

AYAT AL-QAHIRAH

Cairo's Cosmic Realms and Earthly Realities

by

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ABSTRACT

Ayat al-Qābirah is an exploration of Cairo's sacred architecture as a mediator where the human, the landscape, and the cosmos collide and coalesce. The project analyzes, interprets, and speculates how architecture and architectural representation become a spatio-urban bridge between the earthly and the cosmic. It is framed as a travelogue that links matter and spirit. The thesis uses drawing as a catalyst to propose a series of conceptual architectural experiences and moments that negotiate a network of thresholds between the sacred and the everyday as a register for the visible and the invisible.

Ayat:

Plural of ayah, meaning verse, often used to specifically refer to a Quran verse. It also means "wonder," "evidence," "sign" or "miracle," "proof" "symbol" or "manifestation" of the divine.

Al-Qāhirah:

Arabic for Cairo, meaning "the Victorious", "the Vanquisher" or "the Conqueror". Cairo was given this name supposedly due to the fact that the planet Mars, an-Najm al-Qāhir ("the Conquering Star"), was rising at the time when the city was founded.

The project proposes a network of architectural tethers, that link this world and imagined corollaries. It connects the seen and the unseen, the sensible and the unintelligible, the physical and the metaphysical, the quotidian and the divine. It serves as a timeless manifestation of hidden orders imposed on the material world through the constant motions - or *harakat* - of the cosmos and earth.

Haraka:

Being in a state of motion, movement is a form imposed on a body by the Universal Soul, giving form to matter.

آيَاتُ الْفَاهِرَةِ

عَوَالَمُ الْقَاهِرَةُ الْكَوْنِيَّةُ وَالْحَقَائِقُ الْأَرْضِيَّةُ

(Arabic) Translation:
ĀYAT AL-QĀHIRAH
Cairo's Cosmic Realms and Earthly Realities

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TABLE OF CONTENTS

Abstract	003	Part IV	The Travelogue	051	
Acknowledgments	007				
Table of Contents	008		Preface	051	
List of Figures	010		4.1 Itinerary	052	
Introduction	015		4.2 Recounting the Journey	056	
Part I	Conceptions of the Cosmos	017	Part V	Registers of Invisible Phenomena	067
1.1	Mythical Cosmologies	017		Preface	067
1.2	Imaginative Realms	018		5.1 Phantom Obelisks	071
1.3	The Sacred and the Everyday	019		5.2 Observatory	075
Part II	Mapping Haraka	023		5.3 Water Basins	079
2.1	Sukūn and Haraka	023		5.4 Gardens for the Living	083
2.2	Language as Imagination	024		5.5 Dust Collectors	087
2.3	Movements of Sky and Earth	025		5.6 Sound Mirrors	091
2.4	Revealing the Invisible	032			
Part III	The Narrative	035		Drawing Methods	095
	Preface	035		Conclusion	097
3.1	Heliopolis (On): The City of The Sun	039		Appendix	099
3.2	Memphis: Kings Who Gazed at Stars	039		Glossary	108
3.3	Mukattam Mountain: The Garbage City	043		Bibliography	110
3.4	Al Qarafa: The City of The Dead	043			
3.5	Al Qahira: The City of a Thousand Minarets	047			
3.6	Tahrir Square: The City Victorious	047			

LIST OF FIGURES

Figure 01	<i>Literacy Map</i>	014	Figure 49	<i>Oldest Obelisk in Al-Matarriyyah District from a distance</i>	059
Figure 02	<i>Mapping of Cairo</i>	020	Figure 40	<i>Remains of the Temple of the Sun</i>	059
Figure 03	<i>Mapping of the Sacred Fabric of Cairo</i>	021	Figure 41	<i>View of Modern Cairo from the Cairo Tower, on Film</i>	060
Figure 04	<i>Details of Experimental Mappings of Sound and Wind</i>	023	Figure 42	<i>View of Old Cairo from the Ibn Tulun Mineret, on Film</i>	061
Figure 05	<i>Mapping of Cairo's Soundscape during the Call to Prayer</i>	028	Figure 43	<i>Qalawun Complex Ceiling Detail on Film</i>	062
Figure 06	<i>Mapping the Rythms of Time</i>	029	Figure 44	<i>The Egyptian Museum in Modern Cairo on Film</i>	063
Figure 07	<i>Mapping of the Movments of the Sacred Nile River</i>	030	Figure 45	<i>Muqarnas of Al Sultan Hassan Mosque</i>	064
Figure 08	<i>Experimental Mapping of Wind, Dust, and Sound</i>	031	Figure 46	<i>Al-Rifa'i Mosque Door Pattern</i>	064
Figure 09	<i>Details of Experimental Material Studies</i>	032	Figure 47	<i>Old Mashrabiya</i>	064
Figure 10	<i>Details of Experimental Material Studies</i>	033	Figure 48	<i>Detailed Surface Pattern at Ibn Tulun Mosque</i>	064
Figure 11	<i>Map of Chosen Sites as Centers of Gravity</i>	036	Figure 49	<i>Al Azhar Mosque</i>	064
Figure 12	<i>Sketches of Chosen Sites</i>	037	Figure 50	<i>Pigeons at Al Hussain Mosque</i>	064
Figure 13	<i>Saqqara Necropolis on Film</i>	038	Figure 51	<i>Cairo from the Minaret of Ibn Tulun Mosque</i>	064
Figure 14	<i>Heliopolis (On), The City of The Sun (Seen)</i>	040	Figure 52	<i>Cairo from the Minaret of Ibn Tulun Mosque</i>	064
Figure 15	<i>Heliopolis (On), The City of The Sun (UnSeen)</i>	041	Figure 53	<i>Pigeon Structure</i>	064
Figure 16	<i>View from Al Mokattam on Film</i>	042	Figure 54	<i>Khan Al-Khalili Street Market</i>	064
Figure 17	<i>Mokattam Mountain, The Garbage City</i>	044	Figure 55	<i>Coppersmith shop in Khan Al-Khalili</i>	064
Figure 18	<i>Al Qarafa, The City of The Dead</i>	045	Figure 56	<i>Qalawun Complex Interior</i>	064
Figure 19	<i>Al Qabira, The City of a Thousand Minarets</i>	046	Figure 57	<i>Qalawun Complex Interior</i>	064
Figure 20	<i>Al Qabira, Al-Muizz Street (Seen)</i>	048	Figure 58	<i>View from Al-Muizz Street</i>	064
Figure 21	<i>Al Qabira, Al-Muizz Street (UnSeen)</i>	049	Figure 59	<i>Al-Rifa'i Mosque Interior</i>	064
Figure 22	<i>Photos of Personal Travelogue</i>	051	Figure 60	<i>Sultan Hassan Mosque Interior</i>	064
Figure 23	<i>Personal Travelogue Sketchbook</i>	054	Figure 61	<i>The Nile</i>	065
Figure 24	<i>Photos of Personal Travelogue</i>	056	Figure 62	<i>Cairo Tower</i>	065
Figure 25	<i>A foggy walk to the Babylon Fortress</i>	059	Figure 63	<i>Modern Cairo</i>	065
Figure 26	<i>Street in Coptic Cairo</i>	059	Figure 64	<i>Modern Cairo</i>	065
Figure 27	<i>The Hanging Church Interior</i>	059	Figure 65	<i>Modern Cairo</i>	065
Figure 28	<i>Tombs at the Saqqara Necropolis</i>	059	Figure 66	<i>Tombstones at the City of the Dead</i>	065
Figure 29	<i>Saqqara Pyramid in the Fog</i>	059	Figure 67	<i>Church Detail</i>	065
Figure 30	<i>the Red Pyramid at Dahshur</i>	059	Figure 68	<i>Mausoleum Interior</i>	065
Figure 31	<i>Bent Pyramid at Dahshur</i>	059	Figure 69	<i>The sky from the Qalawun Complex</i>	065
Figure 32	<i>The Great Pyramids of Giza</i>	059	Figure 70	<i>Ceiling of Tomb at Saqqara</i>	065
Figure 33	<i>Domes of Mausoleums in the City of the Dead</i>	059	Figure 71	<i>Old Mashrabiya</i>	065
Figure 34	<i>Minaret of Al Sayyida Sakina Mosque</i>	059	Figure 72	<i>Sultan Hassan Mosque minbar</i>	065
Figure 35	<i>Foul and Ta'mya Seller in the City of the Dead</i>	059	Figure 73	<i>View from the top of the Cairo Tower</i>	065
Figure 36	<i>Cairo from the Highest Point in the city, Al-Mokattam Mountain</i>	059	Figure 74	<i>Farmland in Al Menofia</i>	065
Figure 37	<i>Street in the City of the Dead</i>	059	Figure 75	<i>Orange Grove in Al Menofia</i>	065
Figure 38	<i>Domes of Mausoleums in the City of the Dead</i>	059	Figure 76	<i>Khan Al-Khalili Street Market</i>	065
			Figure 77	<i>Section of Registers</i>	066
			Figure 78	<i>Final Map of the Registers</i>	068

Figure 79	<i>Details of the Final Map of the Registers</i>	069
Figure 80	<i>Diagrams of the Phantom Obelisk Registers</i>	070
Figure 81	<i>Details of the surface of the Phantom Obelisk Final Hybrid Drawing</i>	071
Figure 82	<i>Phantom Obelisk Final Hybrid Drawing</i>	072
Figure 83	<i>Phantom Obelisk Final Digital Drawing</i>	073
Figure 84	<i>Diagrams of the Observatory Registers</i>	074
Figure 85	<i>Details of the surface of the Observatory Final Hybrid Drawing</i>	075
Figure 86	<i>Observatory Final Hybrid Drawing</i>	076
Figure 87	<i>Observatory Final Digital Drawing</i>	077
Figure 88	<i>Diagrams of the Water Basin Registers</i>	078
Figure 89	<i>Details of the surface of the Water Basin Final Hybrid Drawing</i>	079
Figure 90	<i>Water Basin Final Hybrid Drawing</i>	080
Figure 91	<i>Water Basin Final Digital Drawing</i>	081
Figure 92	<i>Diagrams of the Garden Registers</i>	082
Figure 93	<i>Details of the surface of the Garden Final Hybrid Drawing</i>	083
Figure 94	<i>Garden Final Hybrid Drawing</i>	084
Figure 95	<i>Garden Final Digital Drawing</i>	085
Figure 96	<i>Diagrams of the Dust Collector Registers</i>	086
Figure 97	<i>Details of the surface of the Dust Collector Final Hybrid Drawing</i>	087
Figure 98	<i>Dust Collector Final Hybrid Drawing</i>	088
Figure 99	<i>Dust Collector Final Digital Drawing</i>	089
Figure 100	<i>Diagrams of the Sound Mirror Registers</i>	090
Figure 101	<i>Details of the surface of the Sound Mirror Final Hybrid Drawing</i>	091
Figure 102	<i>Sound Mirror Final Hybrid Drawing</i>	092
Figure 103	<i>Sound Mirror Final Digital Drawing</i>	093
Figure 104	<i>Final Drawing Set</i>	094
Figure 105	<i>Details of the mylar surface</i>	095
Figure 106	<i>Sunset on Grandpa's Farm in Al Menofia, Egypt on Film</i>	096
Figure 107	<i>Water Basin Experiments</i>	098
Figure 108	<i>Water Basin Experiments</i>	099
Figure 109	<i>Water Basin Experiments</i>	100
Figure 110	<i>Water Basin Experiments</i>	101
Figure 111	<i>Sound Mirror Experiments</i>	102
Figure 112	<i>Sound Mirror Experiments</i>	103
Figure 113	<i>Dust Collector Experiments</i>	104
Figure 114	<i>Dust Collector Experiments</i>	105
Figure 115	<i>Dust Collector Experiments</i>	106
Figure 116	<i>Dust Collector Experiments</i>	107

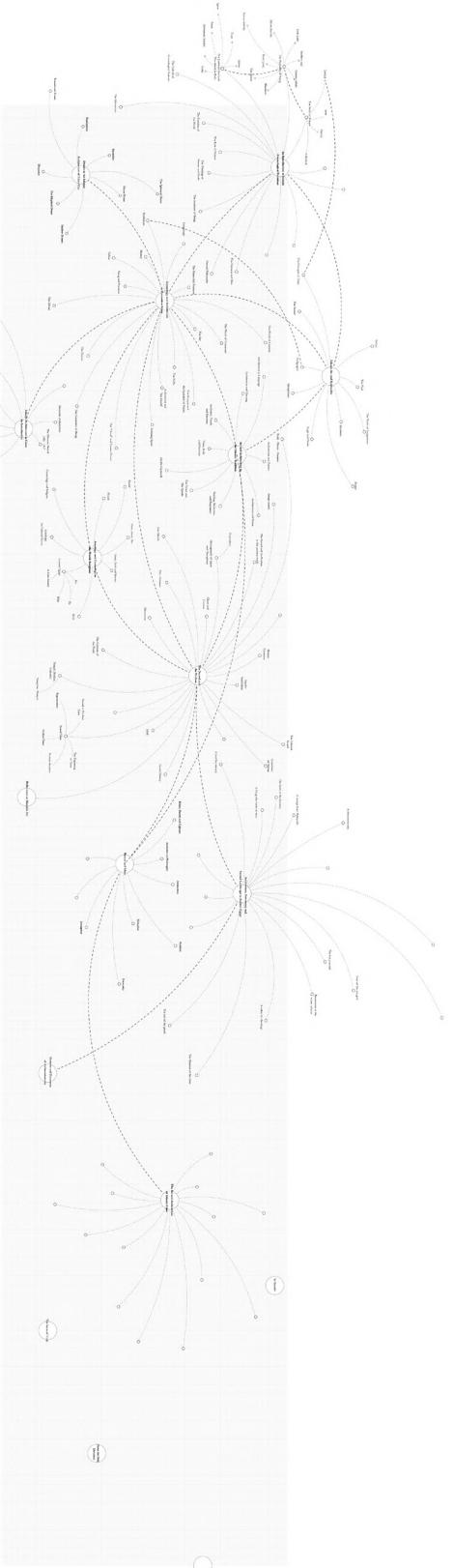


Figure 01: Literature Map

(A diagram that links significant texts and their themes, built up as the literature is read.)

INTRODUCTION

Al-Qâhirah is an ancient city bordered by a boundless desert, located at the junction of Upper and Lower Egypt, where the Nile River splits into a rich delta. The city dates back to antiquity, with some myths suggesting an even longer timeline, back to the beginning of Creation itself. Cairo, as a result, is a layered city, composed of seemingly endless narrative strata, some earth-bound and others heavenly ordained. Cairo's urban fabric is profoundly dynamic, and its holy spaces are shaped by multiple agents and actors: celestial bodies, terrains, people, spirit, and the many incarnations and understandings of the Divine. The city is a connection point - *a callida iunctura* - between the sacred and the profane. It is a place in which one can move through centuries in just a few short steps. It is a city rooted in multiple spiritual traditions, and this ethos is embedded in almost all aspects of life in "The City Victorious," the structure of its quotidian routines and its everyday lives, as well as its language, and the way its urban and architectural spaces are encountered and inhabited. "The City of a Thousand Minarets" is a microcosm of many universes, and so are the numerous manifestations of its temples, monuments, mosques, and churches, and the people who inhabit, encounter, maintain or pass by them.

This thesis links cosmology, history, myth, and imagination. Critical texts that helped establish the grounds for the project include the works of Seyyed Hossein Nasr, in particular his seminal writings, *An Introduction to Islamic Cosmological Doctrines* and *Islamic Art and Spirituality*, which are considered some of the most important modern books on the subject. Samer Akkachk's *Cosmology and Architecture in Premodern Islam*, and Giulio Magli's *Architecture, Astronomy and Sacred Landscape in Ancient Egypt*, were equally important, as were a series of travelogues, urban biographies, and fictions that included Max Rodebeck's *Cairo: The City Victorious*, and *The Cairo Trilogy* by the Nobel Prize-winning Egyptian writer, Naguib Mahfouz. (Figure 01: Literature Map).

This document is divided into five parts. *Part I: Conceptions of the Cosmos* introduces various conceptual understandings of the cosmos, the transformation of ancient Egyptian world views to an Islamic cosmological imaginary, and defines and frames how the research engages with the concept of the sacred. *Part 2: Mapping Haraka* is a deeper look at the concept of *Haraka* ("motion") and uses mapping as a tool to understand the invisible matrices that shape the city. *Part 3: The Narrative* identifies six sites for a fictional pilgrimage through varied Cairene spaces. Each site is introduced and briefly described as an interpretive and imaginative reconstruction through location-specific research, that included works of fiction and travelogues of Egypt and Cairo. *Part 4: The Travelogue* is a personal recount of my journey to Cairo over several weeks in December 2020/January 2021. The trip was a ground-truthing: to bring these sites into an experienced and encountered focus. The thesis culminates in *Part 5: Registers of Invisible Phenomena* where a series of six architectural registers are designed in order to make knowable the invisible movements and realms of the city.

PART I CONCEPTIONS OF THE COSMOS

1.1 *Mythical Cosmologies*

Ancient Egyptian cosmology was one of balance and duality, coupling light and dark, order and chaos, with complex views on the afterlife, the judgement of the dead, and the soul's ascent to the stars. The world consisted of three parts: the earth, the sky, and the underworld. The flat plane of the earth was believed to be at the center of the universe, split by the Nile River and surrounded by boundless oceans. Where the atmosphere ended, the celestial canopy of the sky began, held up by four supports. Beneath the plane of the earth was an underworld, known as *Duat*.¹ This dark realm held all that was absent from the visible world, the souls of the deceased, the stars that were extinguished at dawn, or the sun once it set and while it traveled this realm during its nocturnal descent to darkness only to reappear in the sky, reborn the next day. Ancient temples were created as liminal zones, that connected *Duat*, Earth, and Cosmos, linking time and space, humanity and divinity, lightness, and darkness. Egyptian architecture and lived experience was an analogue of this motion between realms.

Egyptians imagined that the universe existed before them, but not in the form that they experienced it. They imagined the world before time as one of primeval infinite waters and boundless darkness; this original watery state of chaos was personified as the god *Nun*. These anarchic waters produced all of the God and Goddesses, the earth, and all of its varied inhabitants. These waters enveloped the world from every direction, from above the celestial sky to below the depths of the underworld.

This cosmology contained a myriad of deities, each with a particular function and in balance with oppositional others in a cosmic order. This order, known as *Ma'at*, was the key concept of the universe, preserving harmony and order in a world that was perpetually on the edge of disorder and chaos. *Ma'at*, regulated all of the world's natural cycles: the procession of the stars and celestial bodies, the rhythms of the sun, the monthly changes of the moon, and the shifting of seasons. *Ma'at* was known to be "truth, balance, harmony, law, morality, justice and order. It is the basic equilibrium of the Universe, binding together the cosmos, the natural world and the individual."² *Ma'at* is thus the invisible source that puts all aspects of the universe in constant motion to maintain this harmony and balance. It is the unseeable force that shapes the world as we know it to be. It is an ordering device that allows for the linking and passage between different states of being.

Duat:

the realm of the dead in ancient Egyptian mythology. It was represented in hieroglyphs as a star-in-circle.

Ma'at:

"cosmic order itself, was personified as a goddess but may also be seen as an abstraction, a force, a power, as well as the ethical behavior and devotion to truth and justice required for men and women to collaborate with the gods and goddesses in the maintenance of order. She also represented the ethics that recognize the need to act in all circumstances for the upholding of the universal order. It was Ma'at's symbol, the feather of truth, that was placed in one pan of the balance used for the weighing of the hearts of the dead in their judgment by Osiris in his role as the god of the dead. All Egyptian religion can therefore be seen as an expression of the need to maintain Ma'at, and all ritual was devoted to the need to renew creation, and order, every day without fail."

Zāhir:

Apparent, external, manifest. In esoteric interpretations of Islam, contrasted with the inner or hidden (batin) aspects of reality.

Bātin:

Inner, interior, inward, hidden, secret. In Shī‘ī, Ismailī, and Sufi thought, the Quran is held to contain two aspects: an outer or apparent meaning (*zahir*) and an inner or secret meaning, often allegorical or symbolic (*batin*).

Ālam al Khayal:

The world of imagination, the realm that combines the characteristics of its two bordering worlds, it is the place where the spirituality of the unseen is integrated into the corporeality of the seen to create the subtlety of the imaginary. It is the ontological level at which spirits manifest in sensible matrices and abstract meanings take on bodily forms.

With the rise of the Muslim world and its expanding empire, another cosmology took root. Where Ancient, Pharaonic Egypt endured for almost thirty centuries, the advent of Islam brought another worldview which endures to this day. Islamic Egypt embodied a cosmology that bore parallels to its Ancient Egyptian counterpart, while also acknowledging the Abrahamic and monotheistic ethos of the faith.

Similar to ancient cosmologies, the Islamic world is made up of dualities; it is a universe of form and matter, soul and body, substance and accident, expansion, and contraction. The Arabic word for cosmos is *ālam*, which shares etymological roots with the Arabic words ‘alāma (sign, mark) and ‘ilm (knowledge), suggesting that the cosmos is everything about which one can have knowledge.³ The Islamic cosmos is then “all the spiritual and material beings who populate the immensity of the skies, who constitute the reign of multiplicity which extends to the spheres, the stars, the elements, their products and to man.”⁴

The Islamic worldview centers on the premise that the universe is made of physical and spiritual realities, which contain both visible and invisible entities. The Seen (*Zāhir*) is the lower realm made of natural realities and corporeal bodies and can be understood through the sense and the body. The Unseen (*Bātin*) is a realm of faith. It is invisible, transient, ephemeral, and, at times, incomprehensible. It is a realm of spirits, angelic forms, and abstract meanings. The seen embodies meaning from the unseen, reflecting its hidden realities. Between the two worlds there is a third realm known as “*ālam al khayal*” or the “world of imagination,” hinging on the ontological link between the embodied and the abstract.⁵ It combines the characteristics of both worlds. It is at once real and unreal, seemingly touchable yet out of reach, and is neither purely sensible nor purely abstract. The concept of imagination in Islamic cosmology asserts the capability of manipulating sensory forms once abstracted from their material framework. Comparable to the world of dreams and memories, bodies in the imagined realm have a phantasmal quality. They are perceivable and meaningful, yet distant without physical presence. This illusive nature of the imagined is a result of its role as a transitory zone, where these dichotomies are resolved, mediating between the seen and the unseen. It is the domain that simultaneously links and also separates its parental domains. This thesis inhabits this realm and slip through its veil to make visible the invisible.

“The manifestation of the sacred disrupts the homogenous continuity of space and nullifies the linearity of history. With the manifestation of the sacred, space becomes centralized and time cyclical: the amorphous becomes structured according to archetypal paradigms”⁶

Mircea Eliade defines the sacred as space that breaks the homogeneity and uniform expansiveness of space and time. In doing so, it creates a *Hierophany*, and reveals a fixed point or a center in its ambiguous surroundings: a moment of absolute reality. “The irruption of the sacred does not only project a fixed point in the formless fluidity of profane space, a center into chaos; it also affects a break in plane, that is it opens communication between the cosmic planes and makes possible ontological passage from one mode of being to another.”⁷ This link or passage between realms is known as an *Axis Mundi*, a universal pillar that connects all of the cosmic levels of existence.⁸

The relationship between the sacred and the profane in Egypt is nuanced, the two are often intertwined. Sacredness is embedded in almost all aspects of life: the shaping of the city, its language, daily routines, and rituals. The thesis takes on a definition of scared space outside of just its opposition to profane space. Understanding sacred space instead as virtuous space, as “in premodern Islam, we encounter an understanding of the sacred as the “virtuous” meaning that which has spatial merits. The notion of the virtuous accounts for both the sacred and the profane in that all sites and places have virtues”⁹. Virtuous space is one of *fada’il* literally a space of “merits”, “virtues”, or “excellence”. *Fada’il* enable “the construction of imaginative geographies that differentiates sharply between places, and on the other, the blurring of the boundary between the mythical and the real. It is through this blurring of spatiality that the *fada’il* confers significance on places, buildings, and landscapes”¹⁰. The thesis, therefore, approaches sacred architecture as a medium that has the capacity to pierce through realms, blurring the boundary between the real and the imagined, making knowable invisible and inconceivable realities.

