" itself simply means a place for prostration, and it has the dimensions of both a place to perform prayers as well as a community place. In this vein, Metcalf has discussed the nature of Muslim space in which she pointed to the notion of it as a space of interactions and engagements with words.[30] The engagement with words covers from personal, such as prayers and supplications, to communal, such as educations and social activities. Muslim space includes the aspects of social, cultural, and physical space.[31] As a social space, it serves as a conduit for networks and collective identities, while as a cultural space, it facilitates interactions between Muslims and with the larger communities. meanwhile, as a physical space, it is the physical realm for the community and a part of the urban fabric. In this vein, Metcalf referred to Oleg Grabar's points that the origin of Muslim space is its religious practices and the visual aspects came after those practices.[32]

In this line of thought, Lefebvre has pointed out that space was not empty, but instead, it is a social construct. As such, space as a thing covers multiple dimensions.[33] On one hand, it is the conceived space that is a product of intellectual exercises of activities of planners, architects, politicians, and bureaucrats. It manifests as architectural plans, planning codes and regulations, and administrative policies. It is the mental and representation space. It is means to organize and control a group of people who inhabit that space. It stands in contrast to space in real life as lived space, which is the physical space. People go about their daily life in this space, full of elements and images that relates to the way people relate to each other and to their surroundings. In this sense, it is a representational space in which people operate in symbolic use of space and physical elements in it. People perform daily routine in this setting, constituting spatial practice. This setting turns into perceived space that informed spatial practice. Such practice goes beyond individual acts and indeed informed the whole. All these cases facilitate daily practices that extend beyond simply performing religious rituals. Indeed, they accommodate facets of communal and social activities and programs. In this

sense, it is social space. In this line of thought, the production of space also includes elements that form such a space.[34] The geometric elements refer to the Euclidian understanding of space as something that has shapes and measurable. Meanwhile, the phallic factors is a notion of the formation of a space as occupying a void. The optical or visual aspects, as the term suggests, indicate visual appearances of such space which operate as metaphors or symbols. This optical dimension communicates and interacts with people. These religious space in this discussion demonstrate ways in which Muslims operate and interact between themselves and the host communities.

Metcalf writes that Muslims in the West, including in North America, in their positions in the margin and displaced from their origins, always engage in the process of redefinition and appropriation of the host contexts.[35] These redefinition and appropriation are acts of cultural negotiations. In this line of thought Aksamija proposes to approach these negotiations through the way of cultural hybridity in architecture.[36] She argues that within the globalized world, including the presence of multiple entity in societies, culture is no longer a homogenized form but fluid, multilayered, and local.[37] Her argument takes roots in Wolfgang Welsch' notion of transculturality. Welsch argues that the notion of culture often implies it as a single unity that binds a group of people, predicating their whole aspects of life, and in effect create a boundary us and them.[38] Current notions of multiculturalism and interculturalism are extensions of this notion of culture, in which a society is a patch of different cultural entity. He proposed the model of transculturality in which cultures exist by mixing and permeation.[39] Indeed, these mixing and permeations allow for acts such as hybridizations and interconnections at multiple scales, from individual to the community. In architectural terms, Aksamija posits divergence, dissonance, and convergence as traits of transculturality.[40] As divergence, architecture serve as a means to construct identity, while dissonance is the capacity of architecture to support minority in public realms. Convergence is efforts to manifest transcultural aesthetics. Along the line, Moussavi, referring to Ulrich Beck, calls for efforts to hybridity that emerged out of "new and unexpected combinations of cultures and ideas" and these agglomerations of hybrid parts would lead the new possibilities.[41] Further, referring to de Certeau, she pointed out that in urban reality, hybrids are a common conditions as people use and appropriate space in unexpected manners.[42]

Indeed, Michael Meredith has called today's world as a post-global world, that is, a constellation that lacks a coherent unity and organization.[43] Pointedly, he notes that this condition led to the prevalence of sites without place, the lack of site specificity.[44] A dimension that informed sites without place is the emerging agency of images.[45] He refers to the art critic David Joselit who argues that nowadays images are dislocated from their specific sites and instead inserted into network. These dislocated images, however, gaining agency through this process.[46] Joselit distinguishes migrant objects, a commodity trafficked in the world market, from native object that are specific to a place, and from documented object that possess distinct connections to

their origin.[47] Indeed, Joselit precisely the loss of the site specificity of such objects that allows them to gain agency.[48] Borrowing from the Comaroffs and equating identity with ethnicity, he posits that the extensive circulation and proliferations images has instead reaffirms identity and created "values for and through images."[49] The proliferations images, as a collective, replaced the specificity of a context of images or objects and the agency of a single object. The Comaroffs wrote on the logic of reproduction, in which images serve as the source and means of identity and their mass-circulation amplified identity.[50] According to them, the aura lies in the reproduction instead of in the original. Indeed, they argued that the quality of ethno-commodities lies in their replications and in the dialectic between distinctive identity made up of cultural properties while that identity lends the specificity of the object.[51]

