Form Follows...Religious Nationalism

Post-Coloniality, National Image, and the development of a 20th century Islamic Architecture in Pakistan

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Introduction

Pakistan became an independent nation in August 1947 after almost two centuries of British colonial rule on the South-Asian region that now includes Pakistan, India and Bangladesh (also collectively called the Indian sub-continent). Questions of National identity that stemmed from the pride of having fought for and acquiring independence became arguably the most predominant discourse in Pakistan (as was the case in India). This was especially true for architecture. Leaders like President Ayub Khan[1] sought to represent this nationalist sentiment in the architecture of this newly established nation by erecting monuments to democracy and freedom.

There were two thematic threads around which this notion of national identity revolved – first, there was the concept of nationalism which, at its heart is secular, and according to the early leaders of both newly formed countries, represented progress and the idea that they were now a free people with a promising future that they would each build together as a nation. Second, there was the inseparable religious identity upon which Pakistan was envisioned and something that people identified with passionately. This was because the ideology of this divide lay in the fact that the Muslims of the sub-continent vied for a separate homeland where they would be the majority and could practice their religion freely and without oppression. The tensions and at the same time the fusions between these two very disparate concepts manifested themselves in Pakistan's architecture in various ways in the decades following independence. The first few works of state sponsored architecture by prominent western architects such as Edward Durrell

[1] General Ayub Khan was the first leader to impose martial law in Pakistan in 1958 and eventually become president of the country. The events leading up to this are discussed in detail in chapter 1.

Stone, Louis Kahn and Gio Ponti, apart from being Modernist in their formal rendition, also exhibited a notable emphasis on Islamic design inferences – the first chapter delves into more detail on these works and how these religious influences, fused with nationalist sentiment, contributed to their formation.

This thesis explores this idea of religion and nationalism in a post-colonial context as reflected in Pakistan's architecture by first introducing the aforementioned works by architects such as Stone, Kahn and Ponti in the first chapter. The aim in this first chapter is to establish how, in the first few decades after independence, political and architectural actors were playing a pivotal role in establishing a national identity through architecture and urban planning by employing themes of democracy, freedom and religion, and to also understand the different voices from within the country who expressed their views on these developments. Chapters 2 and 3 will focus on studying and analyzing in detail two works of architecture namely the Aga Khan University Hospital in Karachi built in 1985, and the Alhamra Arts Council in Lahore built in 1992, respectively. The aim in these two chapters is to understand the development of these projects from conception to construction and how Islamic and nationalist sentiments were central to these developments, as well as to discuss how two works in different parts of the country can employ different influences from their indigenous cultures and yet share similar sentiments of reflecting a religious and national identity. Before giving a brief overview to these two buildings and their importance in the narrative of Pakistan's post-colonial architectural history later in this introduction, it is important to flesh out some of the most prominent frameworks from post-colonial literature and theory that this thesis deems important and will use as a lens to look at these buildings in a religious, historical, social and political context.

Recent debates in post-colonial theory can shed light on how these narratives are formed in contexts like Pakistan in the 20th century and how they relate to issues and questions of identity. The idea of nationalism being synonymous with ideals of progress and "the promise of development" is also echoed in works of Dipesh Chakraborty, a leading figure in post-colonial studies, who writes about South Asia. Although "Western powers in their imperial modes" also saw modernity as equivalent to progress, he admits, these ideals in the South Asian post-colonial context "were not so much British gifts to India as fruits of struggles undertaken by the Indians themselves."[2] The act of nation-building in a post-colonial context is characterized significantly with such sentiments of national pride and national struggle. Bill Ashcroft, another leading figure in post-colonial studies, highlights another important idea prevalent in most post-colonial societies – that once a nation or people acquire freedom from a colonizer, they find unity in a common heritage or culture that existed before the colonial moment. This unifying cultural heritage, writes Bill Ashcroft, determines the creative development of these post-colonial nations – of which architecture, especially public buildings, is a significant constituent. First, the existence of this "pre-colonial indigenous culture" itself, and second, "the degree to which it is still active" become the primary sources of influence and inspire most, if not all, creative production in the nation.[3] In Pakistan's case, it is evident that religion forms a great part of this "pre-colonial indigenous culture" primarily because of its basis as a Muslim state and also because the pre-colonial moment was the Mughal dynasty which formed the most potent image of Islamic culture, heritage, tradition and even architecture, in the sub-continent at that time. In relationship to this idea of returning to the pre-colonial moment, what must also be discussed and

[2] *Habitations of Modernity*. By Dipesh Chakraborty, pages 4-5 The University of Chicago Press, 2002.