Hierophany :

(from Greek *hiero-*, “sacred,” and *phainein*, “to show”) is a term designating the manifestation of the sacred.

Axis Mundi :

The Universal Pillar, the Latin term for the axis of Earth between the celestial poles. In a geocentric coordinate system, this is the axis of rotation of the celestial sphere.



Figure 02 : Mapping of Cairo,
its development over time, and the location of significant sacred spaces

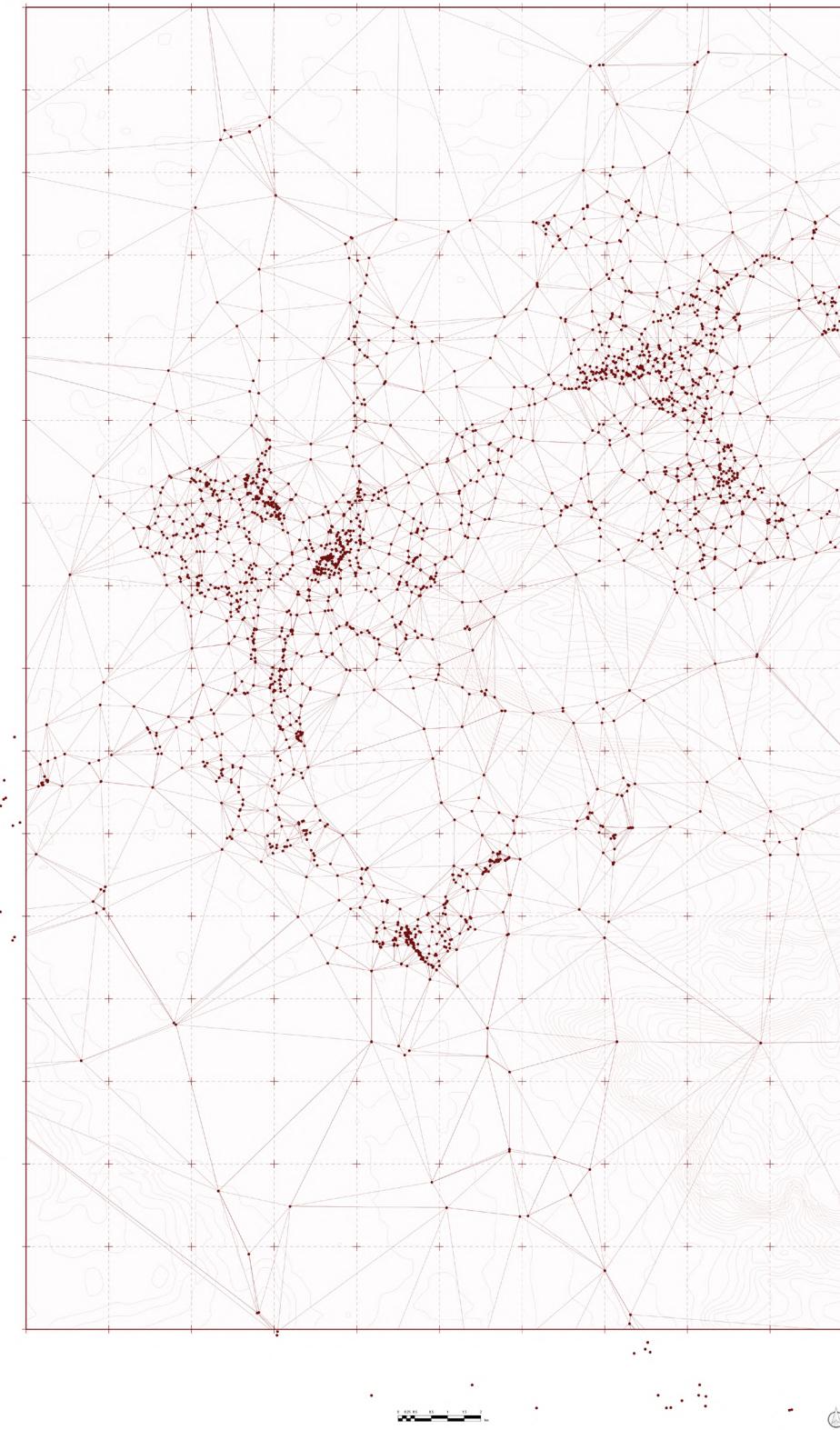


Figure 03 : Mapping of the Sacred Fabric of Cairo,
as a network of points, based on the location of significant sacred spaces

PART II MAPPING HARAKA

2.1 *Sukun and Haraka*

"Movement is a spiritual and complimentary form which traverses all parts of moving bodies and expands within them instantaneously like light in order to terminate abruptly their rest"¹¹

From the Islamic worldview, all occurrences on earth are due to the spiritual agency of nature, known as the Universal Soul. Nature is the force responsible for the motions of all the elements and it is known through action rather than felt by the senses. Aristotle defines nature as, "A certain principle and cause of motion and rest to that in which it is primarily inherent, essentially and not according to accident."¹² Since all corporeal bodies are influenced by space and time, they are, in a sense, in constant motion. Matter is waves and particles, strings, and molecules, always in motion. All the motions of the universe are due to the desire to actualize what is potential, to bring perfection to what is imperfect, and to bring order to chaos. This principle of motion is known from the Islamic perspective as *Haraka*, a form imposed on matter by nature. After it has been shaped, the Universal Soul rests in the absence of this form.¹³

Sukūn is stillness, and from that state, the world is animated by *Haraka*. The world is in a constant oscillation between stillness and movement, between latency and potential, changing states between quietude and activity. *Haraka* is the movement of all the celestial bodies, as all cycles of time are dependent on these motions. It is also the subtle motions upon the earth's surface, of the flora and fauna, the movement of bodies of water, the humidity of the air, the shifting of wind and sand, and the motions of the earth's interior. These invisible motions – and their shifts between stillness and transits – shape the universe, maintaining harmony, balance, and equilibrium.

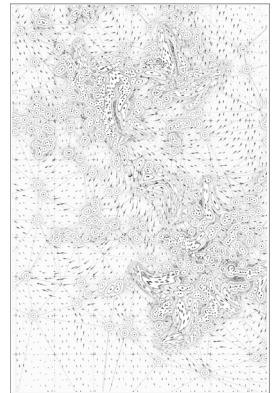
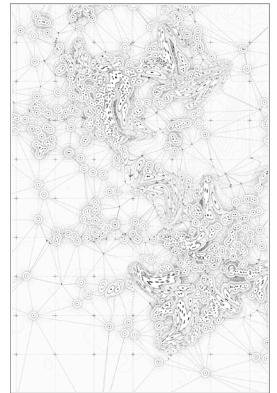


Figure 04 : Details of Experimental Mappings of Sound and Wind

2.2

Language as Imagination

"The articulated sounds of the letters are the microcosmic and human expression of the essential determinations of the divine Breath, which is itself the prime motivation of the cosmic cycles."¹⁴

Sufi :

Sufism is the mystical Islamic belief and practice in which Muslims seek to find the truth of divine love and knowledge through direct personal experience of God. It consists of a variety of mystical paths that are designed to ascertain the nature of humanity and of God and to facilitate the experience of the presence of divine love and wisdom in the world.

The Arabic language in both its spoken and written form is very closely tied to the notion of *Haraka*. It is the Islamic belief that the world was spoken into existence. God's utterance (and its echo) of the primordial word "Kun" or "Be" wrought the world into being and brought about the motions of the universe. The revelation of the Quran - believed by Muslims to be the unaltered word of God - was brought to the Prophet Muhammad by the Archangel Gabriel whose first word to the stunned Messenger-to-be was the command to read, or "*Iqra'*". Words are therefore, both marks on the page as well as signs in and of the world. The Arabic alphabet is made up of 28 letters, containing as many articulations as possible of unobstructed breath. Each letter is animated from its state of stillness (*sukūn*), from consonant letters to pronounceable words by phonetic motions or *harakat*. These phonetic devices are called *tashkil*, literally meaning "giving shape, morph, or figure. It is derived from the root word *shakl*, meaning 'shape, morph or figure'."¹⁵

The rhythmic nature of the Arabic language is even more evident in the art of *Tarab*. This art does not have a direct western translation; however, it can be described as the musical expression of emotion during the recitation of Quran, poetry, or song. *Tarab* is a *Sufi* art, one of "intense emotions, exaltation, a sense of yearning or absorption, feeling of timeless-ness, elation or rapturous delight."¹⁶ It is also used in the context of the everyday and describes the voice of the revered Egyptian singer Umm Kulthum, often referred to as "*Kawkaab al-Shārq*" or "Planet of the East". Her voice can be heard to this day echoing throughout the city of Cairo over the radio.

Arabic, in its written calligraphic form, is the visual embodiment or crystallization of these spiritual realities. It is "the geometry of the spirit."¹⁷ Its use of points (*sukūn*) and lines (*haraka*) creates endless variations and rhythms of forms that contain universes. These markings of ink on paper create formal tracings of formless realities, generating glimpses of infinite and eternal realms. The plastic art of calligraphy "aids man to pierce through the veil of the material existence so as to be able to gain access to the *harakah* that resides within the Divine Word and to 'taste' the reality of the spiritual world."¹⁸

¹⁴Nasr, Seyyed Hossein. *Islamic Art and Spirituality*. (Albany: State University of New York Press, 1987.)

¹⁵Akkach, Samer. *Cosmology and Architecture in Premodern Islam: An Architectural Reading of Mystical Ideas*. (Albany: State University of New York Press, 2005.)

¹⁶Sherifa Zuhur, "Tarab in the Mystic Sufi Chant of Egypt," in Colors of Enchantment: Theater, Dance, Music, and the Visual Arts of the Middle East (Cairo: American University in Cairo Press, 2001).

¹⁷Nasr, Seyyed Hossein. *Islamic Art and Spirituality*. (Albany: State University of New York Press, 1987.)

¹⁸Ibid.

2.3

The Movements of Sky and Earth

The thesis began with a series of operative mappings that were used to understand the body (*jism*) of al-Qahirah, investigating it as a corporeal manifestation of the city's soul (*nafs*). The mappings explored invisible motions that shape the city's everyday life. They are a study of the ephemeral, illusive, and transient qualities of Cairo's landscapes, speculating on how form is an order imposed on matter through varied motions, and movements, through *Harakat*. The mappings depict an imaginary or unseen landscape of Cairo, as a cosmic mesh, veil, or surface that is formless and amorphous in nature. The maps mark the location of sacred spaces in the city as a series of control points, revealing moments of stillness that pierce through realms, serving as links or connections between our world and other domains. Through the use of GIS data and Grasshopper scripts, the maps were explorations aimed at making visible, invisible motions such as that of sound, time, dust, air, and water. Additionally, some of the maps are layered and deliberately distorted to reveal what happens when these movements or forces interact.

Cairo is famously known as the "City of a Thousand Minarets" and so, the first map (Figure 05) is an investigation of the aural landscape of the city, speculatively visualizing the city's soundscape during the *Athān* or call to prayer. This map visualizes the imagined motions of spoken language and *tarab*. During the call to prayer, all other sounds in the city are silenced as the *muezzins* recite from the tops of the minarets. Like clockwork - and keyed to the lunar cycle of the Islamic calendar - these projected voices from 'a thousand minarets' overlap with one another in an incredible instance of sonic expression. Their voices rise and fall in and out of sync into a chorus that envelops the entire city: This is the *harakat* or travelling of the spoken word. It is an invitation to attend to worship, to move to the mosque, away and out of the secular world of markets, banks, and restaurants. This soundscape is a catalyst, a prelude to an architectural threshold.

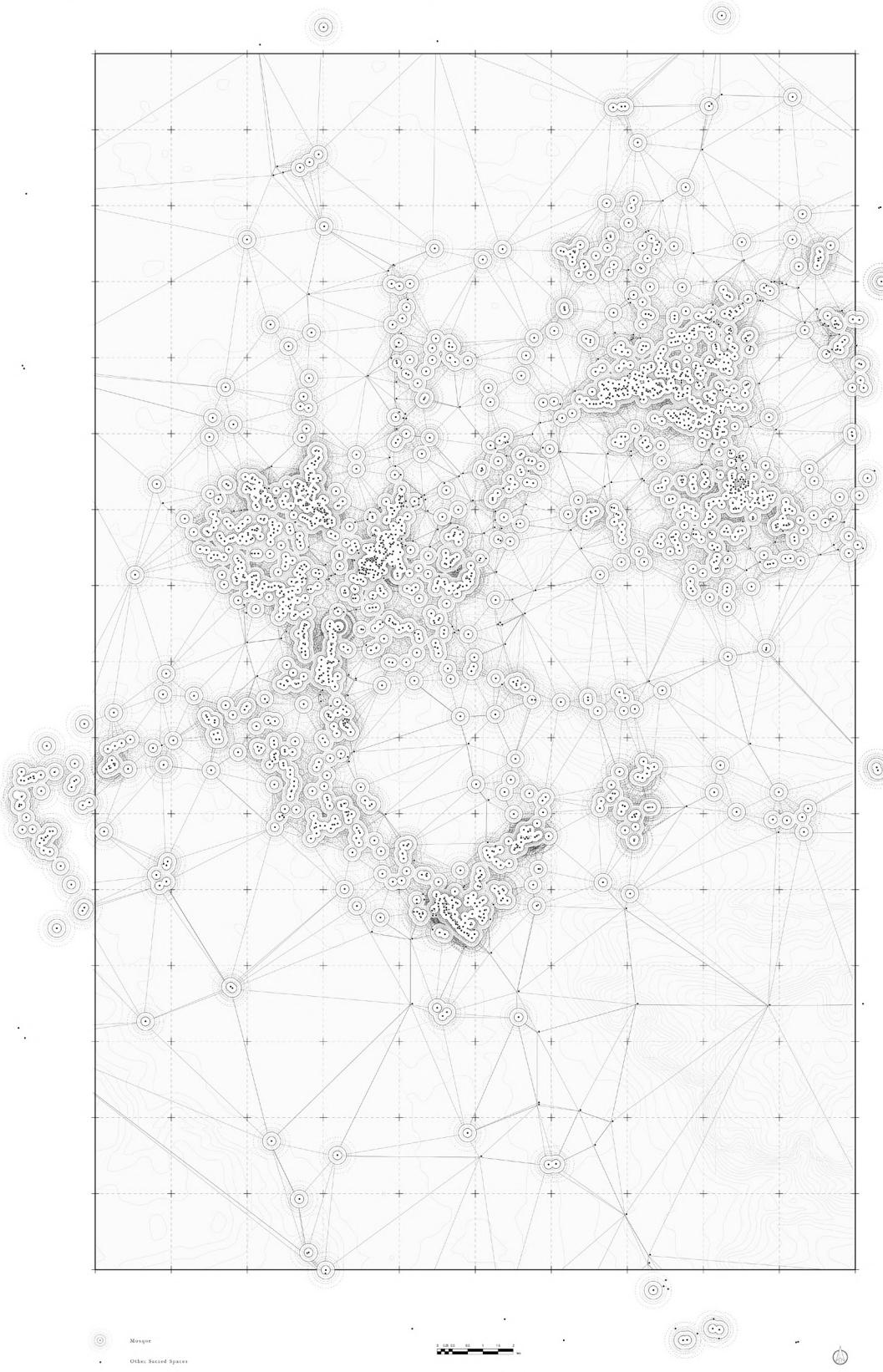
Nafs :

Self or soul. Used in the Quran as a general designation for the self or true self; interpreted as the spiritual reality of all living creatures. In philosophy, the specifically human nafs is often described as the potential to actualize the fullness of self-awareness, often equated with the intellect (aql). In Sufism, often described as the "lower self," associated with physical rather than spiritual impulses, by contrast to *ruh*, understood as the "soul" or "higher self".

Time (Figure 06) is mapped in a cyclical or rhythmic manner, it is understood as a series of epochal thresholds and transformative moments for the city, and how they relate to each other. Time in Egypt is simultaneously measured by the Gregorian calendar, the *Hijri* calendar (the Islamic calendar), the Coptic calendar, and various Ancient Egyptian calendars. These motions of the various calendars are mapped as waves or rhythms that fall in and out of sync. Moments or instances of stillness pierce through the various cyclical rhythms and revolutions of the celestial spheres. These moments are instances in which the city is transformed from one state of being to another, and the points of stillness create sacred sites in time, rather than just space.

Dust and wind are mapped (Figure 08) to illustrate the *Khamsin Winds*. These sand-filled storms happen every spring for about fifty days, engulfing the city in a golden whirlpool of dust. Michael Ondaatje describes this in a lyrical passage from *The English Patient*: “Dust storms in three shapes. The whirl. The column. The sheet. In the first the horizon is lost. In the second you are surrounded by ‘waltzing Ginns’. The third, the sheet is copper tinted. Nature seems to be on fire”¹⁹. This map of dust and wind is layered with the previous soundscape map, and it is distorted to reveal what happens when the push and pull of these forces interact, as air is the carrier of sound, its molecules transmitting these waves. One force affects the other, building up this invisible realm of constant motions.

The movement of water, its places of settlement, and the transformation of the path of the Nile River is subsequently mapped in relation to these points (Figure 07). Cairo is located at the confluence where the Nile River blooms into the delta. The course of this sacred river has shaped the city and its settlements. Its annual flooding was integral to ancient society, as they based their calendars on its cycles of inundation and flow. This drawing explores the temporal and ephemeral qualities of the everchanging Nile River, and how its movements formed the city over time.



Mosque
Other Sacred Spaces

Figure 05 : Mapping of Cairo's Soundscape during the Call to Prayer



Figure 06 : Mapping the Rythms of Time

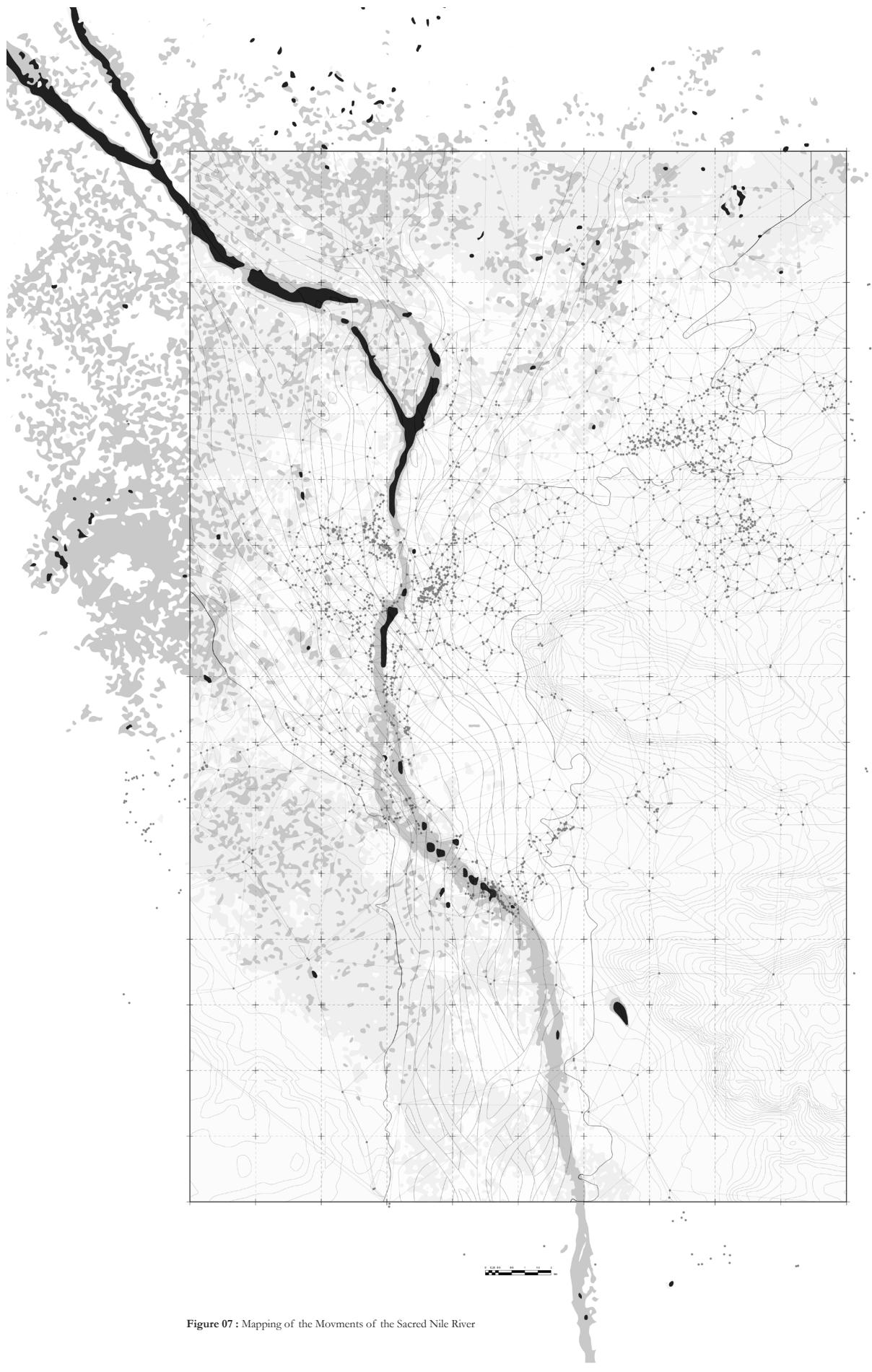


Figure 07 : Mapping of the Movments of the Sacred Nile River

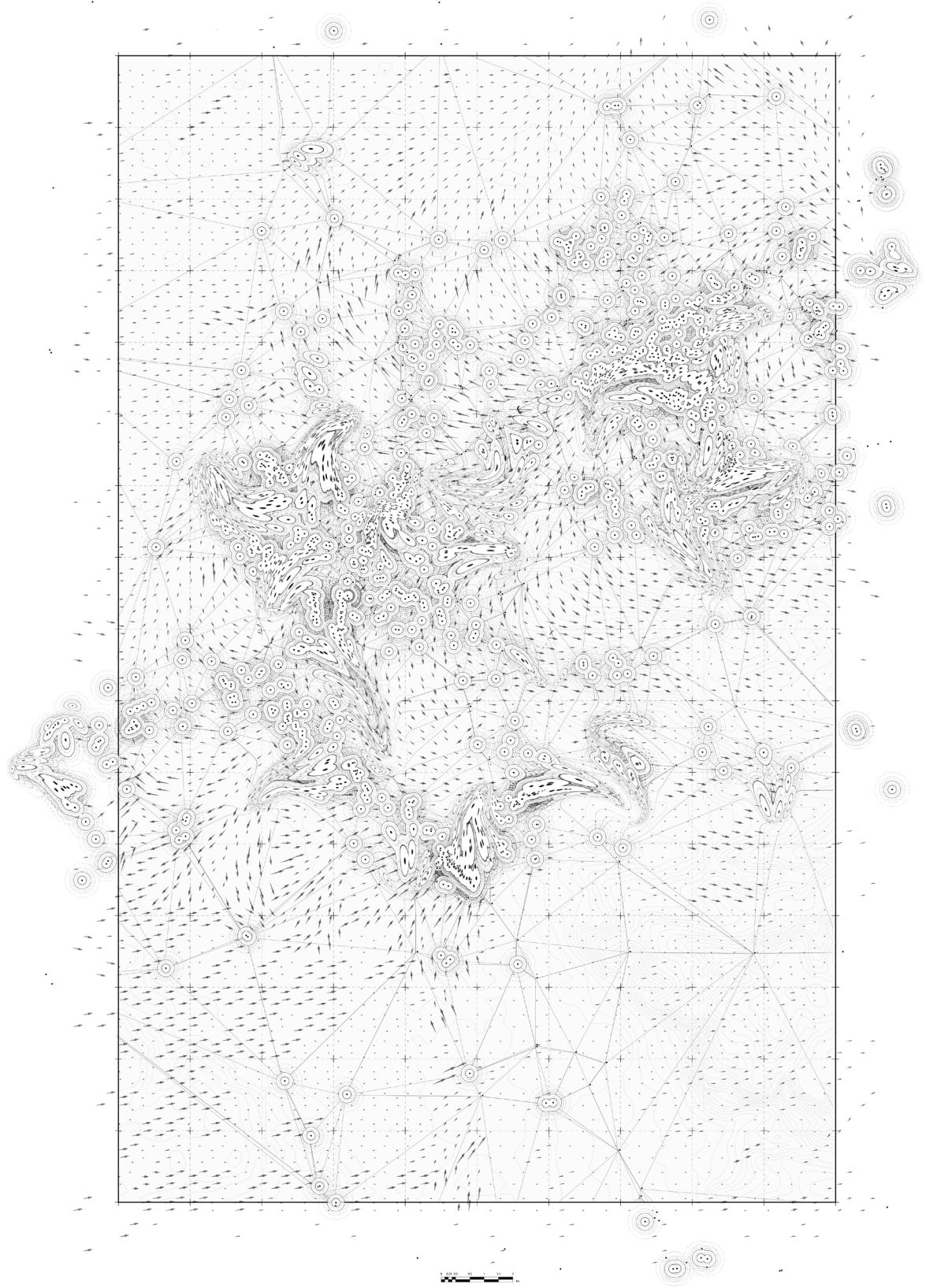


Figure 08 : Experimental Mapping of Wind, Dust, and Sound



This attempt to make the invisible visible is deeply rooted in the Sufi concept of *Kashf*. This notion emphasizes the idea of unveiling in order to see and perceive more truly, more appropriately, and more, divinely. For a religious tradition where God is undefinable and unrepresentable, these agents of *Kashf* become catalysts for knowing the sacred. This agency is often manifested through geometry, pattern, and complex surface patterns and transformations. To gaze at these geometric patterns and heavily ornate surfaces is to absorb an image of the cosmos.