6. CONCLUSION

Mosques discusses in this paper demonstrate similar traits formally and spatially that relates to questions of the place of their communities. Mosques are a site for acts, ranging from personal activities to communal events, led eventually to building the community. They are a for of spatial acts that speak of the notion of being American-Muslims. They are also acts of negotiations and interactions with the larger communities and the contexts, in space and spatiality. The spatiality of these acts reflects the process of hybridity and synthesis. These cases demonstrate the intersection between Muslim space for worship and the present type of American built environment. The Al-Farooq utilized the full-fledge of contemporary American building technology and practice. The Jamatkhana was a conversion from an industrial building and the Al-Islam was an adaptation of a strip mall. These building types are based on modular, light-metal construction systems that aim to create a horizontal space. Further, this space is a space that can extend infinitely. The Al-Ikhlas is an adaptation of a typical American suburban house. In a way, Muslim space of worship space actually can take place anywhere. As a form of space, they are a hybrid of lack of definitive typology and morphology of mosques and the formlessness of American built environment. As the production of space includes the optical and visual elements with their symbolic and associative dimensions, these religious spaces also demonstrate the hybridity and synthesis of images. Images in this sense include images, imagery, and visual techniques. They range from a modernist collage and abstraction, spatially and formally, in the Al-Farooq and the Jamatkhana to Venturi-esque decorated shed in other examples. If the notions of importation, adaptation, and innovation were predicated on the conception of auratic, site specificity, and authenticity, then these cases demonstrate the ways in which Muslims communities take advantages of circulations of images. These images are symbolic and associative, not only with traditions and histories of Muslim communities from various place and time, but also with contemporary American built environment. These cases demonstrate the role of t the typological factors and iconographic elements. As a form of contemporary designs, they develop the designs as an interpretation of these types.

These hybridity and synthesis exemplify a mode of constructing identity in the post-global world. As the Comaroffs has pointed out, signs of identity is a relational construct that communicated and conditioned by a particular historical situation.[52] These constructs of identity operate on the junctures of "similitude, recognition, attachment, consociation, and mobilization."[53] Further, the formation of identity is entrepreneurial in the sense of "ascription and choice, conviction and ambiguity, ineffability and self-management."[54] This last line accentuate the hybridity in these cases as active and creative operations that work off the opportunities and possibilities of being in a network. Muslims in America is a form of mobile and diasporic people, and these religious spaces are space that exemplify the mobility and interconnections of agents and their subjectivities. The design of these space operates on a double bind. They adhere to the vestiges of memories of design of mosques. In turn, these memories weaves into the contemporary vernacular American buildings. More importantly, however, is the scopes of space that these cases operate. All these cases, whether the very small or the extra-large, serve as space that accommodates a full range of community's needs and activities. As such, the play a role of the conduit through which the congregations form the bond of a community, a social entity.

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Traditional Dwellings and Settlements
Working Paper Series

THE RETURN OF THE VILLAGE IN THE AGE OF AQUARIUS

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THE RETURN OF THE VILLAGE IN THE AGE OF AQUARIUS

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This paper examines and compares historic settlement patterns in Europe, the United States and elsewhere to identify and elucidate common successful strategies of land usage and resource management. The notion of cosmopolitanism, indicated above, refers to the idea of moving beyond one's specific cultural lens. The wider our experience, the more we recognize remarkable commonalities in successful communities. These commonalities will be contrasted with the United Nations widely pushed idea of 15 Minute, S.m.a.r.t. (Self-Monitoring Analysis and Reporting Technology) Cities.

1. PLANNED ROMAN SETTLEMENTS

Perhaps this all began with the Roman conquest of the known world. "All roads lead to Rome," was the ancient saying, or more simply, "All is Rome." It is something of a mystery as to how the Roman legions actually managed the astonishing feat of making the whole world like Rome. When a legion arrived at their destination and set up camp, an Augur ritually marked the center. A large circle was drawn around this point and divided into four quadrants by a lane aligned north-south, the Cardo and a lane aligned east-west, the Decumanus (Fig.1). Every camp was organized in this manner. This organization was thought to represent and restate the original order of Rome that had been established by its mythical founders, Romulus and Remus.

Fig. 1 Venta Icenorum, Norfolk England, 43 AD (https://www.timetrips.co.uk/roman_towns.htm)

Established where water was available, Roman camps were a day's march apart. Beyond the circle of the camp was wilderness. As the road system developed so did agriculture. These settlements established 2000 years ago as Roman camps still exist and thrive to this day.

2. EUROPEAN PLANNING

The pattern of settlement which developed all over Europe began with small collections of farmhouses grouped together around a water point forming hamlets. The hamlet (Fig. 2) is the smallest unit of urbanism, as single, isolated farmhouses were a rarity. To have a communal life was to survive. These early hamlets were inhabited by extended families preceding the arrival of the Roman Camps.