[3] *The Empire Writes Back: Theory and Practice In Post-Colonial Literatures*. 2nd ed. By Bill Ashcroft, Gareth Griffiths and Helen Tiffin page 115, lines 8-11, London, New York: Routledge, 2002.

understood is that this return also suggested a rejection of the colonial world view – the fact that the country's resources now belonged to the country and therefore progress was inevitable. The use of these resources would then be directed towards the act of recuperation and repairs leading towards that pre-colonial moment that the nation takes pride in and relates to together. This 'reversion' to that pre-colonial moment then suggests a reconstruction (in the same way that history itself is also a process of reconstruction) rather than a 'reversion' whereby the post-colonial is essentially a reconstructed and re-imagined version of the pre-colonial rather than an absolute revival and imitation of it. This post-colonial process then becomes the act of finding a new nation from the past and the act that marks the starting point of Nation-building.

These ideals of nationalism and religious heritage, in Pakistan's case, were tied together by a significant characteristic present in most post-colonial societies. Ashcroft writes that post-colonial societies tend to define themselves in "emphasizing their differences"[4] from the imperial and colonial past and one can find a similar reference in Edward Said's works which touch upon the fact that "all post-colonial societies realized their identity in difference rather than in essence."[5] This is rather reminiscent of the Hegelian concept of 'The Other' and how its prevalence in discourses of post-colonial societies can actually help us make sense of how these two thematic threads of nationalism and religion actually manifest in Pakistan's national identity. The 'nationalist' sentiment which, as discussed earlier, presents itself as the coeval of progress and development can be seen as the 'other' to the colonial era of servitude and subjugation – the notion that since the people were previously in servitude to the colonial master are now free and can continue to progress as masters of their own selves and move along with the modern world

[4] Op. Cit, Ashcroft et. al, pg 2, lines 25-30.
[5] Op. Cit, Ashcroft et. al, pg 165, line 18.

in the modern era. The Islamic sentiment presented itself as the 'other' to India's Hindu culture and identity because it was away from this Hindu majority nation that the Muslim minority sought to establish a separate homeland for themselves. This concept of the 'Other', then became a potent theoretical idea that Pakistan, like many other post-colonial societies, adopted in order to establish its identity as a new state.

This characteristic duality mentioned above is echoed in Ashcroft's works with reference to Frantz Fanon's "Manichaean" aesthetic – an aesthetic that Ashcroft highlights as being present in all post-colonial societies and one which "expresses the binary divisions of … self-Other [as] the characteristic features of such societies and their art."[6] Mention of this same duality, but which can be understood as somewhat different to the Manichaean aesthetic, is made in Homi Bhabha's work – something he calls "Janus-faced". He invokes the image of the two-faced Greek god to depict the idea that such binary divisions can also have blurred boundaries. Where the boundary does not necessarily divide ideas such as self-Other, centre-margin, black-white but could in-fact mix the two making for a "syncretic" depiction rather than a contrasting one: "The locality of national culture is neither unified nor unitary in relation to itself, nor must it be simply seen as 'other' in relation to what is outside or beyond it. The boundary is Janus-faced, and the problem of outside/inside must always be a process of hybridity…"[7] in this way Bhabha focuses on the in-between spaces through which cultural and national identities can be understood to manifest. Bhabha's work continues to use the term 'hybridity' in order to highlight this particular self/other identification and bifurcation. The importance, rather than on looking at these dualities in themselves, needs to be on what the third "new" identity is. This helps to "overcome the given