All geometry is composed of points. The point is a singular reality, eternal, indivisible, intangible, formless, and dimensionless. The point is therefore a symbol of the divine. It is “a symbol of God’s essence that is hidden behind the veils of his multiplicity.”²⁰ The movement or *haraka* of the point creates a line and the projection of this point into an infinite multiplicity, while still being in unity, creates a circle. Indefinite geometrical configurations create rich patterning. Their repetition establishes a sense of timelessness and of infinity. The *Arabesque* is the result of delicately carving these intricate and infinite motifs upon a surface, causing the surface to outgrow its material composition, and become a rhythmic luxurious pattern that brilliantly reacts to the spiritual substance of light. This unravels the cosmos before the eyes of the beholder and suggests the essential twinning of light and surface, and the possible ambiguity of both. A surface or pattern can be made beautiful by illumination. Conversely, *kashf* might also ask if light is made visible and beautiful because its receptor (the surface or pattern) was designed to reveal the invisible.

Figure 09 : Details of Experimental Material Studies

The stalactite architectural forms known as *muqarnas* use patterning and geometry in three-dimensional vaulted morphologies to express shifts in surface or spatial realms of transition. They are often located at the thresholds of mosques, above doors, or on capitals, as well as in mosque corners, on squinches or pendentives, and help physically and symbolically with spatial and meta-spatial transitions in the building. *Muqarnas* became an architectural device for shifting and blending geometry from square to circular volumes, helping articulate transitions from the realm of earth to the rounded celestial heavenly dome that sits atop. A *muqarnas* is both an architectural ornament as well as a symbolic bridge or link. It becomes a formal embodiment of a changing state of being to meta-being. It unfolds the corporeal into an infinite multiplicity that is impossibly fractal and complex.

The thesis experiments with different modes of making, using both digital and analog methods. The drawings are a representation of these imaginative realms of transition. They are graspable and tangible yet, animated by light, they are constantly shifting, and changing. The drawings test the ideas of geometry, surface, texture, materiality, and depth, to illustrate what exists in addition to what might be perceived.



Figure 10 : Details of Experimental Material Studies

PART III THE NARRATIVE

Preface

"I arrived ... at the city of Cairo, mother of cities ... mistress of broad provinces and fruitful lands, boundless in multitude of buildings, peerless in beauty and splendor, the meeting-place of comer and goer, the stopping-place of feeble and strong ... She [Cairo] surges as the waves of the sea with her throngs of folk and can scarce contain them..."

- Ibn Battuta²¹

Cairo was described by Ibn Khaldun as "the metropolis of the universe, the garden of the world, the anthill of the human species, the portico of Islam, the throne of royalty, a city embellished with castles and palaces, decorated with dervish monasteries and with schools, and lightened by the moons and stars of erudition ..." ²²

Inspired by the travels of Ibn Battuta, as well as Ibn Khaldun's historiography *al Muqaddimah*, Max Rodenbeck's *Cairo: The City Victorious* and William Dalrymple's *In Xanadu*, the narrative of this thesis is framed as a travelogue. It is a movement through space and time, allowing one to experience the many Cairos that have existed in the past and will exist in the future. Engaging with the city's human qualities, sublime landscapes, celestial connections, and divine, mystical, and unseen realms. The thesis narrative unveils the layers, multiplicity, and thresholds of the city, becoming a navigation through its many strata. The travelogue is a series of encounters of the veiled and unveiled thresholds that dot Cairo's landscape, creating portals, perforations and pockets that link the real and the divine. With a pilgrimage of metaphorical travellers, the narratives will tell stories of the motions of the universe, at its macro and micro scales, through the architectural and urban experience of *Al-Qahira*. The narrative is organized by grouping significant architectural points into clusters and mapping them as conceptual centers of gravity. It explores six geographical sites that illustrate what it means to inhabit the sacred terrain of Cairo. The sites bring us into the history of the city, through spaces that negotiate the sacred and the everyday.

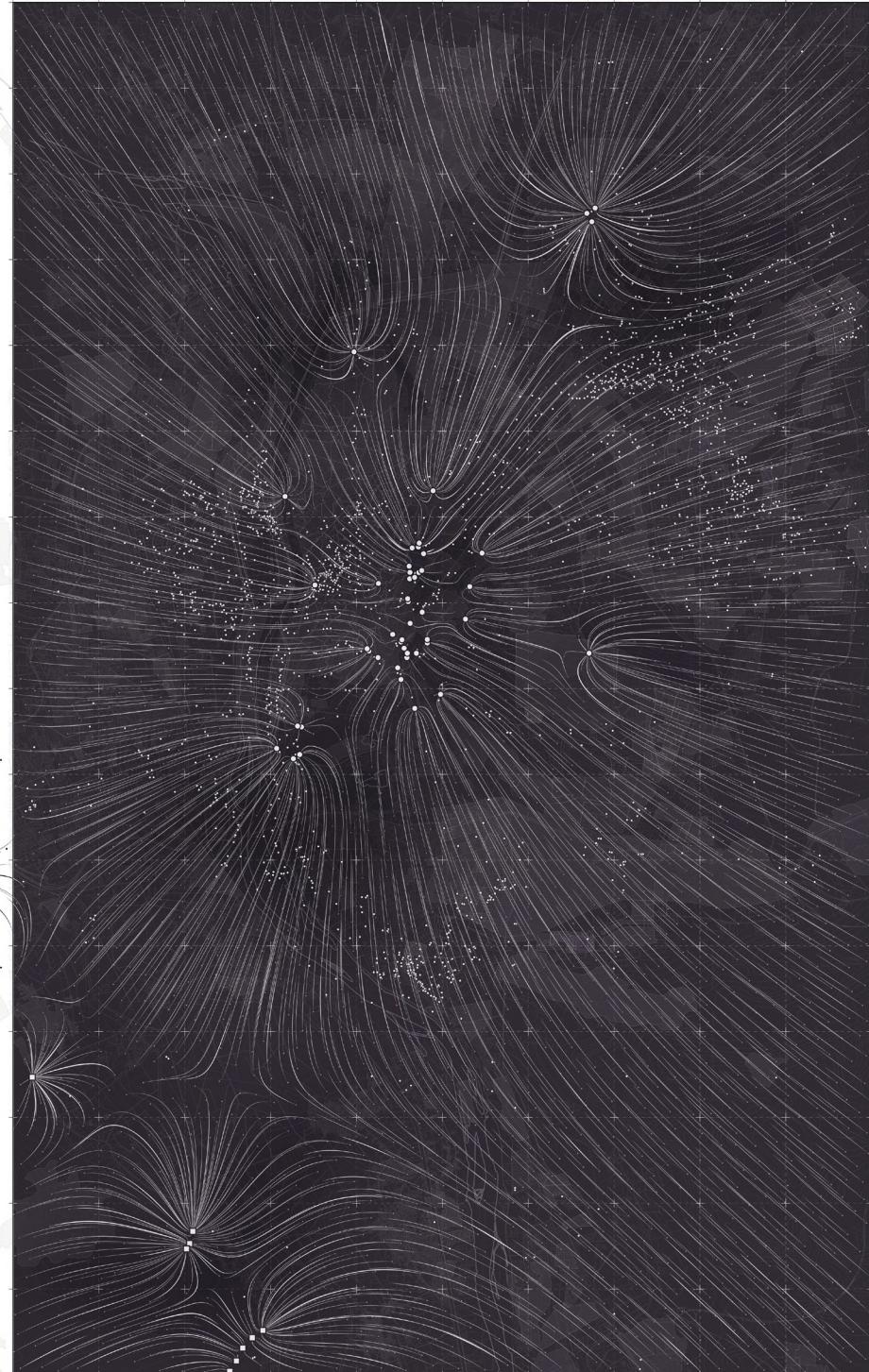


Figure 11 : Map of
Chosen Sites as Centers
of Gravity, or Portals to
the Otherworldly

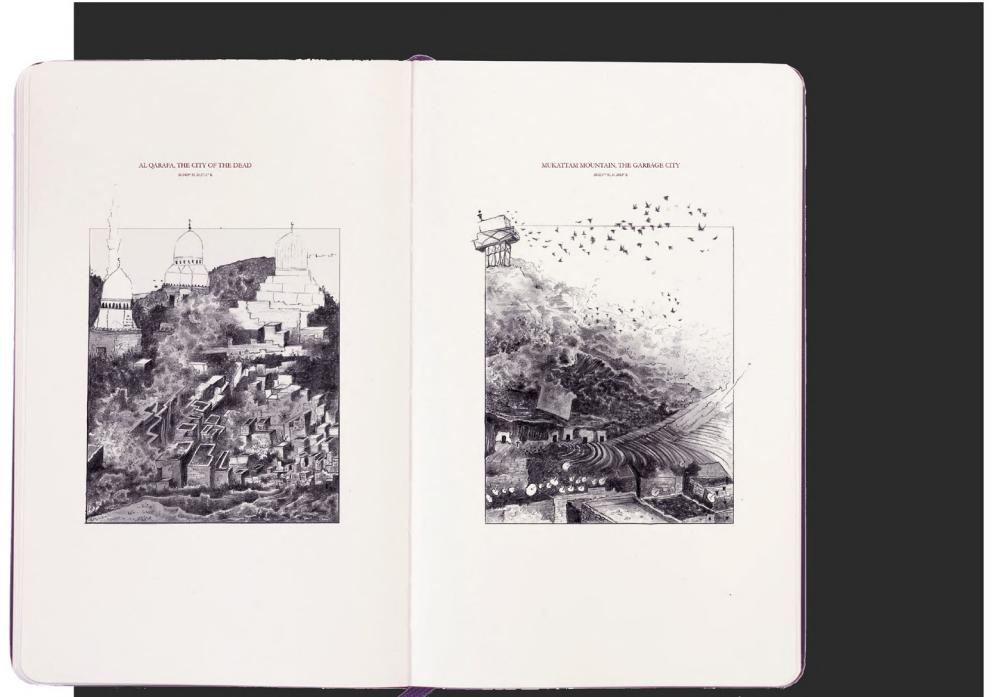


Figure 12 : Sketches of Chosen Sites,
Top left: the City of the Dead,
Top right: Mokattam Mountain,
Bottom: Heliopolis



Figure 13 : Saqqara Necropolis on Film

3.1 Heliopolis (On), The City of The Sun

"At the beginning of time itself, nothing existed of Cairo or of On or of anything else. There was not even a Nile, the ancient Egyptians believed. The entire universe was a colourless, proportion-less ooze. Then for no reason in particular, out of this element something solid formed. It swelled into a mound in what was to become the courtyard of the great temple of On."²³

"The temple of Heliopolis marked the place of a pyramid shaped sacred stone, the Ben-ben. The stone was linked with the sun ... it marked the spot of the "first sun", arriving in the guise of a bird on the "primeval hill", sometimes viewed as a sort of isle in a primordial watery marsh"²⁴

The story of Cairo begins in an unsuspecting place, the suburbs of *Al-Matariyyah*, in an area known as *Ain Shams* (Eye of the Sun). Previously known as the ancient city of Heliopolis, this city used to be a sacred religious center, filled with dozens of obelisks, and temples. Many of its obelisks have been lost and displaced across the world, and its temples dismantled into parts, many of which were used in the construction of old medieval Cairo. Today, piercing through the chaos, clutter, dust, and noise of the everyday movement, is a lone obelisk. It is the sole surviving monument of something ancient and is the oldest obelisk in existence. This monolith sits amidst the rubble and ruins, upon barren land that was once the place of the great temple of On. It is where the God Atum – in the form of a sun – rose out of a primordial mound. This is where the god stood, lighting the emptiness around him, and registering the onset of creation. This space marks the threshold from a watery state of chaos to the world we see today. This is a city of miraculous beginnings, the city of the first sun.

3.2 Memphis, Kings Who Gazed at Stars

"My house in the sky will not perish, my throne on earth will not perish" (Pyramid Text)²⁵

"Orion is swallowed up by the netherworld, pure and living in the horizon. Sirius is swallowed up by the netherworld, pure and living in the horizon. I am swallowed up by the netherworld, pure and living in the horizon" (Pyramid Text)²⁶

On the Nile's western bank, just south of modern Cairo, is a plateau. At its edge are the remains of early dynastic Memphis. Standing in solitude amidst the silent tranquility of the desert is a series of enormous monuments. The artifacts of the necropolis of *Saqqara* and *Dahshur* echo Heliopolis and the primeval mound of creation. They increase in height, and inch towards the sky. The ancient kings of Egypt declared their presence in the cities and empires they created, and here at Memphis, with its burial grounds, they registered their bid with eternity. Complicated networks of dark passageways and tombs occupy the underworld of this desert landscape, once filled with extravagant hidden treasures, now remain empty and silent. The ancient kings marked this landscape in their death, hoping to ascend to the heavens and be amongst the imperishable stars.



Figure 14 : Heliopolis (On), The City of The Sun (Seen)



Figure 15 : Heliopolis (On), The City of The Sun (UnSeen)



Figure 16 : View from Al Mokkatum on Film

3.3

Mokattam Mountain, The Garbage City

Mirroring the man-made horizon of the pyramids is a source of eternal limestone: a mountain landform called *al-Mokattam*. Brilliantly carved into the rock is the massive Monastery of Saint Simon, also known as the Cave Church. At the top of the mountain are elaborate villas overlooking the city and at its foothills is the Garbage City quarter, a crowded slum settlement in which the city's largest concentration of Coptic Christians reside. Known as the *Zabbaleen* or garbage collectors, they are an integral part of the city. Their movements are silent yet essential in the maintenance of *Al-Qahirah*. Many of the *Zabbaleen* are also pigeon fanciers and breeders, a common hobby in Egypt as pigeons are considered a delicacy. Above their informal homes are a series of bird lofts, spindly wooden structures that house hundreds of pigeons, who reach, swirl and flutter into the domain of the sky, above the everyday clutter of the city below. The bird lofts are avian scaffolds, holding up a liminal space that straddles the sky and the ground - a delicate spatial tether, threshold and marker that gently sways and creaks in the wind, and seems to want to pull away from gravity's grounding and drift into a dusty, orange-blue sky.

3.4

Al Qarafa, The City of The Dead

"O ye who stands beside my grave, show no surprise at my condition. Yesterday I was as you. Tomorrow you will be me"

- Shajarat al Durr Mausoleum²⁷

"They constructed chambers in them and hired the services of Koran readers who recite night and day in beautiful voices. Some built a mosque or a madrasa by the side of their mausoleum. They go out every Thursday to spend the night there with their children and womenfolk and make a circuit of the famous sanctuaries.... the cemetery contains... an uncountable number of graves of men eminent for learning and religion, and in it lie a goodly number of the Companions of the prophet..."

- Ibn Battuta²⁸

Below *Mokattam* and just outside the historic city walls, is a massive cemetery that stretches about five miles across the base of the hill - a necropolis known as the "City of the Dead". Cairo's fascination with death and the afterlife is as timeless as this space. The City of the Dead has grown over many centuries, but it is also simultaneously a city of the living. There are whole communities who live and work in the cemetery, going about their everyday routines as if they lived in a *Zamalek* apartment or a Heliopolis flat, and not in a rough attachment to an old tomb or mausoleum. As one moves deeper into the cemetery, the noise from the busy city fades. Alleyways straighten from the complex winding threads of the old city, and the City of the Dead presents a different order, one where the living are adjacent to the departed. Mixed with public graves are elaborately decorated mausoleums and tombs of old saints and scholars, diplomats, and court officials. The common dead rub shoulders with the prestigious, and in their silent stillness, they attend the living-in-motion of those who have made the homes here. This is a city of the past and present.