Fig. 2 Hamlet Weiler Oberwil, Waldkirch Switzerland (https://www.wikidata.org/wiki/Q5084)

Surrounding the hamlet were fields and grazing areas. Beyond the cultivated areas undeveloped wilderness remained until fields and grazing areas again appeared around neighboring hamlets. When the Catholic church became the Church of Rome in 313AD, small churches were built in the larger hamlets which eventually grew into villages. The town square (Fig. 3) or town green (Fig. 4) became the center of these villages with Sunday markets outside the door of the church. In the square where the market took place, there was always a fountain where inhabitants could get fresh water and water their animals. This is a significant feature of most small towns in Europe. The church bells communicated the news- reporting the time, deaths, alarms, baptisms, etc. This bell system continues to this day.

Fig. 3 Lans en Vercors, France: Square with Fountain and Church (Google Earth)

With time and trade, large villages became towns with bigger churches and markets yet always surrounded by farmland and wilderness. The wilderness in between allowed for the continuation and proliferation of indigenous flora as well as small and large animal life. The natural trade routes provided by rivers and sea harbors have always led to urban ports that endure worldwide. In other words, the man-made world and wilderness co-existed and ultimately supported each other. This is key.

Think in terms of concentric circles with wilderness/ fields/ hamlets circling around villages and then village/ field /wilderness circling around towns and so on up to cities. This pattern of concentric circles repeats over and over again all over Europe (Fig. 5). The current buzz word used to describe patterns like this is "sustainable". This pattern of village, cultivation and wilderness has allowed people to sustain themselves through hard economic times - even those of today - by trading with their neighbors without using money.

Fig. 4 Village Green, Oxfordshire, England (https://alchetron.com/Chipperfield)

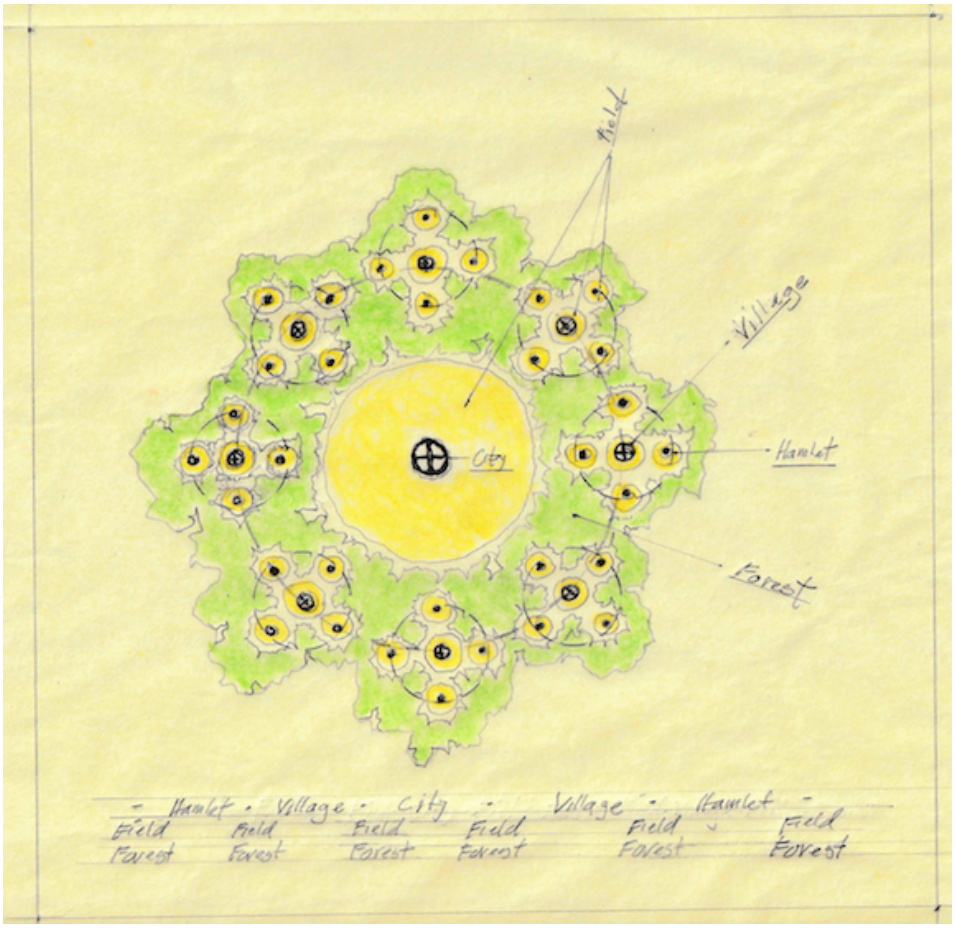

Fig. 5 Traditional "Rings" of Development (Drawing by author)

3. THE BASTIDE TOWNS OF SOUTHWEST FRANCE

The Bastide towns of southwestern France were planned communities with a slightly different pattern. Most of these towns were built between 1300-1400 AD in what was at that time an uninhabited frontier disputed by the English and French. The town consisted of a farm animal market on the outskirts, a central square with a craft and vegetable market, a church which was often fortified next to the market, and arcades which connected the shop/houses around the town square (Fig. 6). These arcades are emblematic of Bastide towns.