[6] Op. Cit, Ashcroft et. al, pg 169, lines 32-35.
[7] Introduction, Homi K. Bhabha, *Nation and Narration*, edited by Homi K. Bhabha., page 4, lines 23-26. London, New York: Routledge, 1990.

grounds of opposition" and open up "a space of translation: a place of hybridity, figuratively speaking, where the construction of a political object that is new, neither the one nor the other, properly alienates our political expectations, and changes, as it must, the very forms of our recognition of the moment of politics."[8] This interesting difference in views of duality of the self-Other where one view is Manichaean (where on exists in contrast to the 'other') and the other, Janus-faced (where one exists in complement to the 'other') is a view that this thesis also attempts to highlight in the works and theories that are discussed in each chapter, along with the new 'hybrid' that Bhabha highlights.

Bhabha touches on another significant point throughout his writings – the parallels between nationalism and religion especially in a post-colonial nation-state context. In referencing Hans Kohn, Bhabha attempts to equate the idea of nationalism to old-testament mythology by pointing out how they both bring focus to "the idea of a chosen people [and] the emphasis on a common stock of memory of the past and hopes for the future".[9] This idea of a chosen people, like many nation-states, is also prevalent in Pakistan because of the narrative that it was the 'Muslims of the sub-continent' who were fighting for a separate homeland and, again like nation-states such as Israel, the idea was that by forming and inhabiting this homeland they are in fact fulfilling a prophecy. The seemingly disparate concepts of nationalism and religion can, especially through this explanation, already start to reveal themselves as being 'Janus-faced'.

This thesis is an inquiry into how this method of identity formation in Pakistan in a post-colonial context has developed over the years and where it stands today, by introducing to this discourse an analysis of two public buildings that were briefly mentioned before and that incorporate

[8] *The Location of Culture*. By Homi Bhabha. Page 25 lines 19-23. London: Routledge, 2004. Print.
[9] Op. Cit., Bhabha, page 59, lines 29-30.

nationalist and religious influences in an attempt to reflect national identity. The first is the Alhamra Cultural Complex in the city of Lahore in the southern part of the Punjab province. This part of the province is home to some of the biggest and most famous Mughal monuments in the country and so the architect Nayyar Ali Dada's approach in designing this building was, in a way, a response to its proximity to these monuments of Mughal architectural heritage. It was commissioned by the Alhamra Arts Council to be built on a plot of land given by the government immediately after independence and was envisioned as a center for the promotion of local art, literature, theatre and music. Its auditorium was built in 1979 but the complex kept expanding and was finished in 1992. The second building is the Aga Khan University Hospital in Karachi, the building contract for which was signed in 1980 and finished building in 1985. Designed by Payette Associates and Mozhan Khadem, the AKUH is one of the biggest medical schools in the country as well as a hospital and medical research institute. This building can at once be recognized as having some of the most salient features from Islamic architectural design from around the world and therefore it propagates a much wider, more international discourse around Islamic architectural heritage in contrast to the Alhamra which sticks primarily to the Mughal heritage. It was inaugurated as Pakistan's first private university in 1985 and during his speech at the inauguration the Aga Khan emphasized how Islamic ideals of knowledge and wisdom will be the philosophy of this institution:

> "The divine intellect, 'Aql Qul', both transcends and informs the human intellect. It is this intellect which enables man to strive towards two aims dictated by the Faith: that he should reflect upon the environment Allah has given him and that he should know himself. It is the light of intellect which distinguishes the complete human being from the human animal, and developing that intellect requires free enquiry. The man of Faith who fails to pursue intellectual search is likely to have only a limited comprehension of

> Allah's creation. Indeed, it is man's intellect that enables him to expand his vision of that creation."[10]

These words highlight the Islamic philosophy that suggests that the wiser and more knowledgeable man is, the closer he is to God, and since the institution was to engender a deeply Islamic philosophy at its heart, it would also reflect a physical, visual image in unison with this very Islamic ideal in its architecture.