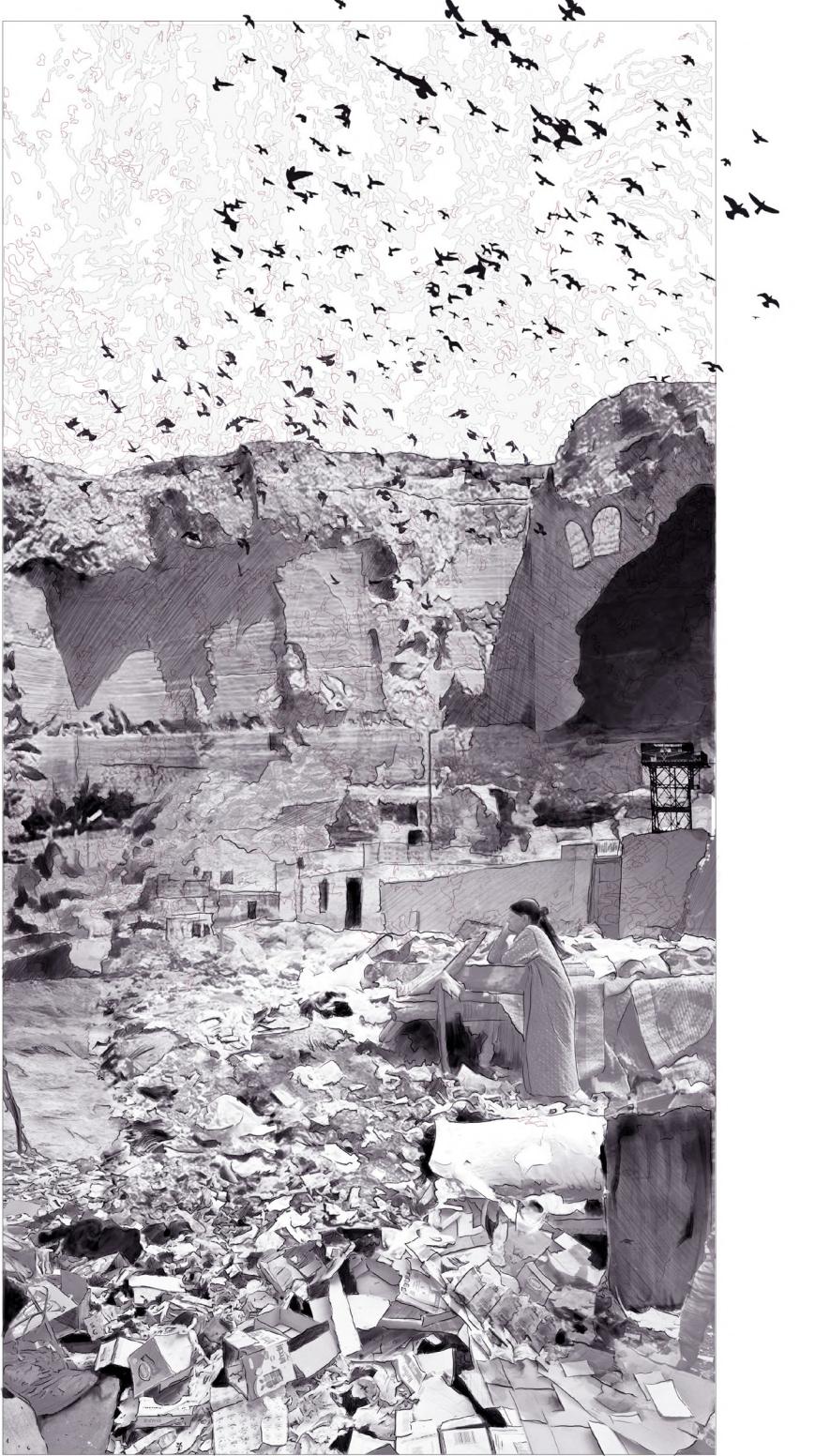


Figure 17 : Mokattam Mountain, The Garbage City

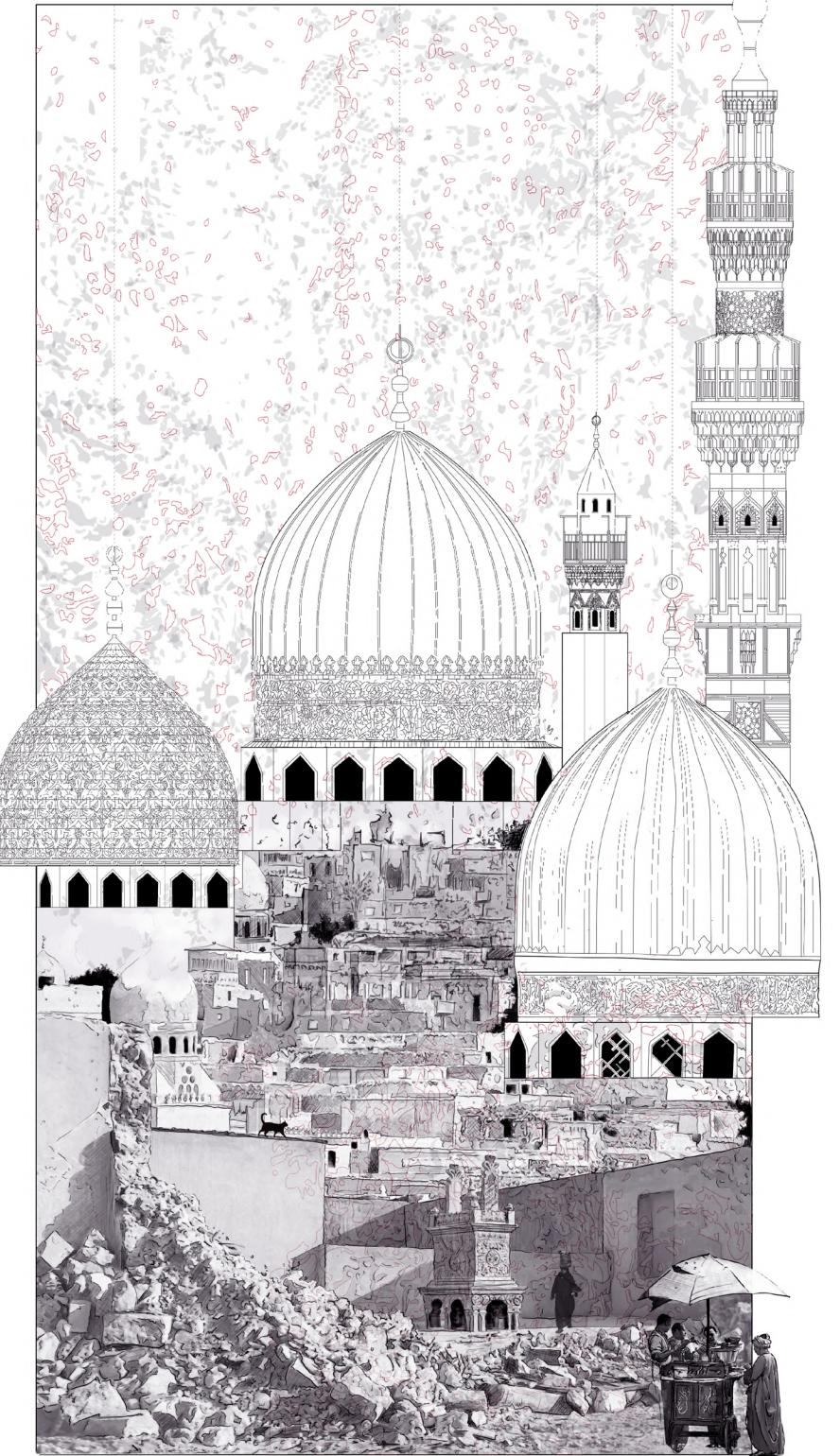


Figure 18: Al Qarafa, The City of The Dead

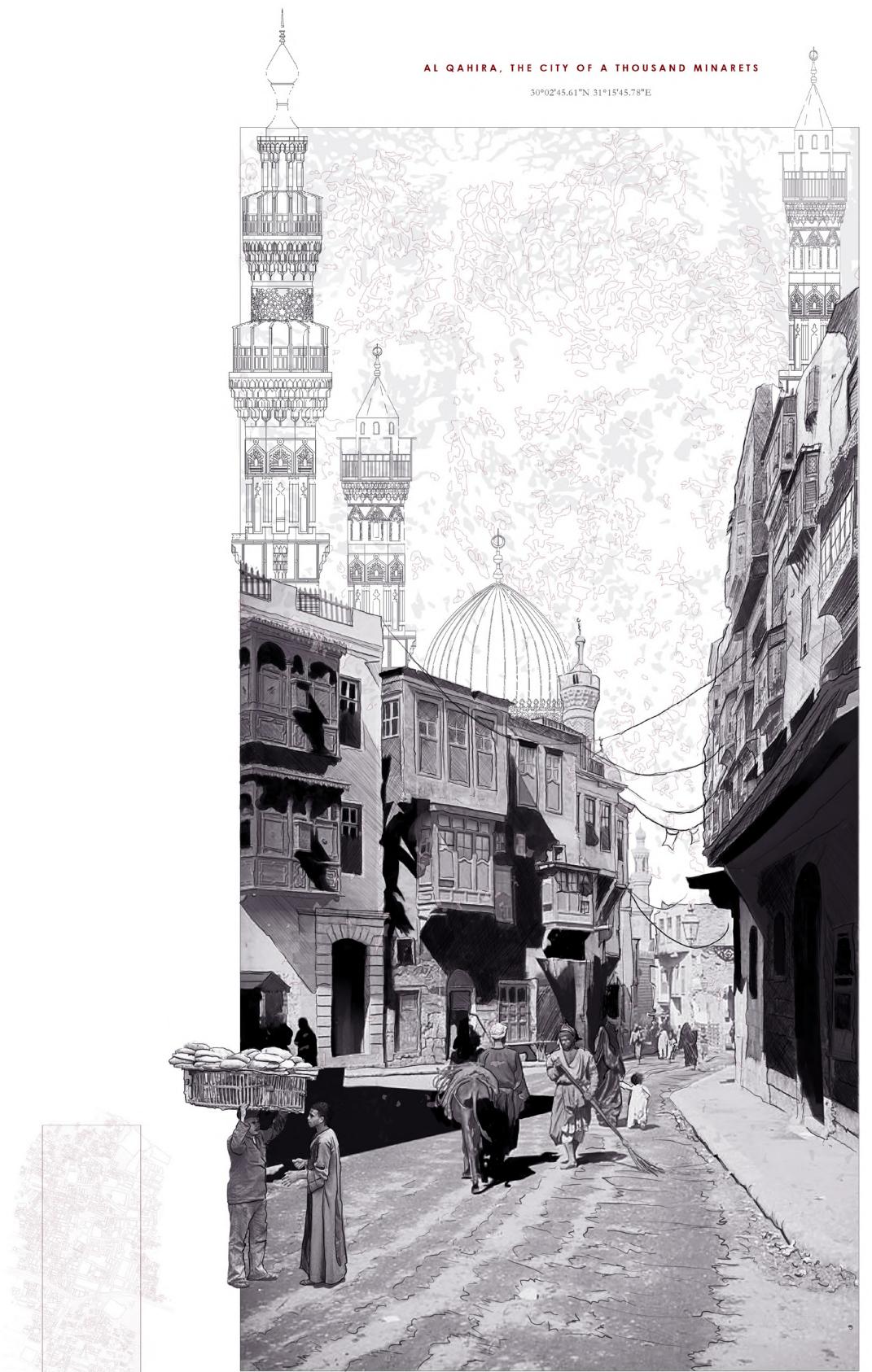


Figure 19 : Al Qahira, The City of a Thousand Minarets

3.5

Al Qahira, The City of a Thousand Minarets

"She was awed by the minarets which shot up, making a profound impression on her. Some were near enough for her to see their lamps and crescents distinctly... Others appeared to her as complete wholes, lacking details... Still other minarets were at the far horizon and seemed phantoms... She turned her face toward them with devotion, fascination, thanksgiving, and hope. Her spirit soared over their tops, as close as possible to the heavens." - Naguib Mahfouz, Palace Walk²⁹

"Unlike the long-drawn-out desert dawns, sunset in Egypt is a brilliant and fleeting vision and it is then, the hour of departing day, that the minarets of Cairo appear at their best: tall and slender silhouettes standing against the flaming western sky. Then, as dusk ushers in the night, the minarets turn into delicate tracery set against the stars, as later in the deeper darkness as in the light of day, the muezzins prepare to intone one more time the "perfect summons" to the sleeping city: "Allahu Akbar ... Allahu Akbar ..." ³⁰

This narrative travels inside the walls of the historical Islamic "City of a Thousand Minarets". This pilgrimage roams along the length of *Al-Muizz* Street, one of the oldest streets in the city that spans a mile and a half, from the old gate of *Bab al-Futuh* to the gate of *Bab Zuweila*. Along this axis are over thirty of the city's most iconic mosques and medieval Islamic buildings, including *Al Azhar* Mosque, *Al Hakim* Mosque, and *Al Aqmar* Mosque. Their still minarets tower over the busy pedestrian movement below. The street is a seemingly old world, a realm the past that is met with the present. It is composed of a dizzying array of intricately carved surfaces, brilliant muqarnases, magnificent domes, and tight pathways that move through mosques, palaces, and the mausoleums. Along this street is also the busy colourful chaos of *Khan el-Khalili*, one of the city's most famous souks or bazaars. Eager shopkeepers sell glittering niches, textiles, perfumes, spices, jewellery, and gems. The souk also houses numerous busy craftsmen, metalsmiths, coffee shops, and street food vendors. *Al-Muizz* Street is the heart of old Islamic Cairo and was the setting for Naguib Mahfouz's infamous novel, *The Palace Walk*.

3.6

Tabrir Square, The City Victorious

Outside the historic walls of the Islamic city is modern Cairo. Amidst the dizzying bustle of the busy metropolis, surrounded by the city's most significant buildings, and situated at the intersection of several major roads, is an unassuming traffic roundabout known as *Tabrir Square*. Located at the center of Greater Cairo, the area is often referred to by locals as "*wist al balad*" or "the center of the city". This space has been the nucleus of many major social and political movements over the course of the city's history. It is not, however, merely the container of these transformative movements, it is an amplifier of the voices of the Egyptian people. It is in itself a revolutionary political space which has been inscribed with histories, meanings, and practices over the years. The square was most notably the setting for the Arab Spring in 2011, the 1952 Coup d'état, and 1919 revolution. This urban space is a collector of voices, as Egyptians from all walks of life gather here time after time to be heard. The scale and reach of *Tabrir* is local and global, all at once. Transforming over the course of time, from a space of colonialism, to nationalism, to independence, and liberation, earning its name *Tabrir* "Liberation" Square.

²⁹ Nagib, Mahfouz, *The Cairo Trilogy: Palace Walk, Palace of Desire, Sugar Street*. (London: Everyman's Library, 2001), 39.

³⁰ John Feceney, *The Minarets of Cairo* (Houston, TX: Aramco world, 1985), 23.



Figure 20 : Al Qahira, Al-Muizz Street (Seen)



Figure 21 : Al Qahira, Al-Muizz Street (UnSeen)

PART IV THE TRAVELOGUE

Preface

Until this point, the thesis was informed by the experiences, histories, words, and reflections of others, with the gauzy layer of my childhood memories. The project has lived in a realm of memory and imagination, as my understanding and recollection of these sites was mentally reconstructed and reassembled. It was essential to generate and acknowledge my own personal journey. I am of *Al-Qahira*, and so I travelled to Cairo with my father and sister for three weeks, from December 24th, 2020 to January 14th, 2021.

Traveling during COVID-19 was an incredible privilege. We took it seriously - taking all necessary precautions in order to ensure the health and well being of ourselves as well as others. We were tested before and after flights, and isolated at our home outside of the city, as opposed to staying in hotels. We also drove from one site to another to avoid public transit, and always wore masks.



Figure 22 : Photos of Personal Travelogue

Dec 22nd: COVID-19 Test

Dec 24th: Flight from Toronto to Cairo

Dec 25th: Arrival in Cairo

Dec 26th - 29th: Isolation

Dec 30th:

Necropolis of Saqqara:

- Imhotep Museum

- Step Pyramid of Djoser

- Pyramid of Unas

- Tomb of Nefer-her-ptah

- Double Mastaba of Nebet and Khenut

- Tomb of Nefer and Companions

- Tomb of Iru-kaptah Khenu

- Pyramid of Userkaf

- Pyramid of Teti

- Tomb of Mereruka

Necropolis of Dahsur:

- Red Pyramid

- Bent Pyramid

Heliopolis Obelisk in Al-Mattaryia District

Dec 31st:

A'mr ibn Al-'A'as Mosque

Coptic Cairo:

- Babylon Fortress

- The Hanging Church

Great Pyramids of Giza:

- Sphinx

- Pyramid of Khufu

- Pyramid of Khafre

- Pyramid of Menkaure

Jan 1st:

Al Muizz Street:

- *Bab al-Futub*

- Mosque of *Al Hakim bi Amr Allah*

- Mosque of *Sulayman Agha al-Silahdar*

- *Bayt al-Subaymi*

- Mosque of *al-Aqmar*

- *Sabil-Kuttab of Abdel Rahman Katkhuda*

- *Qasr Bashta*

- *Sabil of Ismail Pasha*

- *Hammam of Sultan Inal*

- *Madrasa of Al-Kamil Ayyub*

- *Madrasa of Barquq*

- *Madrasa of Al-Nasir Muhammad*

- Complex of *Qalawun*

- *Mosque of Taghri Bardi*

- *Sabil-Kuttab of Khusraw Pasha*

- *Madrasa of Al-Salih Ayyub*

- *Khan al-Khalili*

- *Al Azhar Mosque*

- *Mosque of Al-Ashraf Barsbay*

- *Mosque of Shaykh Ali Al-Mutabbari*

- *Madrasa of Sultan Al-Ghuri*

- *Mausoleum of Sultan Al-Ghuri*

- *Fakahani Mosque*

- *Sabil of Tusun Pasha*

- *Mosque of Muayyad*

- *Wikala and Sabil of Nafisa Bayda*

- *Bab Zuweila*

- *Museum of Islamic Art*

- *Al Hussein Mosque*

Jan 2nd:

City of the Dead

- *Sayyida Nafisa Mosque*

- *Mausoleum of Imam al-Shafi'i*

- *Sayyida Aisha Mosque*

- *Hosh al-Basha*

- *Mashhad of Sayyida Ruqayya*

- *Sultanijya Mausoleum*

- *Mausoleum of Amir Qawsun*

- *Zawiya of Shaykh Zayn al-Din Yusuf*

- *Funerary complex of Sultan Qaytbay*

- *Khanqah of Faraj ibn Barquq*

- *Khanqah-Mausoleum of Sultan Barsbay*

- *Funerary complex of Emir Qurqumas*

- *Funerary complex of Sultan Inal*

- *Mausoleum of Qansuh Abu Sa'id*

- *Tomb and Khanqah of Khamand Tughay*

Jan 3rd:

- *Mosque-Madrassa of Sultan Hassan*

- *Al-Rifa'i Mosque*

- *Mosque of Ibn Tulun*

- *Mokattam Hills lookout point*

- *Citadel of Cairo*

- *Mosque of Muhammad Ali*

Jan 4th:

Modern Cairo

- *Tabrīr Square*

- *The Egyptian Museum*

- *The Cairo Tower*



Figure 23 : Personal Travelogue Sketchbook

Our days in Egypt began at dawn as we drove to our destinations from my childhood home outside the city. The morning fog or *shabura* lightly sat on the surface of the Nile, which was still, smooth, almost like a mirror. Sleepy birds filled the trees, their white feathers bright in the darkness of the early morning. The air was crisp, and the sun was a deep red, and heavy as it slowly rose, painting the sky pale pinks and blues. The *Quran* played softly over the car radio, often interrupted by the sound of traffic outside. We passed through endless farmland, filled with *barseem*, clovers, and wheat. Faint silhouettes of minarets peeked over the palm trees as we left the small village in *Al Monufia* and entered into the great city of Cairo.

We began in the desert of the necropolis of *Saqqara* and *Dabsur*, on the outskirts of the city. These pyramids were less popular with the tourists, as most of them often visited the Great Pyramids of Giza, larger in scale and closer to the city. The drive to *Saqqara* was a path less taken, the busyness of the city fell behind as we drove through small villages, and seemingly unending farmland. The vegetation thickened as we moved through, and we were soon surrounded by dense palm trees, monumental in height, gently swaying in the wind. It was quiet here, so still, and soon there was nothing left but desert. Our vision that was previously filled with lush greenery and colour was now met by the infinite desert landscape of the necropolis. The sun was now at its highest point in the sky, persistent as ever. The massive monoliths began to peek over the sand dunes as we got closer and closer.

The brightness of the desert dissipated as we crawled through dark tombs, the space tightening around us, forcing us to crouch as we descended into the ground, into the embrace of the velvety darkness below. As we lost sight of our surroundings in the dark, our fingers lightly trailed along the stone walls, reaching for something familiar. After a long descend, the space opened up into a small tomb. It was cooler in here, this space once filled with treasures was now empty, quiet, its ceiling covered in delicate engravings of five-pointed stars, a celestial canopy under which the kings were buried.



Figure 24 : Photos of Personal Travelogue

Our next stop was what was once Heliopolis, now more commonly known as *Al-Mattaryia* district. Here the traffic grew denser, louder, and more chaotic. Construction work was at every corner. Apartment buildings, six storeys each, sat close together, tight alleyways carved between the dense housing. Amidst the painted balconies, and busy streets we spotted the obelisk as it stretched up to the sky. colossal in scale, it was a single monolith, sitting amongst scattered ruins, that revealed hints of a city lost and forgotten. We paused here watching the sun as it set.

The following day we drove out to the City of the Dead, we began our walk at *Sayyida Nafisa* Mosque. The streets were quiet, narrow, and winding through a world of crumbling walls, elaborate gates, domes, and minarets. The *Mokattam* Hills loomed in the background. The City of the Dead was bustling with life. People stood in lines waiting to pick up their *fuu'l* and *ta'meeya* for morning breakfast, motorcycles zoomed past, and coffeehouses were full of gentlemen smoking cigarettes and chatting. We passed by an older man, sipping tea at one of the coffeehouses, we asked him for directions to one of the mausoleums. "I've lived here my whole life," he said, "I can take you". He picked up his strange cane, a massive antler of some sort on its end, and began to walk. He walked with us along *Shari'a al-Khalifa*, telling us tales of those who were buried here. As we turned corners and followed the wavering path, we entered hidden spaces with brilliantly coloured stained glass, filled with elaborate tombstones. As we navigated the graveyards a fluffy white cat sat atop one of the headstones, its green eyes stalked us, wary of the strangers that walked through. The scent of fragrant flowers left for loved ones filled the air. As we photographed our surroundings a woman called out jokingly "You should take a picture of me instead. I am living, they are dead!"

In the afternoon, we took a long drive up a winding road ascending to the top of the *Mokattam* Hills, a jarring contrast to the modest homes of those who lived at the foothills of the mountain and in the City of the Dead. The humble homes turned to villas at the top, overlooking the city in its entirety. The air at the top was thick and palpable, you could almost see it. We reached the lookout point around noon. The fog from the morning had not yet dissipated, the *shabura* covered the entire city, floating above, tiny buildings peeked through. From up here the chaos of the crowded metropolis seemed almost peaceful. The Nile River snaked through, sunlight reflecting off of its glossy surface as it trailed off into the distance. The wind howled around us while we stood there taking in the city as it dissolved into the clouds.

The following *Jumu'ah* (Friday) we took on Old Cairo, walking along *Al Muizz* street, entering from *Khan al Khalili* marketplace. The sweet and smoky scent of incense filled the air, and prayer beads glittered in the sunlight. No cars drove along this street. It felt as though we had taken a step into the past and there was something new to discover at every corner. We passed by craftsmen of all sorts doing delicate metalworking and making textiles. We entered mosque after mosque, as they dotted the length of the street, navigating the complicated tessellation of their spaces. We craned our necks to look up at every intricately engraved surface, every heavenly dome, and elaborate *mugarnas*, walking upon stunning floor patterns, running our fingertips along the carved stone, trying to absorb every color and texture we laid eyes upon. Soon it was time for Friday prayer and the *Athan* projected from over thirty mosques creating an incredible harmony, their voices rose and fell, some deeper, others higher, as shops began to close, and worshippers moved to the nearest mosque. The final mosque we visited that day was *Ibn Tulun*, climbing an endless stairwell that stretched towards the sky, we reached the top of its minaret. From here we could see a panoramic view of the entire old city, its minarets, domes, unfinished brick homes, and the fragile pigeon structures that lived above the city.

We ended our journey in modern Cairo, more commonly known as “*wast al balad*”. Colonial architecture filled the streets, English and French influences could be spotted on every corner. We visited *Tabrir* Square, a new obelisk was being placed at its center with police officers stationed at the entrances, in preparation of the grand opening. One of them chased after us, “no pictures of the square before the opening!” From the top of the Cairo Tower, the city looked completely different to the one we saw from the minarets. This Cairo was one of fancy hotels, clear pools, soccer fields and sporting clubs.

As we drove out of the city back home, the moon was clear, and full. One night it was a pale orange, hanging low in the sky, seemingly larger than usual, it sat bright against the midnight blue of the sky. Eyelids heavy from a long day, we drifted to sleep in the back seat to the faint rumbles of traffic and voices on the car radio. Images of the day fleeting behind our eyelids as a final call to the *Isha* prayer echoed from all around, welcoming the night.



Figure 25: A foggy walk to the Babylon Fortress



Figure 26: Street in Coptic Cairo



Figure 27: The Hanging Church Interior



Figure 28: Tombs at the Saqqara Necropolis



Figure 29: Saqqara Pyramid in the Fog



Figure 30: the Red Pyramid at Dahshur



Figure 31: Bent Pyramid at Dahshur



Figure 32: The Great Pyramids of Giza



Figure 33: Domes of Mausoleums in the City of the Dead



Figure 34: Minaret of Al Sayyida Sakina Mosque



Figure 35: Foul and Ta'mya Seller in the City of the Dead



Figure 36: Cairo from Al-Mokattam Mountain



Figure 37: Street in the City of the Dead



Figure 38: Domes of Mausoleums in the City of the Dead



Figure 39: Oldest Obelisk in Al-Matariyyah District from a distance



Figure 40: Remains of the Temple of the Sun



Figure 41 : View of Modern Cairo from the Cairo Tower, on Film



Figure 42 : View of Old Cairo from the Ibn Tulun Minaret, on Film



Figure 43 : Qalawun Complex Ceiling Detail on Film



Figure 44 : The Egyptian Museum in Modern Cairo on Film



Figure 45: Muqarnas of Al Sultan Hassan Mosque



Figure 46: Al-Rifa'i Mosque Door Pattern



Figure 47: Old Mashrabiya



Figure 48: Detailed Surface Pattern at Ibn Tulun Mosque



Figure 61: The Nile



Figure 62: Cairo Tower



Figure 63: Modern Cairo



Figure 64: Modern Cairo



Figure 49: Al Azhar Mosque

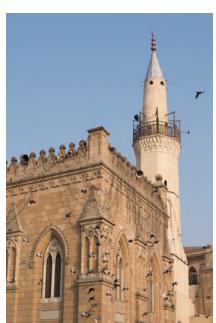


Figure 50: Pigeons at Al Husain Mosque

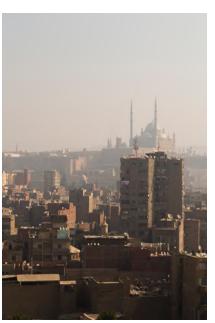


Figure 51: Cairo from the Minaret of Ibn Tulun Mosque



Figure 52: Cairo from the Minaret of Ibn Tulun Mosque



Figure 65: Modern Cairo



Figure 66: Tombstones at the City of the Dead



Figure 67: Church Detail



Figure 68: Mausoleum Interior



Figure 53: Pigeon Structure



Figure 54: Khan Al-Khalili Street Market



Figure 55: Coppersmith shop in Khan Al-Khalili



Figure 56: Qalawun Complex Interior



Figure 69: The sky from the Qalawun Complex



Figure 70: Ceiling of Tomb at Saqqara



Figure 71: Old Mashrabiya



Figure 72: Sultan Hassan Mosque minbar

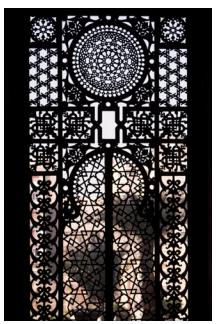


Figure 57: Qalawun Complex Interior

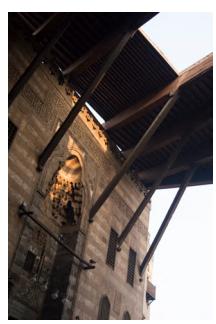


Figure 58: View from Al-Muizz Street



Figure 59: Al-Rifa'i Mosque Interior



Figure 60: Sultan Hassan Mosque Interior



Figure 73: View from the top of the Cairo Tower



Figure 74: Farmland in Al Menofia



Figure 75: Orange Grove in Khan Al-Khalili Street Market

PART V REGISTERS OF INVISIBLE PHENOMENA

Preface

"A large part of the world is hidden beyond our human sensory capacity. This may be due to our specific range of hearing, seeing, tasting, feeling, or smelling, beyond which lies a world that is perceived through extra sensory mediation. This veil can be lifted or made less opaque by expanding our sensory range, allowing other wavelengths into our visualizations, expressing frequencies beyond our hearing, or illustrating particles that are not felt."³¹

This chapter is an elaboration on the narrative, building upon questions and provocations raised by the initial research and drawings. The work now extends into the design of a series of architectural registers between the varied *harakat* and *sukun* of the city, becoming part of a physical and conceptual network of portals between the sacred and the everyday. These interventions are intended to be mediators between the world we know and the otherworldly. Tethered in the realities of the quotidian, they register invisible natural phenomena and the unseen realms of imagination and mythology, bridging the gap between the material and the immaterial. The architectural propositions – or indexes – pierce through worlds of varying scales, from a single grain of sand to cosmic vastness. The registers are a medium with the capacity to allow us to experience the flights of imagination from the immense to the minute. They act as thresholds, or portals into new worlds, some physical and other imaginary, and otherwise imperceivable.

The registers also fall under the Islamic notion of *Al Waqf*, meaning the architecture is to serve a spiritual or charitable purpose.³² The joy of these registers lies in the fact that at their core they are simple acts of kindness, generosity, compassion, and grace. Architecture, here, acts as an endless source in service of those who encounter it. Transcending time, they are a perpetual source of physical or spiritual needs. The registers embed themselves in the fabric of the city, and its landscapes, as well as the routines and daily lives of its inhabitants. Varying in scale, from the monumental to the intimate human scale, they reside in the intersections between the human, the earth, and the divine. These networks are anchored in the six selected sites, however, have the ability to drift and expand beyond those bounds, blooming, growing, combining, and pairing. The registers are dynamic, constantly changing states of being, responding to the city, in order to reveal worlds that breathe beyond the skin of reality.