Fig. 6 Mountpazier, Southern France (https://en.wikipedia.org/wiki/Monpazier#/media/File:Monpazier.jpg)

People were enticed to settle the Bastides in the 1300's, much like the Homestead Act of the 1860's in America, which drew people to the west. A farmer would get a farm outside the Bastide and a shop/townhouse inside the Bastide. If he were lucky enough to be on the central square, he had to agree to construct his section of the arcaded porch in front of his shop/townhouse. The arcaded townhouses provided shoppers with shelter from the elements. Bastides are surrounded by fields and again wilderness. The farmers lived in the town but also had *stand-alone* farmhouses on their outside farmland to which they commuted each day. Perhaps as they grew more wealthy, they hired a farm manager who lived on the farm.

Bastide Towns were a way of establishing dominance, however the French and English Bastides were built on the same model. It should be noted that the largest number of these Bastide towns can be found in the Lot-and-Garonne department of France. This settlement pattern resulted in locally self-sustaining communities, which though founded nearly 1000 years ago, still thrive to this day. This is a real testimony to the viability of this settlement strategy.

4. TRADITIONAL TOWNS EAST OF THE MISSISSIPPI

In the United States the village green surrounded by public buildings and commerce is an early town planning strategy deployed extensively east of the Mississippi where public buildings and the local church were usually grouped around an open, grassy square or town green. Beyond the green and its surrounding buildings were cultivated fields carved out of the surrounding forest. Once again, we see the built environment/fields/forest/fields/built environment pattern.

New Haven, Connecticut is a well-known example. Other typical towns are Amherst, New Hampshire, Woodstock, New York (Fig. 7), Paoli, Indiana (Fig. 8) and Mt. Sterling, Kentucky to name a few of the thousands.

Fig. 7 Woodstock, Vermont (https://newengland.com/today/5-best-town-greens/)

Fig. 8 Paoli, Indianna (https://www.dreamstime.com/may-paoli-indiana-usa-aerial-view-county-court-house-clocktower-historic-small-town-paoli-indiana-may-paoli-image347861185)

The repeating pattern of built environment/fields/forest/fields/built environment seems to occur in Europe and the Eastern half of the United States naturally or organically as a result of simple survival strategies. Later the pattern of town development grew along new transportation modes such as canals, followed by railroads, and later, highways. Towns thrived until the new preferred mode of transport evolved a new series of settlements supplanting the earlier ones. This continues to dictate economic ups and downs for small communities.

5. MODERN PLANNED COMMUNITY OF SEASIDE

The Floridian town of Seaside is a planned community conceived in 1978 by Robert S. Davis, a developer, and organized through a series of building codes developed by Andres Duany and Elizabeth Plater-Zyberk of Duany, Plater-Zyberk Co. The basic plan was developed after Duany and Plater-Zyberk

studied small towns in southern Florida. It followed the early small-town pattern with compact distinct centers, either formal or commercial. Interestingly, Seaside had two foci: a formal center consisting of a green surrounding a small, classically inspired Post office and the beach front forming a long edge to the town (Fig. 9).

The proposal by DPZ was a radiating pattern from the post office at the center. Each small house along the radiating road had a tiny plot of land adjacent to a walkway. This planning strategy tended to foster relations

among the inhabitants and came to be called "New Urbanism". New Urbanism is a return to the planning strategies found in most towns in the eastern part of the United States. This particular planned community has been highly successful - likely because of its seaside placement on the Gulf of America.

Fig. 9 Seaside, Florida USA (https://fr.pinterest.com/pin/868350371895361657/)

6. THE JEFFERSONIAN GRID

The "Jeffersonian Grid" originally proposed by Thomas Jefferson, was surveyed and plotted as a grid made of one-mile squares across the United States encircled by country roads. A square mile has 640 acres which could then be subdivided into160 acre farms spread out across the country giving potential farmers enough land to thrive. This was done on a scale never attempted before and enabled the largest real-estate event in history born of Jefferson's Louisiana Purchase of 1803 and helped by the homestead act (Fig. 10).

> President Abraham Lincoln signed the Homestead Act on May 20, 1862. On January 1, 1863, Daniel Freeman made the first claim under the Act, which gave citizens or future citizens up to 160 acres of public land provided they live on it, improve it, and pay a small registration fee. The Government granted more than 270 million acres of land while the law was in effect.
>
> Archives.gov

It should be noted that the Freeman homestead is located outside of Beatrice, Nebraska and is currently a museum in our National Park system.