Both of these works of architecture were the first of their kind in the nation – the former was the first center of arts and literature and meant to promote these disciplines in the country while the latter was the first private university meant to bolster research and education in medicine. Despite having some programs that are private and have specific functions it is important to note that they are in fact public spaces because people inhabit these spaces every day for walks, picnics and students gather there to socialize so the interaction with these buildings and their open spaces makes them significant public works of architecture that merit understanding them and analyzing them in the themes of this thesis. It is also important for the nationalist discourse to bring in the topic of the rise of local architects while discussing these two buildings because the Alhamra Arts Council was designed by a local architect and the Aga Khan University Hospital, although was designed by a Boston based firm, had a number of local architects assisting in the research and design process of the building. This topic of the rise of local architects during this phase of post-independence Pakistan is also helpful in order to understand the level of maturity that architectural design and architectural education has reached in the years since independence and also how, if any, is the difference in architectural rendition seen between foreign architects designing in the context and locals designing in their own context. The

[10] The excerpt is taken from the speech the Aga Khan gave on the inauguration of the AKUH in 1985. The full speech is published on the website of the university. https://www.aku.edu/about/chancellor/Pages/inauguration-fhs-and-akuh-khi.aspx#

discussion of this distinction can also be connected to the multiplicity of expression within the discipline of Islamic architecture and how these different expressions were realized within these two buildings. Since one was made by an architect who grew up in the country and the other was made by an American firm, how each narrative was informed by the different interpretations the architects each had of Islamic symbolism and cosmology makes for an interesting study.

Of key importance are factors such as institutional influences on how these identities are formed especially of one particular institution – The Aga Khan Award foundation first because of the discourse they have propagated and the role they have played in the creation of an infrastructure to promote Islamic expression in contemporary architecture and second, because the two works being analyzed here have a direct relationship to the foundation because the Aga Khan University Hospital was commissioned by it and the Alhamra Cultural Complex was awarded by it. Kamil Khan Mumtaz is another author and architect whose discourse on the Islamic debate in Pakistan's context as well as the larger Muslim world is important here. Mumtaz has been teaching and practicing architecture in Pakistan since the 1960s after having finished his training at the Architectural Association in London, and has written extensively on Pakistan's architectural legacy. He has also consistently advocated for vernacular and Islamic ideals as the bases for architecture production in Pakistan at many stages, making his work an important lens through which many of the ideas in this paper can be discussed.

Mumtaz's authored works are also important because they constitute a significant part of the current historiography of architecture and architectural history in Pakistan. Some of the other authors who constitute this current available historiography include Sten Nilsson, a notable art historian and Professor Emeritus at Lund University whose works on the South Asian capital cities after independence are significant; Nadir M. Khan, a Pakistani architect whose Master's

Thesis at MIT from 1990 charts the architectural development in Pakistan since independence; and Zarminae Ansari whose Master's Thesis at MIT from 1997 explores the design philosophies of Kamil Khan Mumtaz and how his works can be studied to understand a Pakistani expression of architecture. All of these works form significant referential scholarly material in the development of the arguments of this thesis.

Through an analysis of these narratives of nationalism and religion in Pakistan, the hope of this thesis is to reach a better understanding of how post-colonial nation states construct narratives to celebrate and glorify their existence, especially because this particular time-period in history – the period of decolonization from 1945 to 1960 – resulted in a number of Asian and African states attaining freedom, and each constructing a narrative that valorized the very act of having acquired that freedom from the colonizer. The case of Pakistan and the central tensions/fusions between nationalism and religion, especially in its Presidential commissioned buildings, forms a pertinent lens to understand how these narratives are formed in a post-colonial context and how architecture becomes a potent vehicle for the propagation of these narratives. The larger aim of the thesis is to add to and bring a clearer sense to themes and discourses around post-independence architecture/architectural history in Pakistan in order to bring as much scholarly attention to them today as has been appropriately given to the other countries of the Indian sub-continent so that it can become another successful scholarly addition on post-colonial, post-independence architectural expression and identity.