Al Waqf:

a special kind of philanthropic deed in perpetuity. It involves donating a fixed asset which can produce a financial return or provide a benefit.

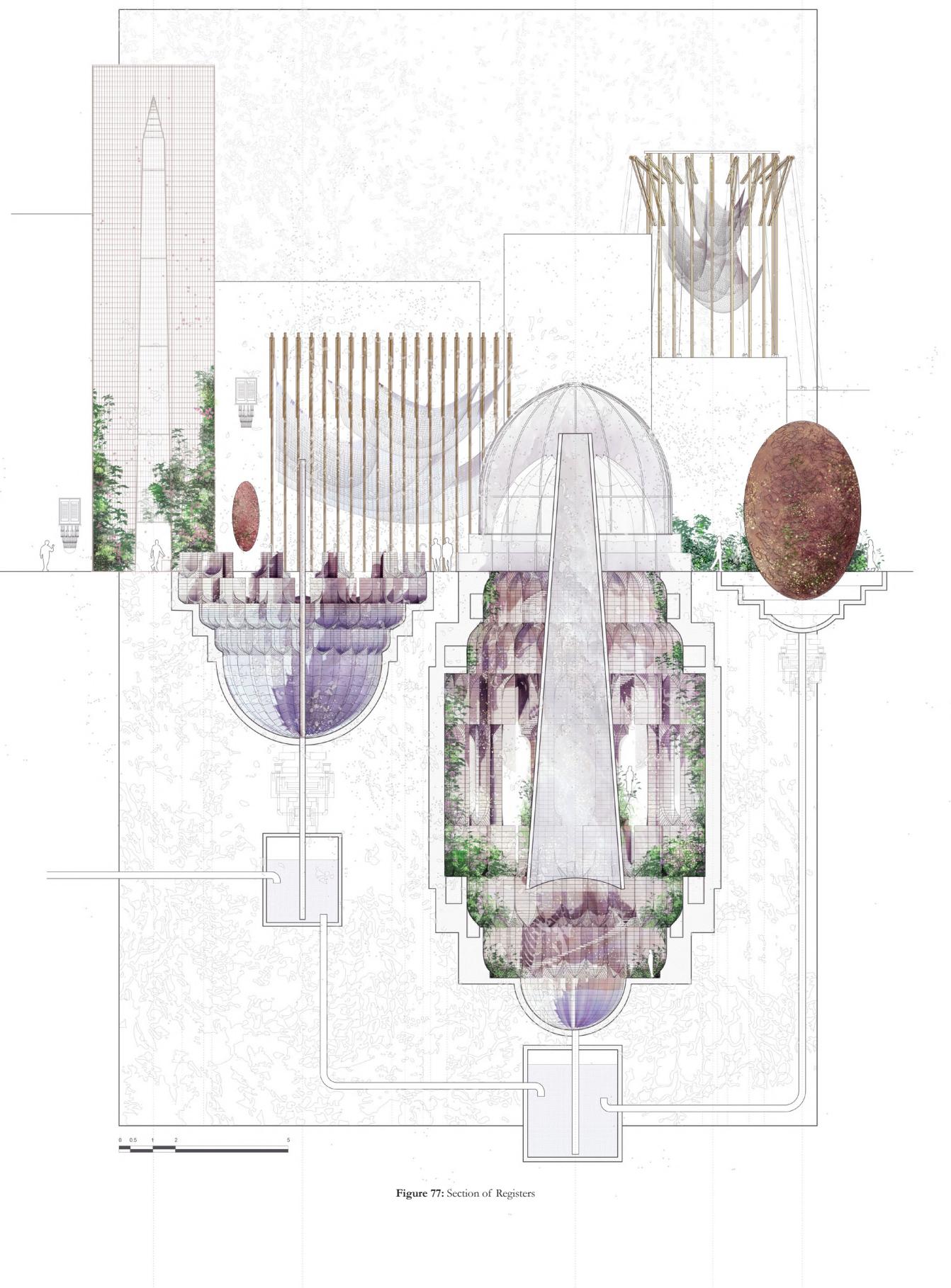


Figure 77: Section of Registers

³¹ Bradley E. Cantrell, *Responsive Landscapes: Strategies for Responsive Technologies in Landscape Architecture* (Routledge, 2017), 54.

³² John L. Esposito, *The Oxford Dictionary of Islam* (Karachi, Pakistan: Oxford University Press, 2005).



Figure 78: Final Map of the Registers, as blooming, expanding, and combining portal networks, embedded within the existing sacred fabric of the city

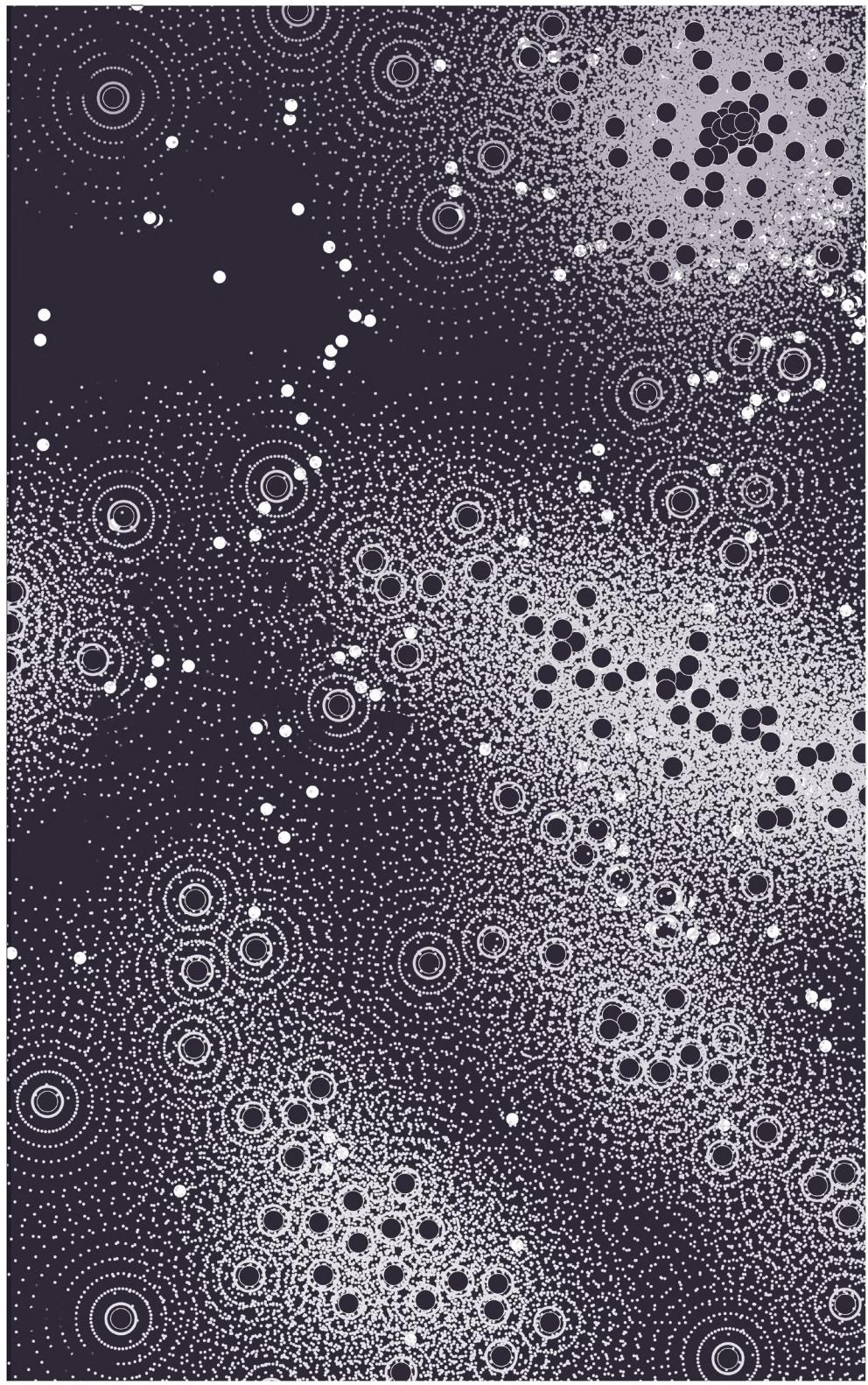


Figure 79: Details of Final Map of the Registers, as centers of gravity amidst the existing sacred fabric of the city

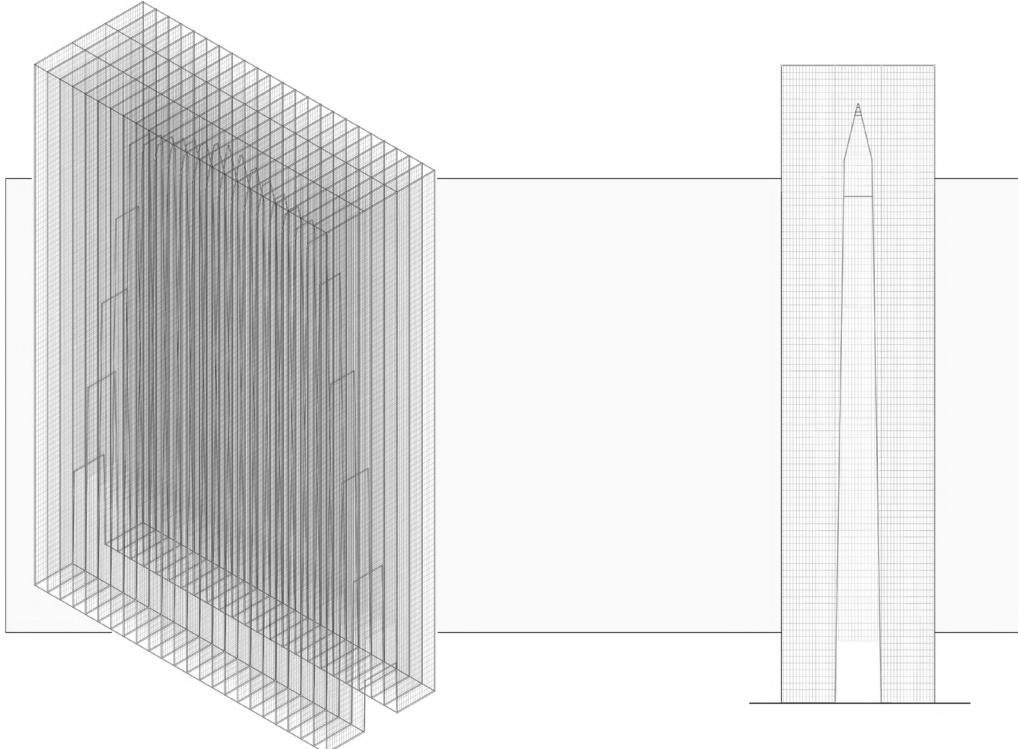
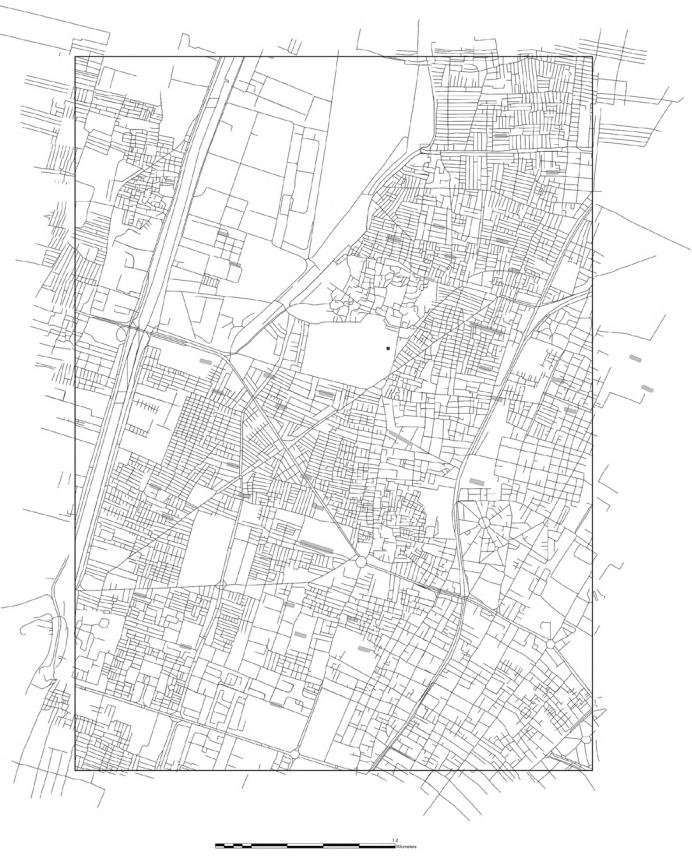


Figure 80: Mapping of a potential network of Phantom Obelisks in Ancient Heliopolis. As well as diagrams of the Obelisk Registers.

5.1 *Phantom Obelisks*

Site: Ancient Heliopolis

Heliopolis is a city of the past, lost and forgotten. The only evidence that it was once present is the lone obelisk, that sits amidst the dense neighborhood. This structure, however, was part of a greater network of obelisks, as this ancient city of the sun was once filled with dozens of them, often in pairs. Over the span of time these structures have been either lost or displaced, some now residing in London, Rome, Istanbul, or New York.

Here, the proposed registers are ones of memory and ruin. As opposed to the solid monoliths that once indexed the site, the registers dematerialize the once solid masses into an expression of absent matter, conveyed through delicate, ghostlike wire mesh structures. The new registers embed themselves into the already existing network of globally displaced obelisks, they are a reminder of the ancient, yet at the same time provide a new datum, with new meanings. The obelisks now are negative space, becoming portals, gateways, or thresholds into the past, occupying a temporal dimension that exists between memory and reality.

Incredibly light and impossibly thin, these structures at first glance, seem almost imagined, ephemeral, and phantasmal, as they stretch up to the domain of the sky. These precious scaffoldings glimmer in the sunlight as they become a framework for daily activities, dissolving into the spaces between the dense housing. These frames can be incredibly dense, or they can expand to create longer passageways. Meant to be filled, the registers have the capacity to become vertical gardens, collectors of objects and memories, and connectors between homes. The mesh casts infinite shadows, becoming a constant teller of the movement of time, a reminder of the past, and a portal to something ancient. They remain still, framing everyday life, as silhouettes of pedestrians pass through, perhaps children play peekaboo between its strata, a woman hangs her laundry, or pigeons create roosts. Through these registers, the past is transformed into an object of tender regard. They are humble structure that speak of ruin, of a city vanished. Flickering between past and present, between here and there, between light and dark. They register place and displacement, presence and absence, melancholy, and joy.

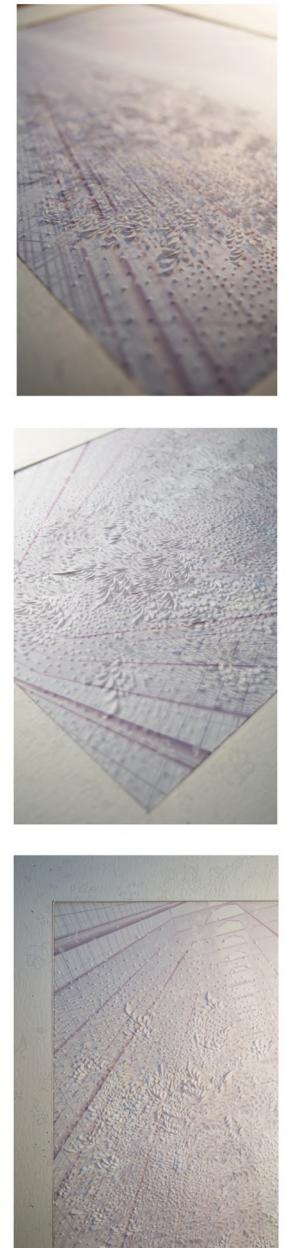


Figure 81: Details of the surface of the Phantom Obelisk Final Hybrid Drawing



Figure 82: Phantom Obelisk Final Hybrid Drawing

Medium: Mixed Media, digital render and bas relief consisting of cuts and punctures on mylar paper

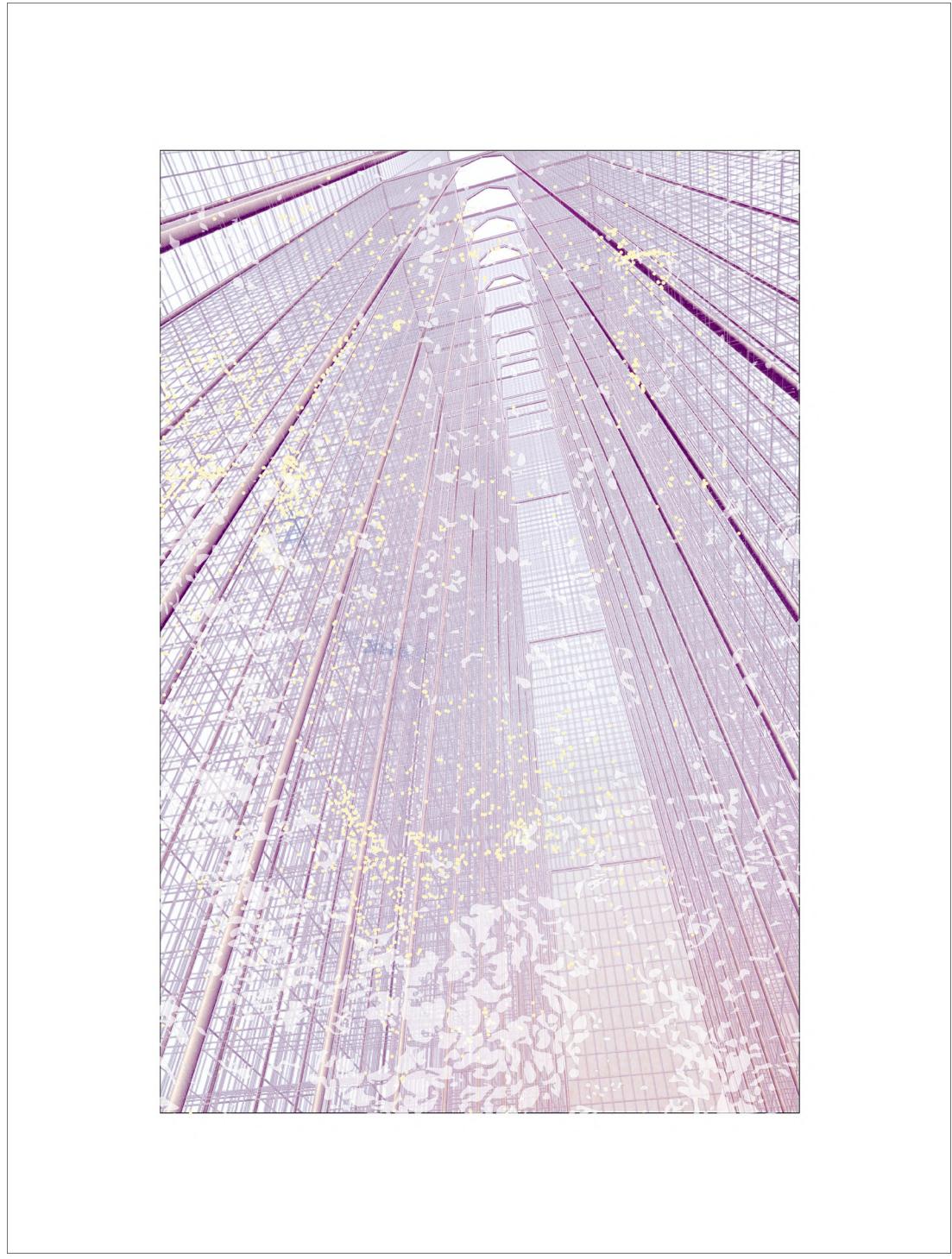
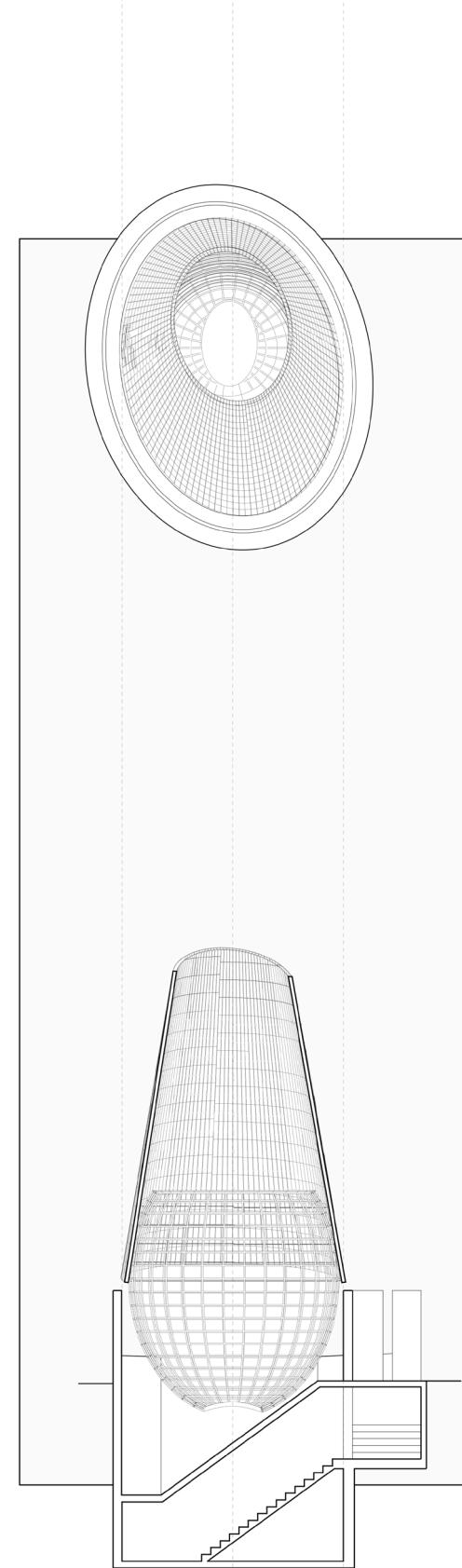


Figure 83: Phantom Obelisk Final Digital Drawing

Medium: digital render and linework prior to bas relief



Figure 84: Mapping of a potential network of Observatories in Ancient Memphis. As well as plan and section diagrams of the Observatory Registers.



5.2 Observatory

Site: Ancient Memphis

Occupying the infinite expanse of the desert - a landscape of surreal scale - this register is a precise tracking device of the movements of the sky. In order to observe the stars, one must first enter the earth. The architecture becomes a physical manifestation of the ancient mythical journey of a soul in the afterlife. First descending into the underground realm, *Duat*, of invisible realities, in the earth, you are enveloped by darkness, a tight passageway, with a thin opening that allows in a single line of light, following it, one becomes more aware of their heartbeat and the rhythms of breath.

Suddenly the architecture opens up to a vertical oculus, a gateway to the sky, another vast and undifferentiated space, marked only by the movement of the clouds and celestial bodies. This oculus serves as an Axis Mundi, a vertical connector of realms. Suspended between sky and earth, the register positions the human in relation to the immensity of the cosmos and utilizes light and shadow to tell of the passage of time. From this state of stillness, one begins to climb, the haze of the world coming into focus, as you look out towards the horizon, where sky meets earth, reaching the top, you reside with the stars.