Fig. 10 Results of the Jeffersonian Grid (https://www.gettyimages.com/detail/news-photo/an-aerial-view-of-mostly-harvested-farmland-at-sunset-in-news-photo/1283119126?adppopup=true)

After the advent of the railroads west of the Mississippi, an entirely different settlement pattern developed helping to populate the great Jeffersonian grid. The railroads were given the land for and alongside their lines if they would agree to establish towns every 20 miles along the line. These towns provided water and coal to fuel the train engines and brought settlers and building supplies to these new communities. They subsequently developed into commercial hubs surrounded by farms, thus settling the West.

The Jeffersonian division of the land into square miles did not always respect the existing conditions of the land, nor the availability of water. The result was some land was developed and farmed without consideration for the climate, rain or realities of the place. Plowing the deep-rooted grasses of the dryer prairies, resulted in what is commonly called "The Dust Bowl" of the 1930's with storms carrying away the fragile topsoil and wreaking a havoc that is barely conceivable now (Figs. 11).

Between 1930 and 1940 something like 3.5 million people moved out of the dryer plains states due to the destructive dust storms coupled with the great depression. Although a number of the dust bowl communities failed, those settlements in more favorable areas survive to this day with their economic ups and downs based on weather and market prices. The railways still function, but highways and the interstate system have largely replaced them.

Fig. 11 Dust Bowl (https://www.gettyimages.com/search/2/image?phrase=dust+bowl)

Settlements pursued along these patterns of intermittent field, forest and town results in enduring, self-regulating environments for living. Alternate approaches, with which we have been experimenting for the last hundred years are centralized, top-down enforced planning that produces environments far less conducive to human flourishing. We have, unfortunately, developed slums, urban blight and edge cities in our one-size-fits-all ideas of efficiency.

7. THE LINE

We ignore the natural world and its interlacing systems at our peril. The Dust Bowl in the United States was the result of ignoring the existing ecosystem of prairie grasses that held the fragile topsoil in place in arid environments. We seem to be moving in that direction again with the "The Line," a visionary concept for a Linear Smart City near the Red Sea in Saudi Arabia.

The "Line" is a single building proposed, and currently under construction, running from the Red Sea east to Tabuk - 170 kilometers (106 miles) long, 200 meters wide, 500 meters tall and completely sheathed in mirrored glass. Seen from the outside it resembles a gleaming knife of steel and glass slicing through the empty desert with no connection to, nor recognition of the surrounding landscape (Fig 12). The proposed underground railway would transport people from one end to the other in 20 minutes, while the hidden marina will be reached by canal and tunnel allowing cruise ships to visit the city.

Fig. 12 The Line (https://www.ndtv.com/world-news/saudi-arabia-neom-the-line-50-billion-spent-what-went-wrong-at-saudi-arabias-sci-fi-desert-paradise-7898670)

The design itself consists of two mirrored buildings with a continuous outdoor green space between. These mirrored buildings will contain residential units, hotels, retail, fire stations, schools, and police stations - the full panoply of civic functions to support 9 million people at an astonishing density of 260,000 people per square kilometer. The proposal is somehow to operate with 100 percent renewable energy and multiple wells and watering systems.

The architects involved in this project read like a who's who of current, internationally recognized designers: Norman Foster, Francine Houben, David Adjaye, Ben van Berkel, Massimiliano Fuksas, Rem Koolhaas, LAVA, Delugan Meissl and Wolf Prix. They all had to sign confidentiality agreements; therefore this project does not appear on any of their websites.

As might be expected for so grand a vision, in April 2024 the project was scaled back over funding restrictions. Norman Foster, and Francine Houben of Mecanoo quit over issues regarding human rights and ecological concerns. These concerns were well founded. A man was killed by security forces in April 2020 after posting videos opposing the displacement of local residents for the project. In October of 2022 three men of the Howeitat tribe were sentenced to death for refusing to leave their village which had been condemned for this project.

It should be noted that the Line is not a new idea. Arturo Soria y Mata proposed a linear city design in 1882, to be situated parallel to a river. Michael Graves and Peter Eisenmann proposed a linear settlement in New Jersey in 1965 between New Brunswick and Trenton. Perhaps the most famous proposal, actually built in 1967, was the brutalist dream called Cumbernauld in Scotland. This was a linear city, completely self-

contained with little to no relation to the outside landscape. It has generally been regarded as ugly, inhuman and unlivable. Finally, in 2022, the North Lanarkshire Council decided to demolish Cumbernauld and redevelop it on more familiar and traditional lines.

Historically, linear cities have seldom been built and when built, have not been successful. The Line seems to be no exception but perhaps the most chilling aspect of The Line is the proposal that the maintenance and monitoring of city functions, as well as the monitoring of its inhabitants will all be made possible by a central AI that uses predictive modeling based on data continuously gathered from its citizens. It is claimed that this is intended to *improve* the daily life of its inhabitants. However, Vincent Mosco, a digital rights researcher has claimed that this continuous data collection, in the end, will make this a 'surveillance city,' whose goal is not human flourishing, but rather total *control*. The idea of a hermetically sealed environment, where everything is available at hand, managed by an inhuman intelligence, is fundamentally dystopian and ultimately unrealistic because it does not take into consideration the necessary interaction between humankind and the surrounding environment.