Chapter 1: Architecture shortly after independence – Islamabad and Dhaka

"Though a new country we, as a people, are an old nation, with a rich heritage. Inspired by a historical past... (we are) eager to build a new city which, in addition to being an adequate and ideal seat of government, should also reflect our cultural identity and national aspirations".
-N. A. Faruqi, Chairman of the Capital Development Authority (CDA), Islamabad, 1985.[11]

In the first decade after independence the capital of Pakistan was the port city of Karachi. This changed after the first decade, when Field Marshall Ayub Khan assumed power through a successful coup and by imposing martial law, and a new capital was constructed near the Pothwar plateau close to the city of Rawalpindi, which was named 'Islamabad' (the city of Islam). Apart from Islamabad, there was also the capital city of Dhaka, situated in East Pakistan (now Bangladesh). The development of architectural projects in these two capital cities commissioned by the Ayub Khan government mark the start of this thesis's scope because of their importance in Pakistan's early years as emblems of a religious nationalism. Before delving into an architectural and historical survey of the presidential commissions of architecture in these two capitals it is important to briefly understand the political situation of Pakistan in the first ten years that lead to Ayub Khan assuming power, and the circumstances of the shifting of the capital from Karachi to Islamabad.

The time period between 1947 (the year of Independence) and 1958 (the year Ayub Khan came into power) was one of political turmoil. In 1947 Liaquat Ali Khan, one of the founding fathers of Pakistan, was elected Prime Minister and Muhammad Ali Jinnah, the founder of the country was elected Governor-General. One year later in September 1948, Jinnah died of tuberculosis

[11] Taken from *Architecture In Pakistan*. By Kamil Khan Mumtaz. pg 184 line 25. Singapore: Concept Media, 1985.

and in 1951, PM Liaquat Ali Khan was assassinated during a political rally. Khawaja Nazimuddin became Governor-General after Jinnah's death and then vacated that post to become the Prime Minister after Liaquat Ali Khan's death. The political turmoil was also due to ideological factors whereby the religious fundamentalists started anti-Ahmadiyya riots[12] and the youth in East Pakistan started riots to give importance to Bengali as an equal language to Urdu in official matters. Differences between East Pakistan and West Pakistan continued to grow even after the 1954 elections which elected two Bengali leaders, Iskander Mirza and Hussain Soharwardy as President and Prime Minister respectively. In 1958, in light of the increasing instability in the country, President Mirza officially mobilized the Pakistan military to help with the increasing turmoil and Ayub Khan entered the political frame after imposing martial law.

Islamabad

As briefly mentioned at the start of this chapter, Karachi was the capital of Pakistan for the first decade after independence. This was due to a number of reasons. At the time of partition, it was the only great city in the country as Delhi, Calcutta Madras and other prominent cities were allotted to India. Karachi also contained a somewhat developed infrastructure which consisted of a railway, airlines and a harbor which made Karachi the point of Pakistan's connection to the world.[13] Because of this it attracted the highest number of refugees who were displaced due to the post-partition migrations and in order to address this issue of rehabilitating refugees as well

[12] The Ahmadiyya community is persecuted in Pakistan and many Muslim states because of their unacceptance of the finality of the Holy Prophet. These anti Ahmadiyya riots mark the start of this decades long persecution that continues to this day in Pakistan.

[13] *The New Capitals of India, Pakistan and Bangladesh.* Studentlitteratur, page 139, lines 6-12. By Sten Åke Nilsson. 1973.

as developing Karachi as a capital city "that aided the reconstruction of the civic sense",[14] the 'Greater Karachi Plan' (FIG 1.1) was formulated by the government in 1951.

The initial schemes to develop the Greater Karachi Plan included a central square which was to act as "the forecourt of the nation." The plan was for this forecourt to also include the Assembly Building, the Principal Mosque and the Supreme Court among other buildings of national importance.[15] According to Sten Nilsson the idea of this Greater Karachi Plan, apart from the two ideas mentioned above, was meant for the capital to "…manifest to the people of Pakistan and to the world the ideal for which the state stands. The vision and fate of the nation will be materialized by artistic and architectural means. The impression given by the capital will, among other factors, depend on the grouping and concentration of the most important buildings."[16]