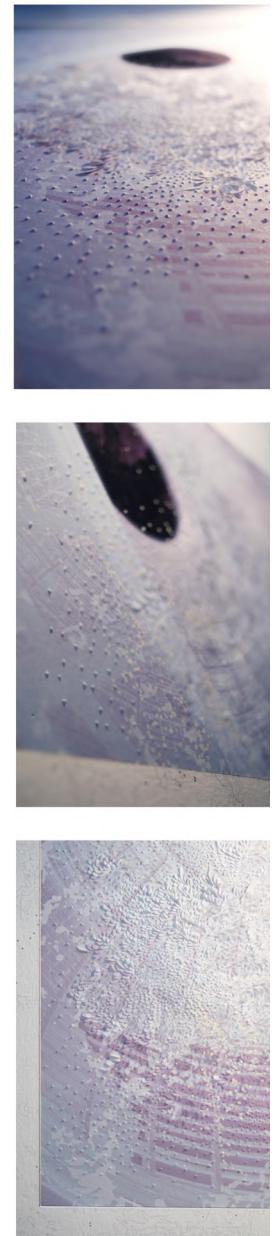


Figure 85: Details of the surface of the Observatory Final Hybrid Drawing

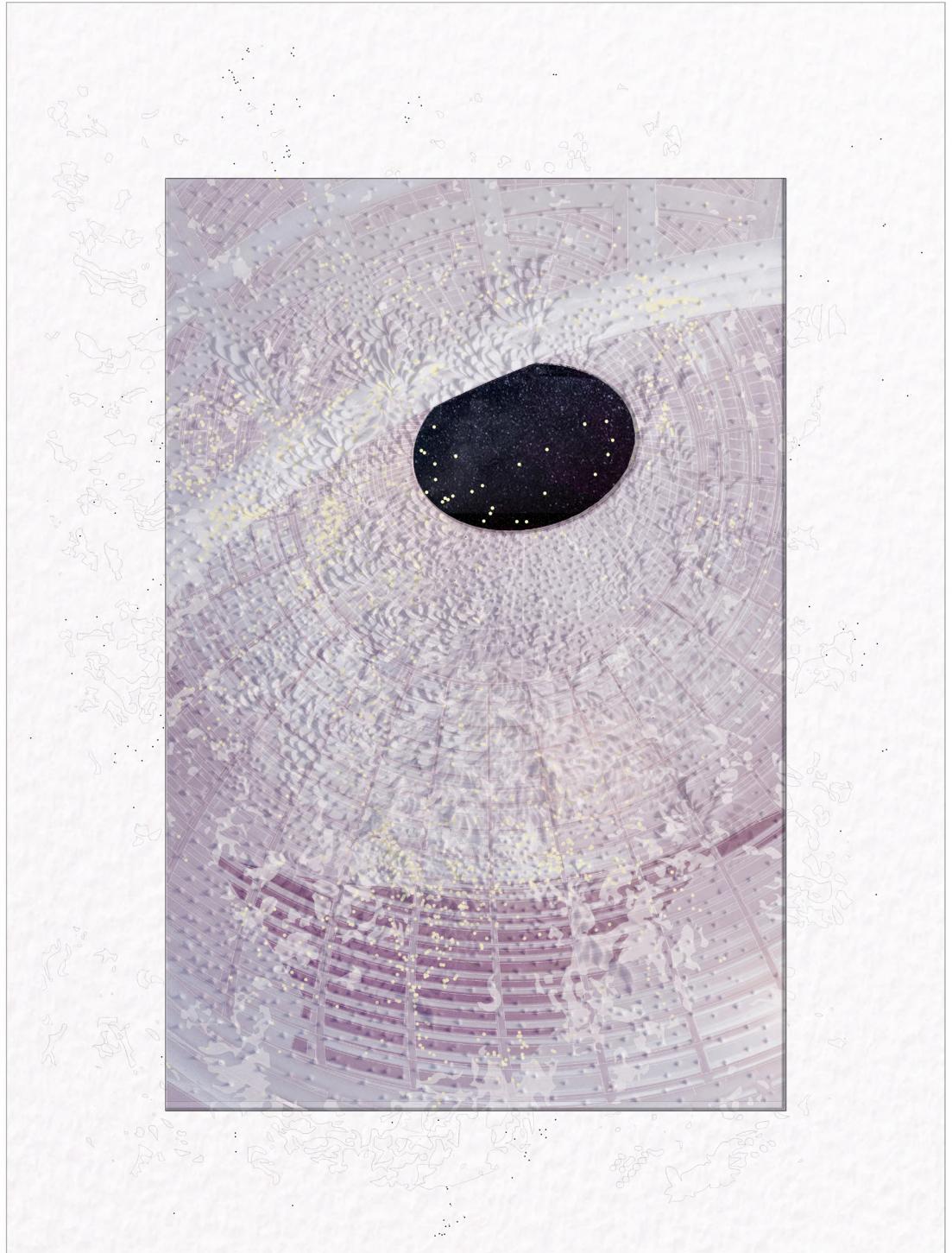


Figure 86: Observatory Final Hybrid Drawing

Medium: Mixed Media, digital render and bas relief consisting of cuts and punctures on mylar paper

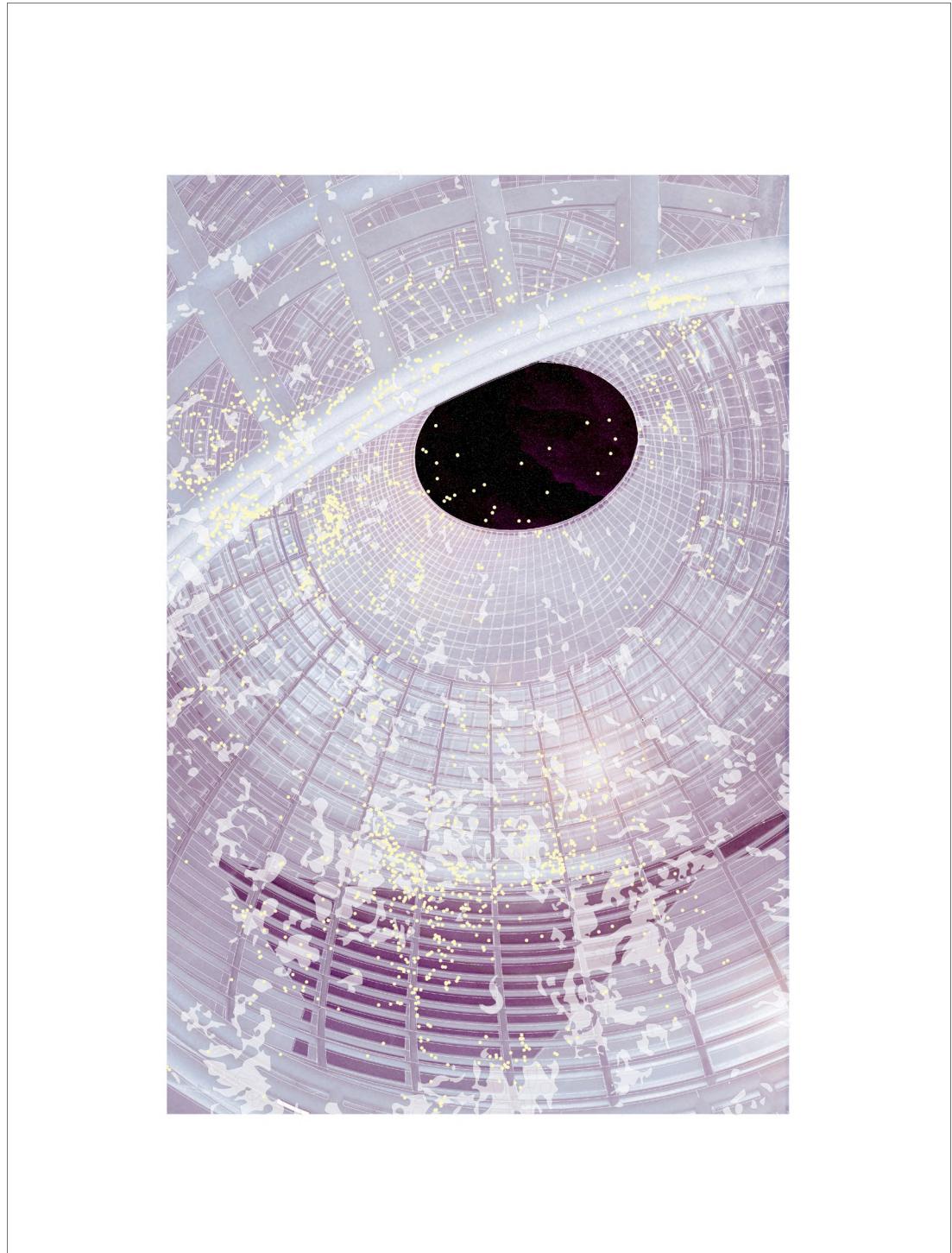


Figure 87: Observatory Final Digital Drawing

Medium: digital render and linework prior to bas relief

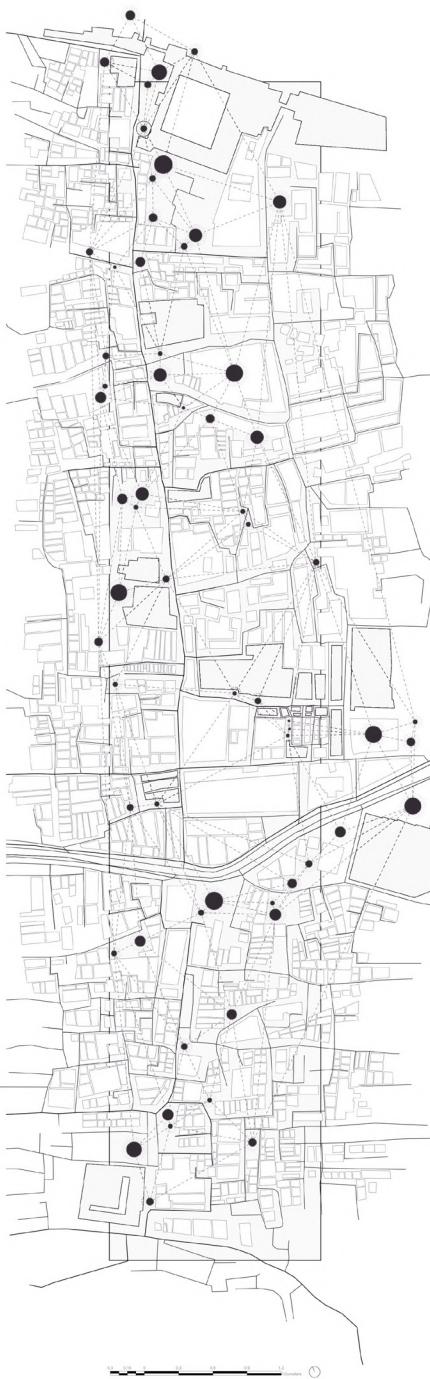
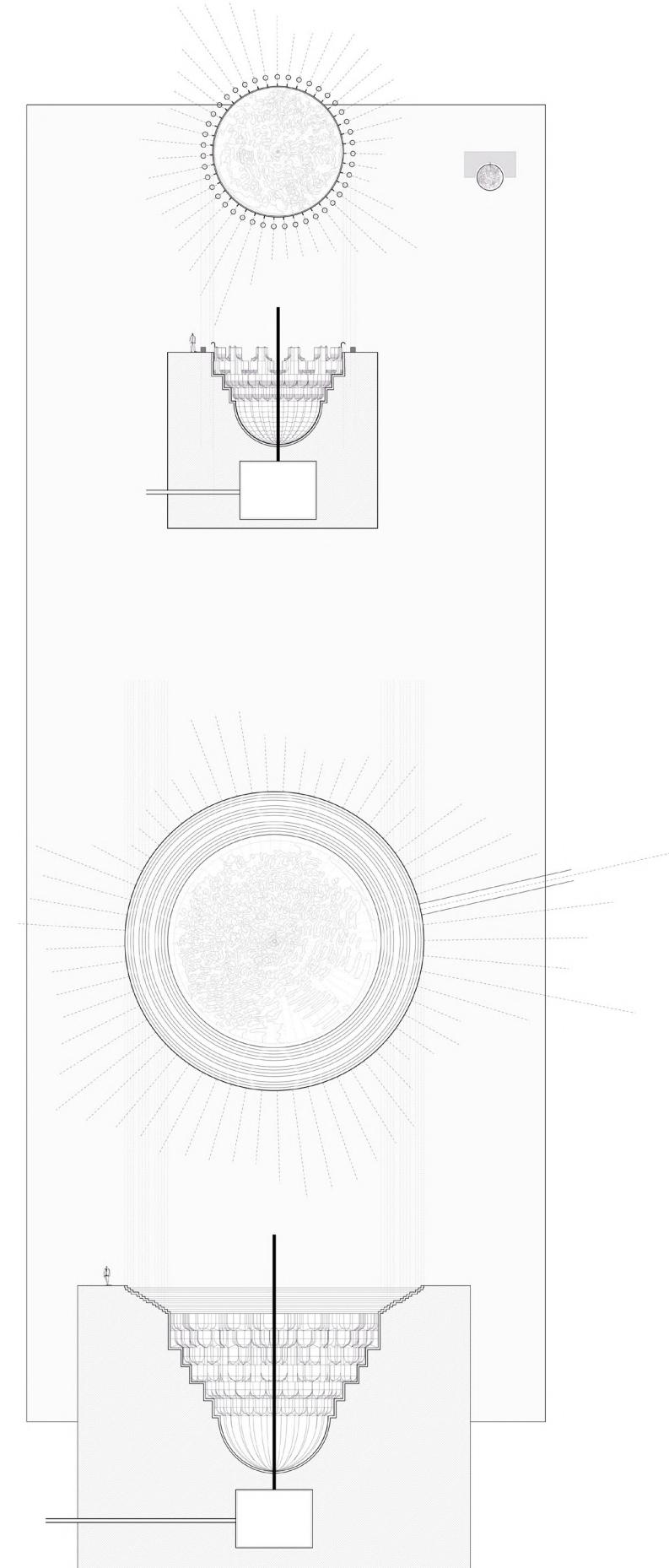


Figure 88: Mapping of a potential network of Water Basins along Al Muizz Street, in Old Cairo. As well as plan and section diagrams of the Water Basin Registers at various scales.



5.3 Water Basins

Site: Al Qahirah

"The mist is raised up out of the sea,

By command of "the Truth" it rains down on the desert.

The sun's rays are shed down from the fourth heaven

And are mingled with water."³³

Expanding from within the walls of the old city of *al-Qahirah* is a blooming network of Water Basins that serve as registers of sound. Since the sacred substance of water can be contained to any shape, in its state of motion it allows matter to take infinite forms for fleeting moments. It is an element that is perceived as purifying, and life giving. The designed registers become a visual manifestation of the Cairo's soundscape during the call to prayer, as *samād*, or hearing, recalls the responsive act to divine utterance. In its state of stillness, the basins reflect the heavens and its motions. Five times a day, during the *Athan*, the delicate surface of the water trembles, and bubbles up creating an ephemeral manifestation of an inconceivable realm, a momentary display of *haraka*, generating a liquid sonic landscape keyed to the times of prayer. Sound is thus visualized through matter, momentarily creating intricate fractal ripples, implausible patterns, rhythmically shapeshifting, and morphing as it follows the frequencies of the voices projected from the neighboring mosques. Sound is a movement that "cannot be frozen in the matrix of matter; it cannot be preserved, as in a photographic form, and made to passively endure in the memory. For there is no way to preserve sound as sound; when sound stops, its opposite, silence, prevails."³⁴

In a hot climate like Cairo, water becomes a center of gravity that attracts all forms of life. The basins are scalable. At their smallest they act as a *sebil* serving the everyday needs of the marketplace. At their most monumental they are spaces of gather, and space to perform *Wudu'*, formally drawing inspiration from the muqarnas, a transitional zone often seen in mosques. The act of *Wudu'* or ablution itself is a spiritual threshold between the motions of the everyday and the sacred. The water basins therefore become a portal into *ālam al kbayal*, the Islamic realm of imagination, making graspable for just a brief second the impossible realm of the Unseen. Wind across a portal cools the air around a gathered group of craftsmen and craftswomen, assembled families and guide-book-in-hand travelers. The basins index the monumental and the everyday. The call to prayer fades and the surface stills, shifting periodically when someone walks by with loud footfalls, or calls for tea, or a shisha refresher. Someone draws a cup of water to drink.

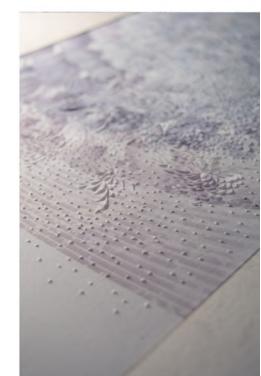


Figure 89: Details of the surface of the Water Basins Final Hybrid Drawing

³³ Ardalan, Nader, and Laleh Bakhtiar. *The Sense of Unity: the Sufi Tradition in Persian Architecture*. (Chicago: the University of Chicago press, 1979.)

³⁴ Ibid.



Figure 90: Water Basins Final Hybrid Drawing

Medium: Mixed Media, digital render and bas relief consisting of cuts and punctures on mylar paper

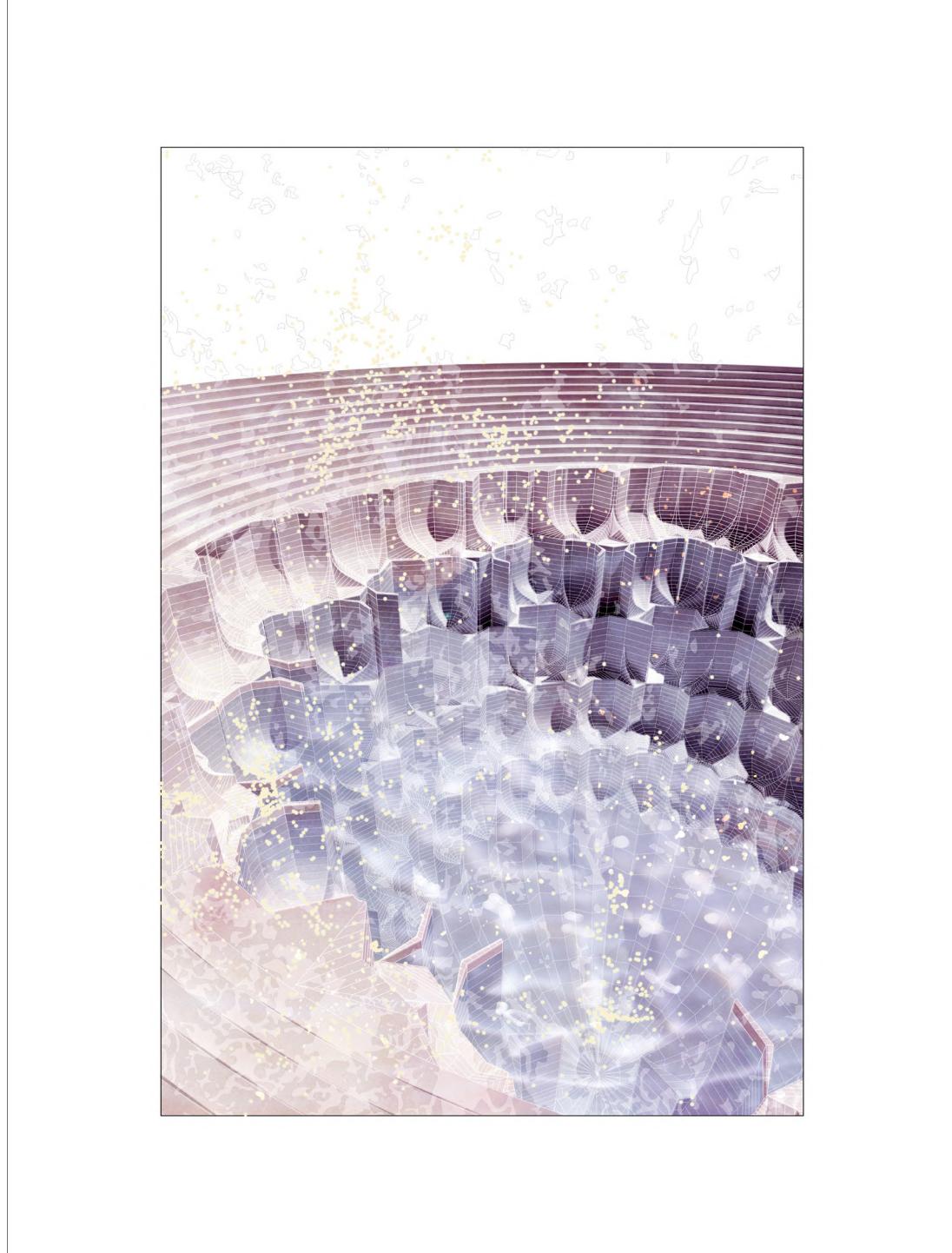


Figure 91: Water Basin Final Digital Drawing

Medium: digital render and linework prior to bas relief

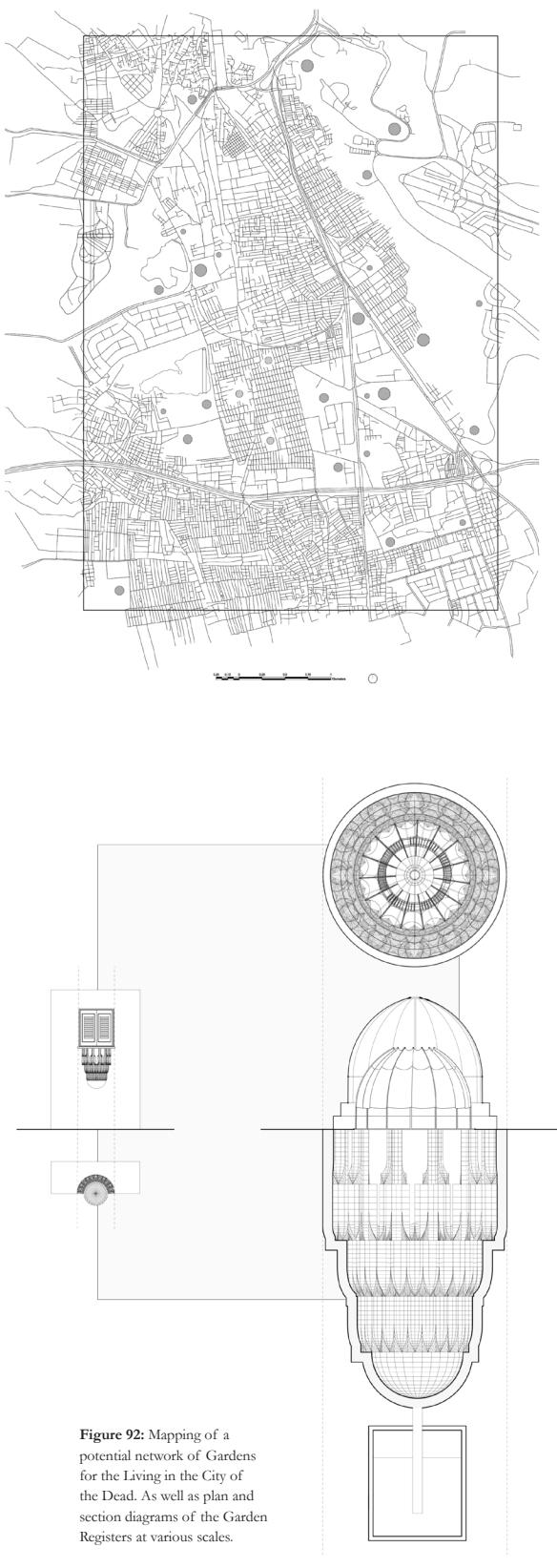
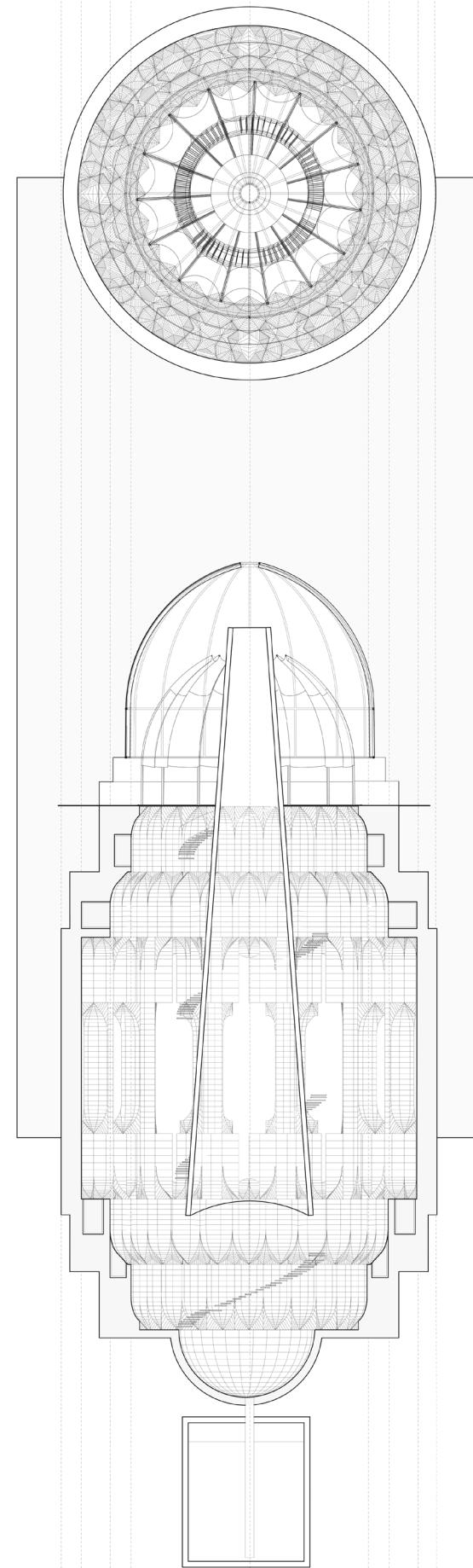


Figure 92: Mapping of a potential network of Gardens for the Living in the City of the Dead. As well as plan and section diagrams of the Garden Registers at various scales.