8. GHOST CITIES IN CHINA

Watching the disintegration of China's Evergrand model of new city development gives one pause (Fig 13). The idea of "if we build it they will come" has led to widespread bankruptcy for investors and brand new, unoccupied and disintegrating ghost towns. Historically, communities that have grown organically over time have better outcomes and are well loved and cared for.

Fig.13 Example of 'Ghost City' in China (https://allthatsinteresting.com/chinese-ghost-cities#1)

9. S.M.A.R.T. (SELF-MONITORING ANALYSIS AND REPORTING TECHNOLOGOY) AND 15-MINUTE CITIES

During the "Pandemic" several globalist organizations such as the United Nations, the World Economic Forum, the International Monetary fund and World Bank began talking about new ways to organize the world's population. The concern was always couched in ubiquitous, but rather undefined terms we have been hearing about for decades now such as "sustainability", "equity", or "climate change" featuring reduction of "carbon and CO2 pollution". One premise of these ideas is connectivity to the workplace via the internet.

Apparently, the globalists need to be reminded that we live on a planet with nothing but carbon life forms and that carbon dioxide is necessary to feed the plants that support the rest of us carbon lifeforms with both food to eat and oxygen that plants liberate. We currently have the lowest amount of CO2 in recorded history—so low the crisis is not having enough to support life. Disinformation about the world's vulnerability to "pandemics" spread fear, making us more easily manipulatable. Deteriorating educational outcomes have dumbed down populations all over the world. We have forgotten or were never even taught these fundamental biological and chemical facts of our world. We are made of carbon and both carbon and carbon dioxide are NOT pollutants, but necessary to the cycle of life on earth. The more we have the better we thrive. Good decisions depend on understanding undeniable facts.

The problems of urban sprawl, traffic congestion and the availability of "rare earth" utilities such as water and electricity were added to the mix. They identified yet another underprivileged group—those without internet access. An impending calamity, we were told, where resources would be scarce was just around the corner. Solutions need to be found immediately. Be fearful of our dire future.

Not to worry - our globalist saviors have some great ideas to save society: S.M.A.R.T. Cities, 15 Minute Cities and central bank digital currencies. These three ideas were presented separately, seemingly unconnected to each other. The Self-Monitoring Analysis and Reporting Technology cities (S.M.A.R.T.) would be linked to measuring out "scarce" commodities like water, electricity and anything that could have a "S.M.A.R.T." meter attached to it. Usage could be communicated in real time via the internet from the users to a monitoring entity of some sort—something like a "Hal," an AI who knew everything about everybody and what they were using and doing in real time even in their most private moments. Everything, naturally, will be in short supply and need to be carefully controlled and rationed by S.M.A.R.T." Meters or some people will not have service when they need it the most—that is how they linked "equity" and "safety" to the equation. A system of cameras and listening devices both ground and space based will make sure nothing we do is missed. Digitalization and connection of everyone and everything to the worldwide web would make this dystopia possible.

The second idea of 15-minute cities was much more familiar to us already. The convenient access to goods and services is a mainstay of city planning worldwide (Fig. 14). Accessibility has always reigned supreme. Everyone can agree that that works and makes sense. We self-organize in this manner without globalist intervention and have for centuries.