5.4 Gardens for the Living

Site: Al Qarafa, The City of The Dead

"Baffled by monotony and mocked by phantoms delirious,
Bested by stalking Death in guise manifold;
The dreaded jinns, the beast ferocious,
The flaming heat and the exploding storms;
From all these perils here at last set free:
In the Garden all finds security"³⁵

Amidst the intricate accumulation of tombstones, mausoleums, and mosques, deep in the surface of the earth, this register is a capsule of plentiful life, embedded in the realm of the dead. Meant to serve the communities of those who live in poverty, and have been banished to live amongst the dead, the gardens are a source of food, tranquil beauty, refuge, fulfillment, and abundance. Appearing as a glass dome, shimmering in the bright sunlight, it is light and ghostly amidst the many domes of neighboring mausoleums.

The Garden pierces vertically through the ground, an Axis Mundi, a vertical datum between heaven and earth. The architecture is a momentary breath of life suspended between worlds. Spiralling downwards into the ground, the sounds of the city quiet. Hot eyelids seared from the afternoon sun are soothed by the smooth, cool shade of the earth. From far below, swirling vines, rooted in the earth, reach up towards the heavens. In perfect harmony, timid buds bloom into foaming flowers, fragrant, their scent filling the air. Dust particles glisten as they dance in the column of light from above. The substance of light filters through the branches embellishing this capsule with an endless display of the passage of time. An arc falls from sky to earth rotating along the vertical axis, it creates a dome, reminiscent of the heavenly spheres orbiting above.

Formally, and conceptually borrowing from the *mugarnas*, the register is a transitional zone. A negotiator of realms, it combines the grace of nature with the geometric transfigurations of surface. The architectural concept of the garden itself reflects a sense of *makan* (or place), with embedded references to paradise and afterlife. As "the garden is understood to be a defined space within itself a total reflection of the cosmos"³⁶. At its largest scale, the garden provides pleasant freshness, sweet gathering of fruit for the living, and fragrant flowers to be picked for those who have passed. At its smallest scale, the *mugarnas mundi* creates a personal micro garden, attached to homes, living under old windows and delicate *mashrabiyyas*. A small pocket of life, a nook in the old walls of this city, the register is an herb garden, a pigeon roost, an ash-tray.

³⁵ Ardalan, Nader, and Laleh Bakhtiar. *The Sense of Unity: the Sufi Tradition in Persian Architecture*. (Chicago: the University of Chicago press, 1979.)

³⁶ Ibid.



Figure 93: Details of the surface of the Gardens for the Living Final Hybrid Drawing

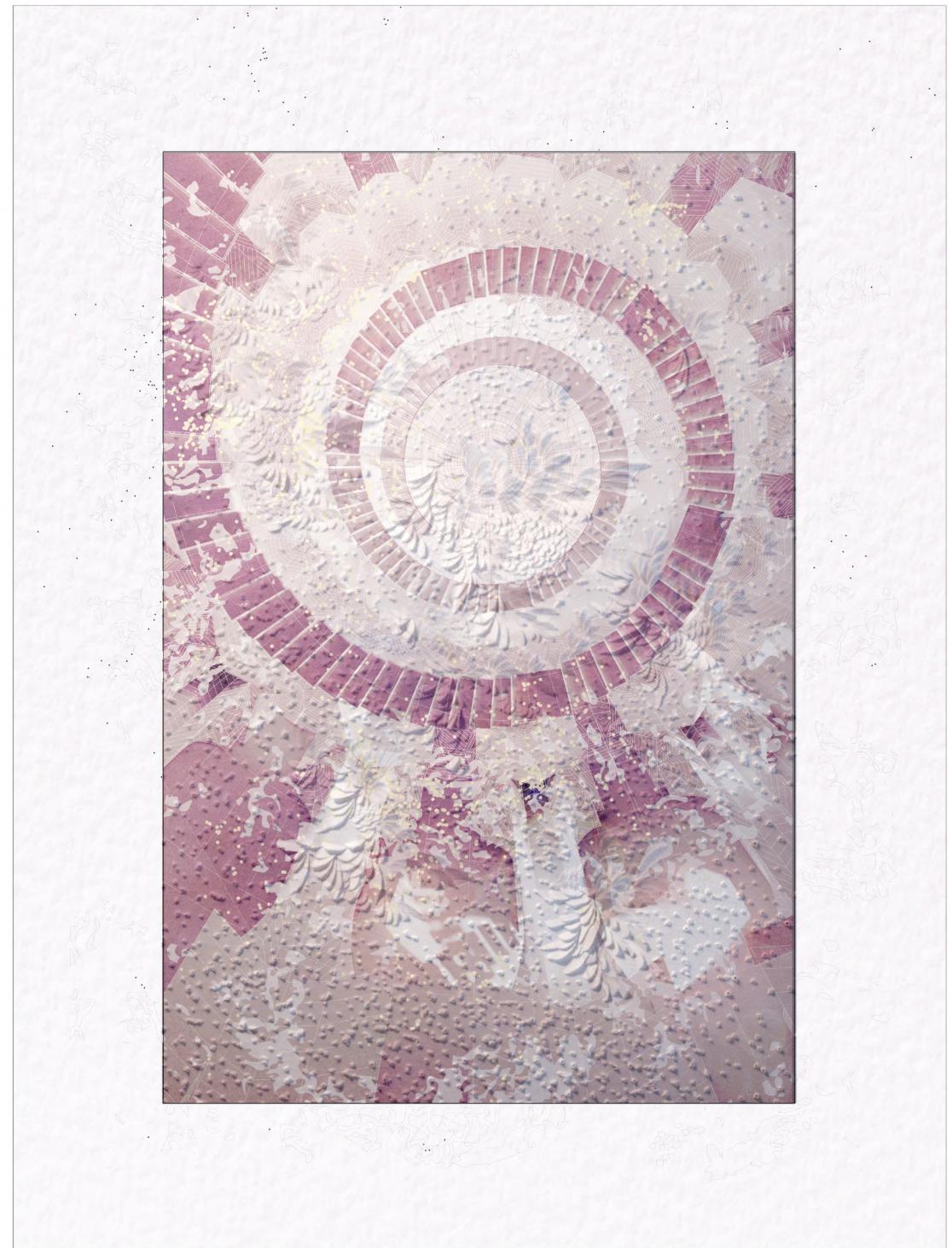


Figure 94: Gardens for the Living Final Hybrid Drawing

Medium: Mixed Media, digital render and bas relief consisting of cuts and punctures on mylar paper



Figure 95: Gardens for the Living Final Digital Drawing

Medium: digital render and linework prior to bas relief

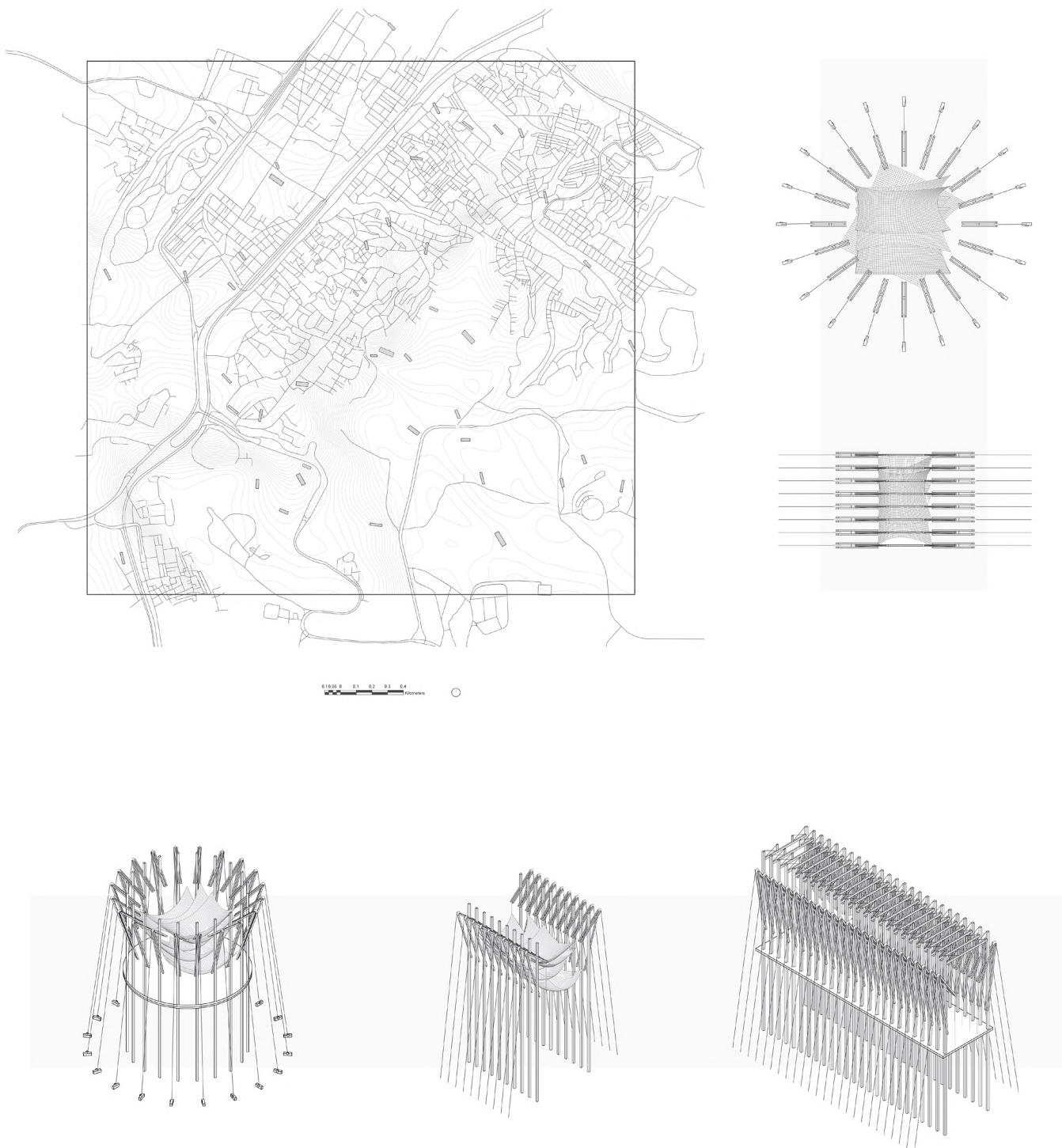


Figure 98: Mapping of a potential network of Dust Collectors along Al Mokattam Mountain. As well as diagrams of the Dust Collector Registers at various scales.

5.5 Dust Collectors

Site: Mokattam Mountain

"Air is the most direct manifestation of ether, the vehicle of light, exhibiting the qualities of heat, and humidity. Its effect is to render things lighter, to rarefy, to make soft, to give matter the ability to rise. It is hot, like fire, but not arid, incorporating the attributes of wetness, expansion, and solubility."³⁷

"In nature the most direct manifestation of air is wind; In the life of man this element is manifested in his invocations, his speech, and his prayers"³⁸

Dust and sandstorms are phenomena that are often perceived as a nuisance to the city. Dust, however, is sacred in nature. In the Islamic perspective, we were created from dust and will return to dust. Dust is seen as an element of purification; *tayammum* is an alternative to ablution, using dust in lieu of water, when there is no clean liquid to be found. This register simultaneously shelters and protects from these massive sandstorms, while also celebrating the element of dust and how integral it is to the atmosphere of the city.

Starting at the highest point in the city, a series of Wind and Dust Registers dot the surreal rock formations of *Al-Mokattam* hill. Anchored in the solid earthy monolith, thin wooden structures, consisting of intricate pulley systems, support layers of light fabric mesh, varying their density and form, they create breathing forms, suspended above the city.

Delicate ripples in the fabric reveal hints of the subtle movements of the atmosphere, as the registers fluidly dance in the wind. These instruments are always in motion, rippling, undulating, and alive as they respond to the air currents flowing around them. The register becomes a body that floats between the material and immaterial. Seemingly lighter than air it begins to grow heavy through the accumulation of particles. Sand diffuses and filters through the fine threads, creating plumes of particles that trail down to the earth. Gravity pulls the weight of these almost inverted domes of fabric, making them sit closer to the body, hovering just above one's head. As sand begins to collect, what was bright is now shaded, what was light is now heavy, and what was impossibly vast is now tangible at the scale of particles.

Tayammum:

the Islamic act of dry Ritual purification using a purified sand or dust, which may be performed in place of ritual washing (wudu or ghusl) if no clean water is readily available.



Figure 97: Details of the surface of the Dust Collectors Final Hybrid Drawing

³⁷ Ardalan, Nader, and Laleh Bakhtiar. *The Sense of Unity: the Sufi Tradition in Persian Architecture*. (Chicago: the University of Chicago press, 1979.)

³⁸ Ibid.

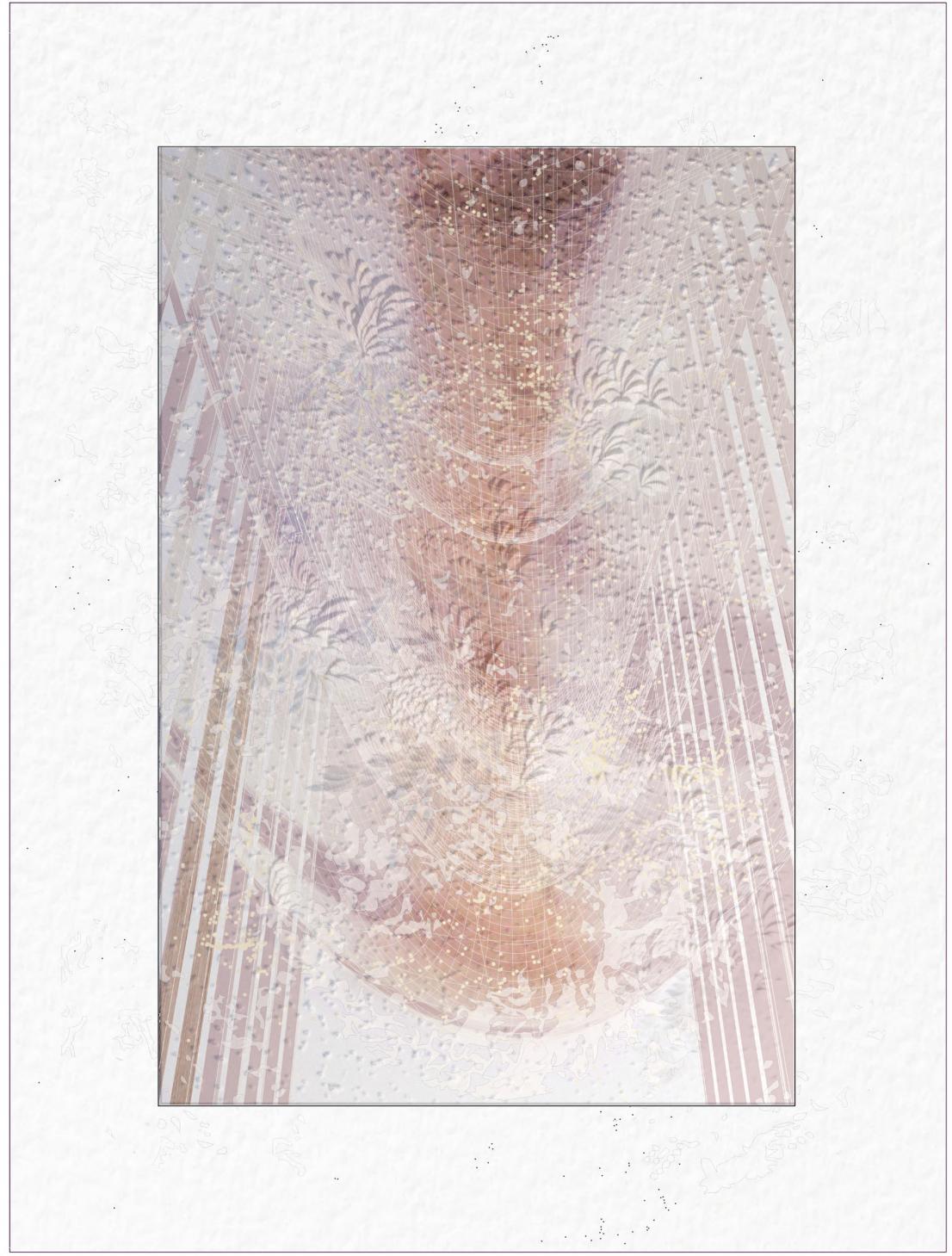


Figure 98: Dust Collectors Final Hybrid Drawing

Medium: Mixed Media, digital render and bas relief consisting of cuts and punctures on mylar paper

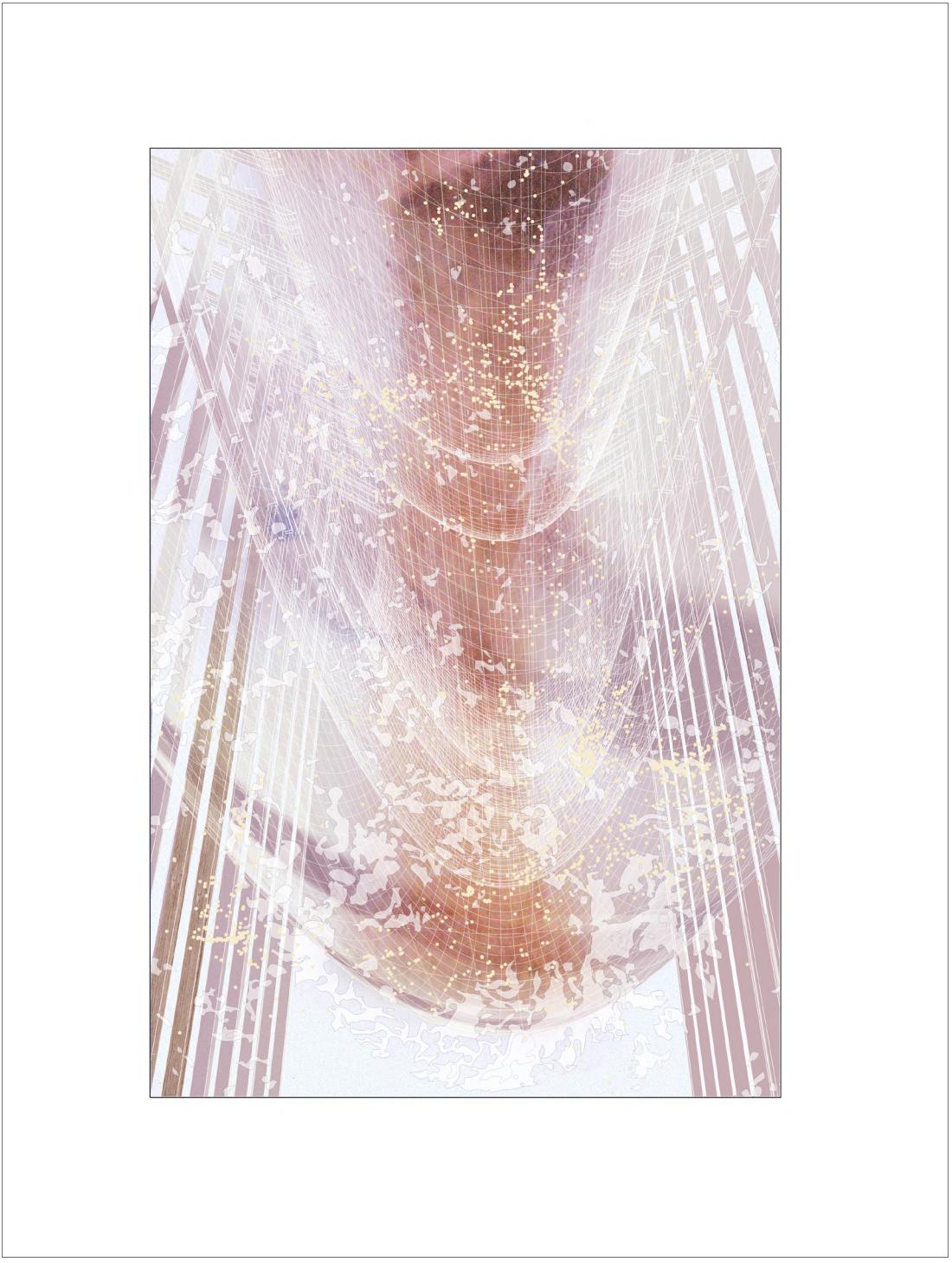


Figure 99: Dust Collector Final Digital Drawing

Medium: digital render and linework prior to bas relief

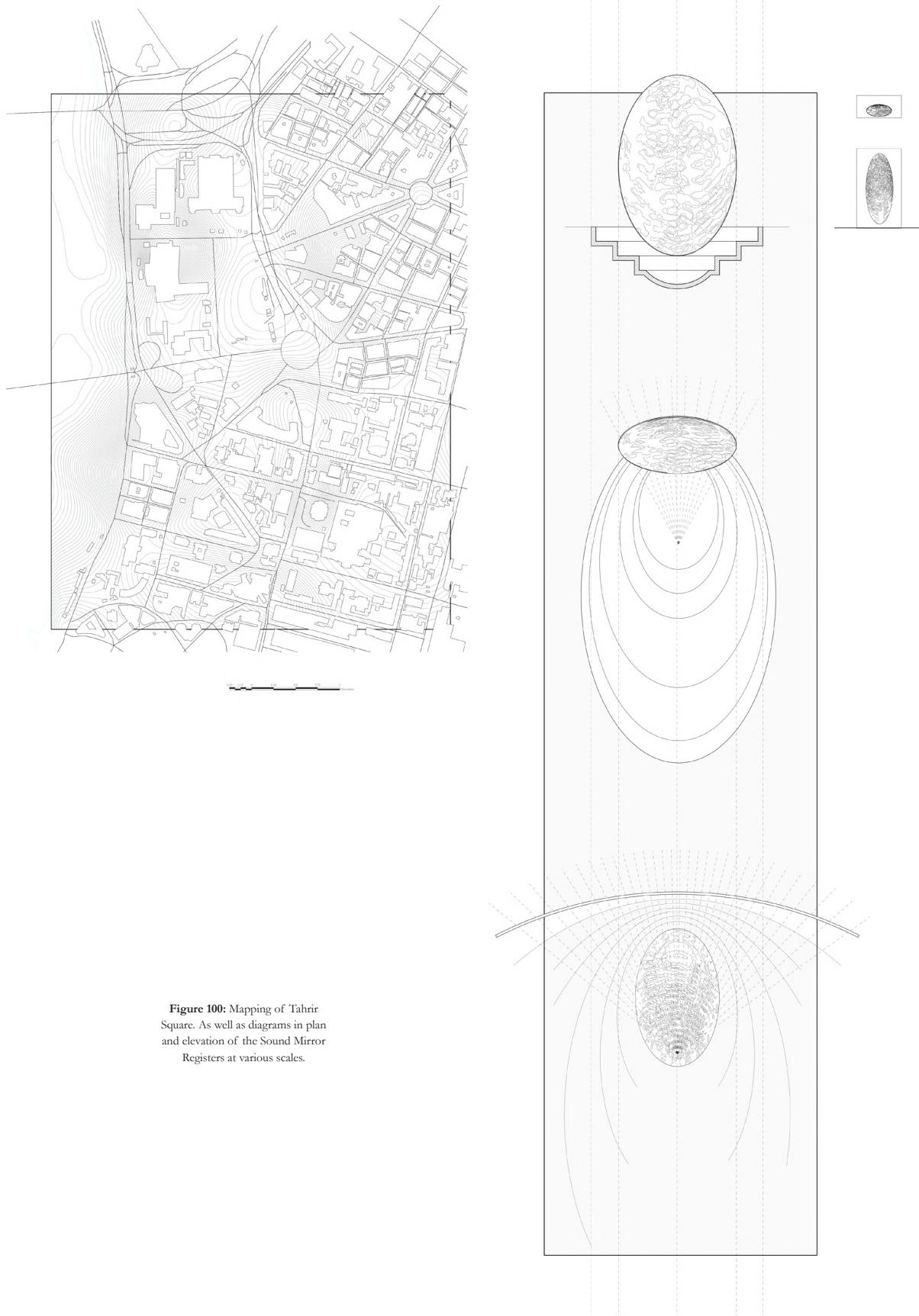


Figure 100: Mapping of Tahrir Square. As well as diagrams in plan and elevation of the Sound Mirror Registers at various scales.

5.6 Sound Mirrors

Site: Tahrir Square

“Unlike visual space, auditory space is not spread out before us with a fore, middle, and background but is diffused around us as a boundless bubble, as a sphere that has no precisely defined boundaries”³⁹

Tahrir Square assumed its symbolic status as an accumulation of revolutionary events, as the Egyptian people frequented this space to voice their political and social ideals, aiming to liberate the nation from colonization, corruption, and social injustice. Tahrir Square has transformed over the span of time from a space that demonstrates the governments' power and alignments with the West to the “People’s Square”.

At the center of this modern city is a series of concaved surfaces, metallic bodies hammered into lustrous surfaces, opalescent in the sunlight almost like sun disks. These registers reflect light as well as sound. These concaved, reverberating, surfaces reflect, focus, redistribute, and concentrate sound waves, collecting voices and amplifying them. The sound mirrors serve as places of gathering and shelter, creating a celebrated space, a space of compassion, safety, courage, and delight. At their largest scale, they become spaces for performance, for celebration, or for revolution. Combining and reflecting off of each other, at their smallest they become spaces for whispering playful secrets. Its surface magnifying the motions of the everyday, the chirping of birds, the voices of those who pass, music, traffic, or the call to prayer. These registers solidify that Tahrir Square is a space to be heard. Reflecting light and sound, the register almost seems like a fantastical portal into another world, one that echoes, and resonates with the realities of our own.



Figure 101: Details of the surface of the Sound Mirror Final Hybrid Drawing



Figure 102: Sound Mirror Final Hybrid Drawing

Medium: Mixed Media, digital render and bas relief consisting of cuts and punctures on mylar paper



Figure 103: Sound Mirror Final Digital Drawing

Medium: digital render and linework prior to bas relief

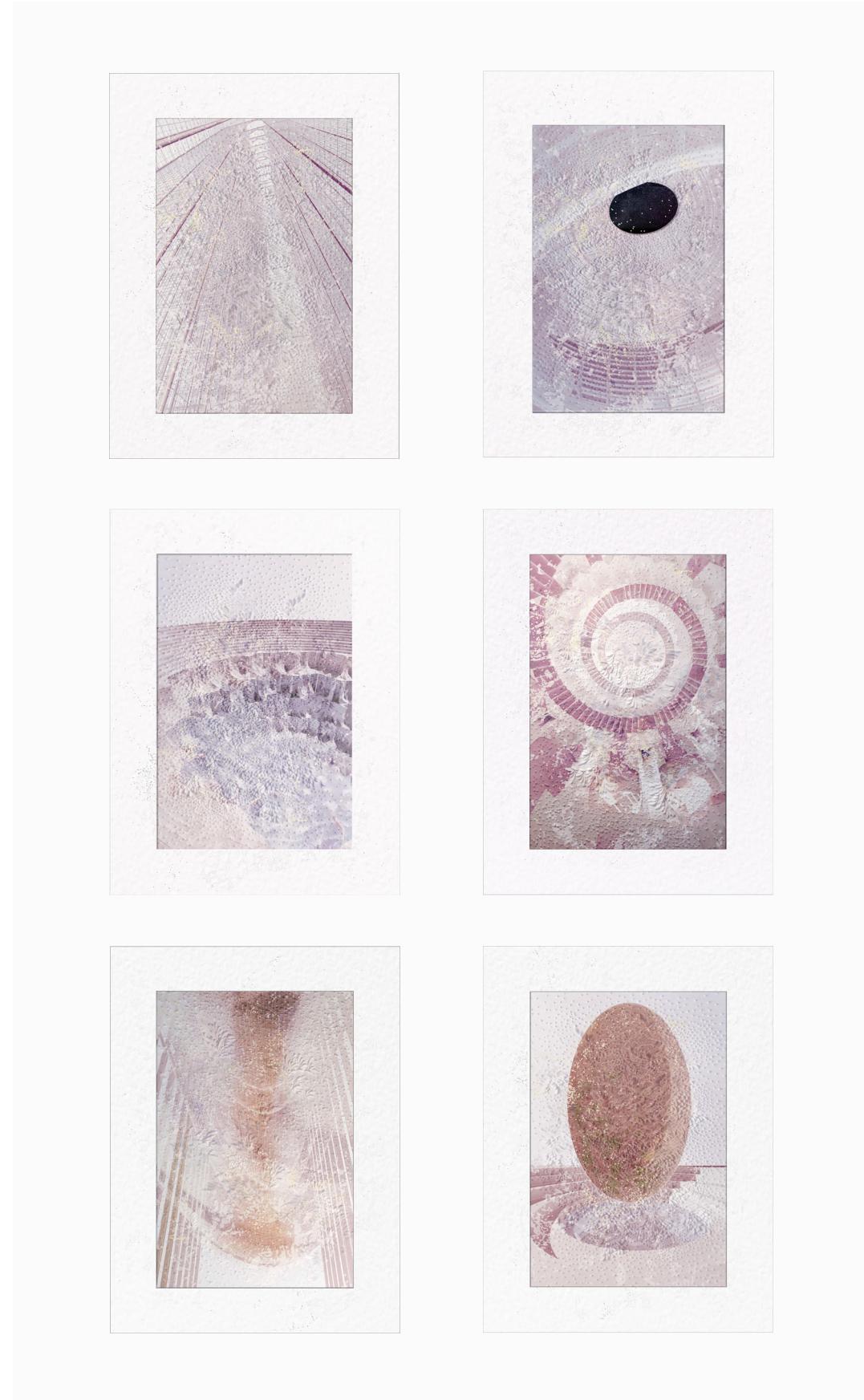


Figure 104: Final Drawing Set

DRAWING METHODS

The final drawing set uses surface, texture, light, pattern, and layering, as modes of representation. They borrow from the traditionally heavily ornamented, and textured *arabesque* patterns and the complex transitional nature of the *mugarnas* in order to mediate between the seen and the unseen. The hybrid drawings consist of three layers, the first is a detailed digital render and precise linework. The second is a sheet of mylar, its surface manipulated heavily with small hand cuts that create layers of petals as well as intricate perforations using a sewing needle. The third layer is a frame, a container, acting as a portal into the drawing. The mylar in this case becomes a veil, the realm of transition, a delicate surface separating worlds. The small cuts, and perforations make the translucent surface permeable, revealing glimpses or sometimes obscuring and clouding what lies underneath. This allows the translucent paper to transcend its material qualities and become a transitional zone between states of being.

The substance of light here is not only a drawing medium, but it also becomes the animator of the drawing, its *haraka* shaping our understanding of it. In direct light the mylar paper is more opaque, the texture coming into the foreground, the details of the render become more ambiguous. Lit from behind the details of the drawing come into full clarity, as the texture of the mylar seemingly dissolves. As the light source changes, the texture of the paper casts infinite shadows that dance upon its surface, obscuring what lies underneath, making it ever-changing. These drawings can be understood visually but also through the sense of touch, as fingertips trail on their intricate surface, what can be read as dust particles in one drawing become stars in the next. What are waves of water become blooming flowers, as the cuts on the surface change states of being, registering invisible motions.



Figure 105: Details of the mylar surface

CONCLUSION

Postscript

Reflecting on how the thesis has unfolded, my personal understandings of the sacred have shifted since the start of the research, especially within the context of a city like Cairo, where the sacred and the everyday are so deeply intertwined. Expanding beyond its opposition to profane space, sacred architecture, in this case, has taken on the role of a negotiator of realms, it places itself at the intersection of these dualistic structures that are so prevalent in ancient cosmologies and Islamic traditions (the quotidian and the divine, the physical and the metaphysical, the seen and the unseen).



Figure 106: Sunset on Grandpa's Farm in Al Menofia, Egypt on Film

Inhabiting this interstitial zone, the collection of these registers as *awqaf*, are a way for Cairo, a dense and smoggy metropolis, with a rich history to be generous, to invite others to encounter versions of itself that are compassionate, and empathetic. Inviting inhabitants and visitors to see many Cairos, plural Cairos, virtuous Cairos, and in turn, visitors and inhabitants become softer towards their places. Where these registers are perhaps most successful is when they become scalable, adaptable, losing their sense of monumentality, scarcity, or rarity. Embedding themselves in simple mundane routines, the registers act as brief moments of wonder and imagination, as human, planetary, and cosmic motions become agents that activate them.

The hope is that this document has provided a momentary glimpse into the wonders that reside in the city of Cairo. The six registers are only a few potential instances of how architecture can become a medium that has the capacity to pierce through realms, bridging between our world and others. Acting as spaces of virtue, or goodness, as endless sources in service of those who encounter them, and lastly, as mediators that blur the boundary between the real and the imagined making knowable invisible and inconceivable realities.

APPENDIX

The following section contains work from ARCH 5002 Miniaturising the Gigantic Course, that was done in parallel to the thesis work. A series of tank world experiments were conducted as a catalyst or prelude to the design of the architectural registers. The first set of experiments used a vibration speaker, to visualize sound through matter, momentarily creating intricate fractal ripples that follow the frequencies of the sound projected. These experiments have been translated into the design of the Water Basins.

Experiment 2 is an extension or development of Experiment 1, as a set of concaved profiles were tested in the water and subjected to sound vibrations. These concaves surfaces reflect and focus (concentrate) sound waves, and this disturbance or change in the soundwaves is articulated on the surface of the water. This experiment corresponded to the design of the Sound Mirrors.

The final set of experiments were an attempt to simulate the environmental phenomena of the *Khamasin Winds* and miniaturize the expansiveness of these dust storms within the tank model. A series of mesh fabrics were layered in a variety of densities to collect and filter sand in the tank. This experiment brought on the design of the Dust Collectors.



Figure 107: Water Basin Experiment

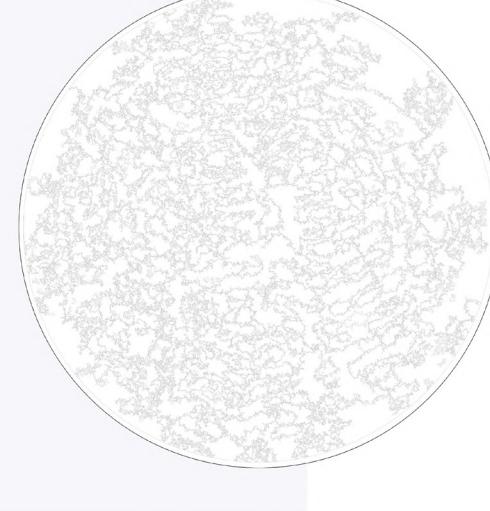


Figure 108: Water Basin Experiment

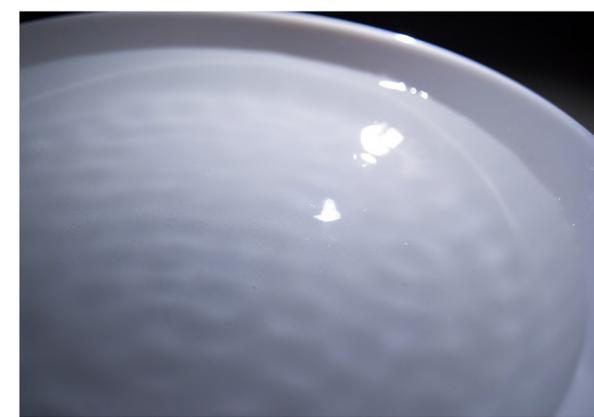
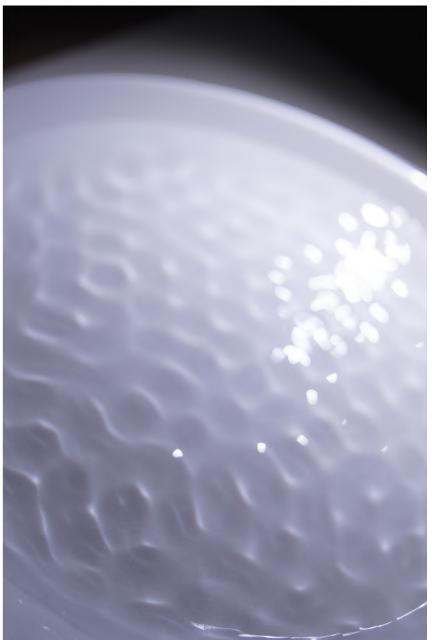
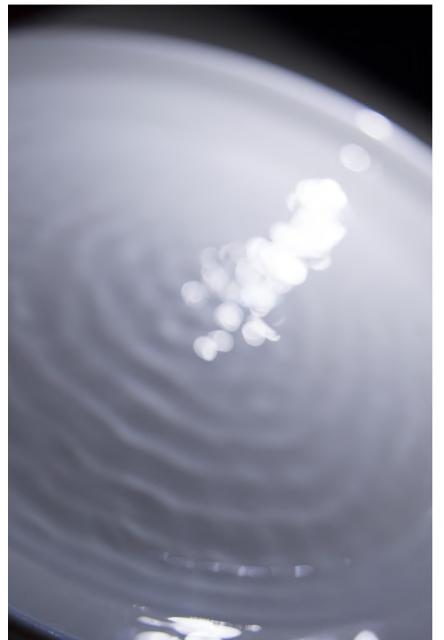
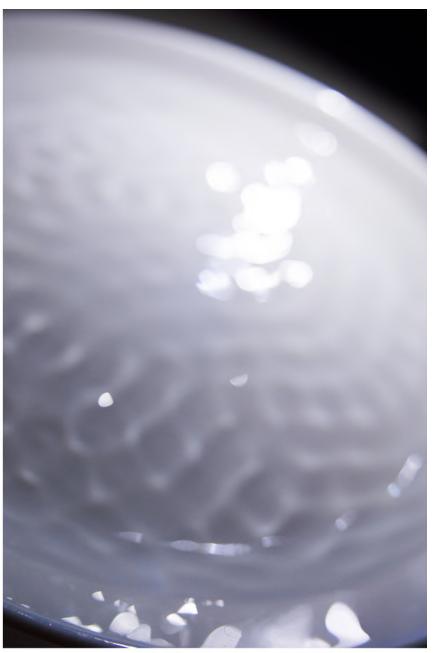


Figure 109: Water Basin Experiment

Figure 110: Water Basin Experiment



Figure 111: Sound Mirror Experiment

Figure 112: Sound Mirror Experiment

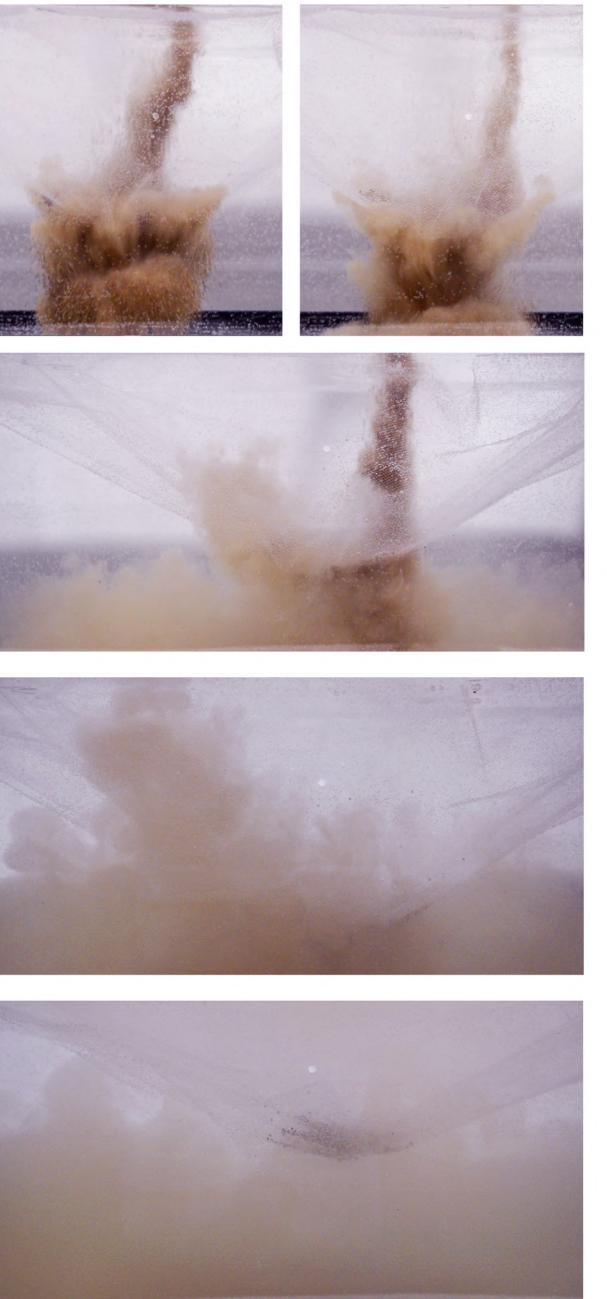


Figure 113: Dust Collector Experiment



Figure 114: Dust Collector Experiment



Figure 115: Dust Collector Experiment



Figure 116: Dust Collector Experiment

GLOSSARY

- **Alam / alama / ‘ilm:** Alam is Arabic for the entire cosmos, including the earth, ‘âlam , shares a root with ‘alâma (sign, mark, symbol) and a connection with ‘ilm (knowledge). In that sense, the cosmos is everything about which one can have knowledge.
- **Alam al Khayal:** (‘Alam al amthal / ‘Alam al mithal / ‘Alam al khayal). The world of analogies and images. This is the World of Active Imagination. It is the isthmus in which the mystery of cosmic ambiguity can be unlocked. A metaphysical realm between matter and spirit.
- **Al Qahira:** “the Victorious”, “the Vanquisher” or “the Conqueror”, supposedly due to the fact that the planet Mars, an-Najm al-Qâhir (“the Conquering Star”), was rising at the time when the city was founded.
- **Al Ruh:** In Sufism this word includes the following meanings: 1. The Divine, and therefore uncreated Spirit (ar-Rûh al-ilâhi), also called ar-Rûh al-Qudus, the Holy Spirit; 2. The Universal, created, Spirit (ar-Rûh al-kullî); 3. The individual Spirit, or rather the Spirit polarized in relation to an individual; 4. The vital spirit, intermediate between soul and body.
- **Al Waqf:** a special kind of philanthropic deed in perpetuity. It involves donating a fixed asset which can produce a financial return or provide a benefit.
- **Athan:** the Muslim call to ritual prayer made by a muezzin from the minaret of a mosque. It occurs five times a day.
- **Arabesque:** a form of ornament consisting of “surface decorations based on rhythmic linear patterns of scrolling and interlacing foliage, tendrils” or plain lines, often combined with other elements.
- **Axis Mundi:** The Universal Pillar, the Latin term for the axis of Earth between the celestial poles. In a geocentric coordinate system, this is the axis of rotation of the celestial sphere.
- **Ayat:** plural of ayah, a Quran verse, also meaning “evidence,” “sign” or “miracle,” “proof” or “manifestation” of the divine.
- **Ba :** (in ancient Egypt) The roaming physical essence of the soul
- **Batin:** Inner, interior, inward, hidden, secret. In Shii, Ismaili, and Sufi thought, the Quran is held to contain two aspects: an outer or apparent meaning (zahir) and an inner or secret meaning, often allegorical or symbolic (batin).
- **Duat:** the realm of the dead in ancient Egyptian mythology. It was represented in hieroglyphs as a star-in-circle.
- **Haraka:** Being in a state of motion, movement is a form imposed on a body by the Universal Soul, giving form to matter. Harakat in the Arabic language are phonetic motions added to the letters as tashkil literally “giving shape, morph, figure or form”. They are the short vowel marks, transforming the consonant letters into pronounceable words.
- **Hierophany:** (from Greek hiero-, “sacred,” and phainein, “to show”) is a term designating the manifestation of the sacred.
- **Jism:** Arabic word for Body which consists of both form and matter.
- **Ka:** (in ancient Egypt) the life force and spiritual essence of the soul
- **Kashf:** (Arabic: “uncovering,” “revelation”), in Sufism (i.e., Islamic mysticism), the privileged inner knowledge that mystics acquire through personal experience and direct vision of God.
- **Ma’at:** (in ancient Egypt) truth, balance, harmony, law, morality, justice, and order. It is also a deity that regulated the stars, seasons, and the actions of mortals bringing order from chaos at the moment of creation. It is the basic equilibrium of the universe.
- **Muezzin:** the person appointed at a mosque to lead and recite the call to prayer for every event of prayer and worship in the mosque.
- **Muqaddas:** Arabic word for Sacred. meaning blessed, hallowed; consecrated; worthy of blessing or adoration; heavenly; holy.
- **Muqarnas:** a form of ornamented vaulting in Islamic architecture. It is the archetypal form of Islamic architecture, integral to the vernacular of Islamic buildings. The muqarnas structure originated from the squinch. Sometimes called “honeycomb vaulting” or “stalactite vaulting”, the purpose of muqarnas is to create a smooth, decorative zone of transition in an otherwise bare, structural space.
- **Nafs:** Self or soul. Used in the Quran as a general designation for the self or true self; interpreted as the spiritual reality of all living creatures. In philosophy, the specifically human nafs is often described as the potential to actualize the fullness of self-awareness, often equated with the intellect (aql). In Sufism, often described as the “lower self,” associated with physical rather than spiritual impulses, by contrast to ruh, understood as the “soul” or “higher self”.
- **Sublime:** the quality of greatness, whether physical, moral, intellectual, metaphysical, aesthetic, spiritual, or artistic. The term especially refers to a greatness beyond all possibility of calculation, measurement, or imitation.
- **Sukun:** a state of peaceful stillness. In Arabic writing, it is the absence of a vowel or tashkil.
- **Tarab:** The musical expression of intense emotions, exaltation, a sense of yearning or absorption, feeling of timeless-ness, elation, or rapturous delight.
- **Tayammum:** the Islamic act of dry Ritual purification using a purified sand or dust, which may be performed in place of ritual washing (wudu or ghusl) if no clean water is readily available.
- **Temple / Templum:** The etymological kinship between templum and tempus by interpreting the two terms through the concept of “intersection”. Templum designates the spatial, tempus the temporal aspects of motion of the horizon in space and time.
- **Wudu:** Obligatory cleansing rituals performed in order to render the believer ritually pure. Required prior to prayer for both men and women. Consists of washing the hands, mouth, face, arms up to the elbows, and feet.
- **Zahir:** Apparent, external, manifest. In esoteric interpretations of Islam, contrasted with the inner or hidden (batin) aspects of reality.

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