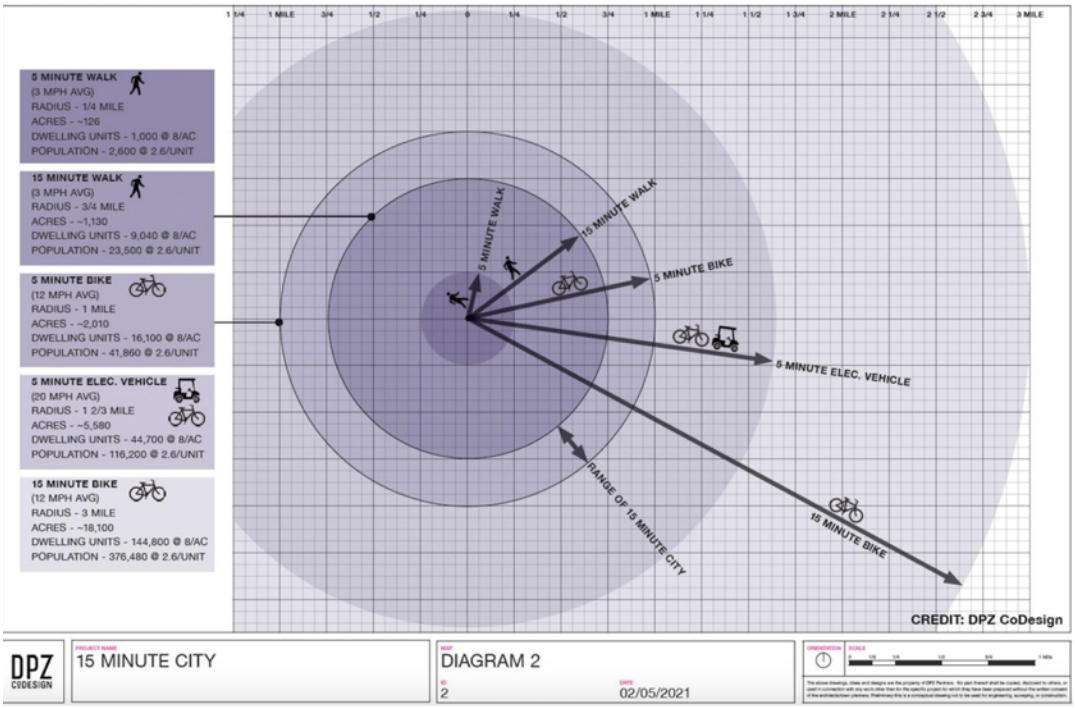

Fig.14 Diagram of a 15-Minute City by DPZ (https://www.cnu.org/publicsquare/2021/02/08/defining-15-minute-city)

10. DIGITAL CURRENCY

For the past 100 years "Germ Theory" has indoctrinated us all with the idea of microbes as the cause for illness. The "Pandemic" era linked money to that health risk. Cash is dangerous because it spreads "germs". Again, no need to worry - our globalist banker saviors can simply make a central bank digital currency where payment for goods and services would be linked to our cell phone or credit card, or better yet to a chip in our hands. We would not need to touch anything or anyone. This would add convenience to our lives. How wonderful! What's not to like about any of this?

It is not too great a stretch to overlap these three wonderful ideas. People would live only in their assigned 15 Minute City where their whereabouts and resource usage would be constantly monitored by the digitized "S.M.A.R.T." world around them. Whenever they needed to interact with the material economy their new digital currency would follow them around making note of everything they bought. One block too far or one unapproved purchase and they could be instantly cut off from their money or their electric car would

suddenly stop. Should we mere humans get out of line, AI could find us and our new police force of weaponized drones could rein us in.

That somehow, innocently, we all could be tricked into this social system seems preposterous. This world would be a total prison. The ultimate selling point is that we would be safe and cared for, or would we be simply controlled? China instigated a system not too different from this during the "Pandemic". Social credit scores and public shaming tied to access to one's money makes the perfect control grid.

To date one city, Oxford, in the Unitied Kingdom has been officially trying out the 15-minute city concept. They have divided Oxford into six subdivisions. They are careful to tell you that you can actually drive out of your area to another, but you have to pay 35 pounds each time and should you forget to pay, the fine doubles. They have also decided that the publicity surrounding 15-minute cities is rather negative so they will not call them that anymore. Melbourne, Copenhagen and Utrecht have also generously volunteered to try out the idea. Did anyone in these places actually vote for this?

11. ICLEI AND THE UNITED NATIONS

The United Nations has been pushing these ideas since the Rio de Janeiro summit on sustainability in 1992. An off shoot is ICLEI, **Local Governments for Sustainability** (**ICLEI**, originally **International Council for Local Environmental Initiatives**). They have annual meetings in Barcelona, Spain to discuss the latest concepts. ICLEI has been working with cities all over the world to bring them closer to their new dream of reality—always without the knowledge of those cities' inhabitants. Here is how they talk about it:

> ICLEI – Local Governments for Sustainability is a global network working with more than 2500 local and regional governments committed to sustainable urban development. Active in 125+ countries, we influence sustainability policy and drive local action for zero emission, nature-based, equitable, resilient and circular development. Our Members and team of experts work together through peer exchange, partnerships and capacity building to create systemic change for urban sustainability.
>
> From the ICLEI website

"Zero emission, nature-based, equitable, resilient and circular development" are terms that have no real definition. They mean something different to everyone, but sound so positive. They are buzz words with no intellectual weight to them. Emissions can be one's breath, or cow flatulence. How does one define "nature"? Wolves are being reintroduced in ranching communities across the west and in the Alps as livestock get attacked and farm wells are being suppressed. Are new wilderness areas our future? Will we live in walled urban enclaves like we did in the Middle Ages? What is meant by equitable—guaranteed incomes or

equal treatment in court? The best one of all is circular development—fitness by turning in circles?? Or maybe the cycle of life itself is what they are referring to. It certainly is circular speech.

> ICLEI holds partnership agreements with a number of intergovernmental bodies, including UN Environment, UN-Habitat and the UN Office for Disaster Risk Reduction (UNISDR). Under these agreements, ICLEI engages in meetings with high-level decision-making bodies and participates in technical sessions that facilitate knowledge sharing and capacity development to advance the respective mandates of these bodies. ICLEI is also a longstanding member of the UN Environment Major Groups Facilitating Committee, which engages stakeholder groups to shape the global environmental agenda.
>
> From the ICLEI website

All of this is carefully crafted, but meaningless. It can mean virtually whatever you want it to. The astute might call it posturing or simply dissimulation of the real intent. Who are these stakeholders dictating mandates and shaping the global environmental agenda for the rest of us? This is downright frightening. Who wants this?? Did they even ask us (Fig. 15)?

Fig 15 Protest in Oxford, England (https://www.abc.net.au/news/2023-02-27/the-15-minute-city-conspiracy/102015446)

ICLEI already impacts 25% of cities worldwide and 20% of the world's population. Perhaps the city you live in is part of this UN organization and you never even knew what was driving all those city council decisions mimicked wherever you went worldwide. You are strongly encouraged to walk or ride a bike. Personal cars are discouraged although electric cars are less evil. Things to look for are "S.M.A.R.T. meters", limited car

usage with new bike lanes everywhere, mandates for only electric cars, rent-a-bikes cropping up all over and discarded all over the urban landscape or perhaps electric cars that can be rented for in town trips all subsidized by UN grant money. Do not forget the ubiquitous surveillance cameras (Figs. 20 A&B), the control towers popping up everywhere with all manner of different devices on them. Your new "S.M.A.R.T." appliances, toilets and meters are a good indication that ICLEI has a hold on your town.

Not all ideas are necessarily bad, but for example, in Denver where it snows eight months out of the year, not everyone wants or is able to walk, ride a bike or even walk to use limited public transportation. Often the new bike lanes when married with parking, pedestrians, and normal traffic create accidents simply because there are too many moving things obstructing one's view of the surroundings. One size does not fit all, and not all solutions work for all climates and communities. Retrofitting existing infrastructure does not work well in already crowded conditions. Most of all, who asked us how we wanted to live?

No one.

12. DISASTER CAPITALISM

Lately, we have been hearing of "wildfire" calamities in Hawaii, California, Texas, the Carolinas, Canada, Australia, Greece and all over the world. Whether these are artificially caused or natural disasters becomes a topic of consternation when we find out that someone, somewhere just happens to have designated these particular locales as future "S.M.A.R.T. Cities". Sometimes laws have just been changed designating these areas as sellable for new development without the property owners' permission. Curiously, homeowners' insurance policies have often been cancelled just previous to the calamity making it impossible for the original homeowners to rebuild, thus facilitating land sales to developers for pennies on the dollar. Landowners are refused access to their property. The question we have largely ignored is: Is this just another example of disaster capitalism gone mad with the advent of exotic weather weapons of mass destruction to help it along?

Clearly, urban planning is not a new concept nor a bad one. How we live has evolved over the millennia and will continue to as we make changes in the ways we choose to live. The operative word here is "choose." Progress is not open-air prisons with tight control grids to enforce societal compliance. Ask the Palestinians how that has worked out. We are all at risk for bad outcomes no matter how these ideas are marketed to us. Top-down planning using the Rand corporation's models for public meetings to arrive at a manipulated "consensus" is disastrous for real communication with residents who are real people.

13. COMMUNITY

The world does not need more globalist corporate organizations telling the rest of us how to manage our affairs. We need to stop listening to the prognostications of the ruling death cult. Community residents handling their issues locally by themselves is the obvious way out. People are creative and intelligent and when they understand the issues at hand, they tend to solve their own problems.

One of the most satisfying cultural experiences is visiting faraway places and learning how others live. The one size fits all, UN inspired answers greatly diminish our human celebration of other peoples, cultures, places and our DIFFERENCES. The People themselves are the best innovators, not worldwide NGOs guiding us to a common unwanted outcome.

14. CONCLUSION

In general, the best long-term strategies for urban development are decentralized rather than centralized with the local population deciding what works best for them. While this sounds simple enough, the results

are profound. Local and particularized decision-making results in slow, incremental growth where each new decision or development reacts to the previous one in an almost "organic" way. The sum of these decisions affects local food production, local education, local economics, our quality of life and, well, everything else.

That such a pattern would recur suggests that there is something fundamental and archetypical here - a strategy that is, perhaps, embedded in our consciousness, leading directly and inevitably to a viable, sustainable and ultimately successful system. Perhaps it is simply the sum of human experience of what works garnered over millennia.

Urban development pursued along these lines results in enduring, self-regulating environments for living. The alternate approach, with which we have been experimenting for the last hundred years is a centralized, top-down approach of enforced planning that produces environments far less conducive to human flourishing and happiness.

The choice seems obvious. Rome was the result of a top-down hierarchy of decision making. Although Rome provided a lasting infrastructure for controlling a vast wilderness, it did not make humanity's first-ever, successful settlements. Successful, sustainable settlements began long before Rome and have continued long after its heyday. Perhaps it is time to recognize that Rome's top-down model, now couched as humanity's salvation (embodied as 15-Minute, S.M.A.R.T. Cities) is simply not a good idea. The best model is that simple, almost inevitable combination of built environment, fields and wilderness where the people who actually live there communicate with each other to solve their problems.

Remember what happened to Rome.

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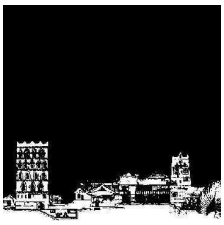

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