After Ayub Khan's ascension to power and the decision to move the capital from Karachi to a new site to be constructed near Rawalpindi, much of this plan (except, understandably, the part related to rehabilitating refugees) became ineffective – As Nilsson writes "The debate about the future form of Karachi changed in a single stroke as a result of the political turn of events. By means of a coup d'etat in October 1958, field-marshall Ayub Khan grasped the reins of power."[17] The site for this new capital was then reimagined near the cantonment town of Rawalpindi on the Pothwar Plateau. Ayub Khan's reasons for doing this were many. Ayub Khan was against the idea of uniting the representatives of the country's administration with business life because he believed that "contact with businessmen had a corrupting influence on government servants, and that in Karachi these were exposed to political agitation."[18] He

[14] Ibid pg 139 lines 21-22.
[15] Op. Cit. Mumtaz. pg 184 lines 1-10.
Op. Cit. Mumtaz. pg 184 lines 14-16. Originally published in *Islamabad: The Quest for a National Identity* by Sten Nilsson.
[17] Op. Cit. Nilsson. Page 145. Lines 1-2.
[18] Op. Cit. Nilsson. Page 145. Lines 5-8.

therefore wanted to isolate the administrative functions of the country by transferring them to a new site. Another reason for this transfer of the capital stemmed from a desire to establish a 'purer' political climate and also to reject the industrial infrastructure that was inherently built to serve western interests (port, railways and airlines in Karachi), since Karachi was a remnant of the British colonial infrastructure.[19]

It was during Ayub Khan's tenure that some of the biggest architectural commissions at the state level were put out and work on a new capital city was started. The planning task for the new capital city, which was to be named Islamabad, was given to the firm of a Greek architect Constantinos Doxiadis. This was, in part, because Doxiadis and his firm had previous experience with an urban design project in Karachi when they designed the master plan for the Korangi area in this city. Doxiadis's master plan for Islamabad was based on a grid-iron system and on his idea of a 'dynapolis' – a city that grows in a linear fan-shaped pattern from a starting point (FIG 1.2). Buildings for the national government and important cultural buildings would be the focus at the point of the fanshape. A committee was formed that would supervise the design and construction of this capital. It was called the Capital Development Authority (CDA) and N. A. Faruqui[20] was made its chairman.

As the seat of the Pakistani government, Islamabad was meant to house all the major government buildings including the secretariat complex, the presidential complex, the supreme court building as well as various other government owned public utility buildings which were meant to simultaneously project the image of a modern and progressive nation as well as that of a nation

[19] Op. Cit. Nilsson. Page 145. Lines 15-18.
[20] Faruqui was a Pakistani civil servant who served in many governmental and administrative positions before and after independence, including Secretary of the federal and Punjab governments, deputy commissioner of Karachi and election commissioner of Pakistan.

that took pride in its religious heritage. The architects of these buildings (who were foreign architects like Doxiadis such as Edward Stone, Gio Ponti, Kenzo Tange among others) did attempt to do exactly that and this fusion of Modernism with Islamic symbolism and formalistic allusion was what Kamil Khan Mumtaz called the "parallel processes of 'Islamization' of modern architecture and 'modernization' of Islamic architecture".[21] Since Mumtaz's commentary forms a significant part of this chapter on Islamabad, it is important here to briefly engage his views in relationship to this thesis. Mumtaz, despite forming an important scholarly voice throughout this thesis, has a somewhat essentialist way of looking at cultural and, by extension, architectural identity by maintaining the inherent dichotomy between concepts such as 'modernity and tradition' and 'East and West' as is visible from his statement above. Since he views these ideas as culturally and architecturally opposed to one another in his essentialist mode of thought, he makes little to no room for the acceptance of a 'hybridization' and therefore does not adequately discuss a way forward for a religious nationalism in Pakistan. This thesis, in contrast, discusses at many points how fusions between secular and religious ideas, and modern and traditional influences (among many others) formed important processes in the development of an architectural image.

Returning to the discussion of architectural commissions of important government buildings in Islamabad, an interesting point to note here is that every single one of these buildings was designed by foreign architects and the biggest reason was the dearth of any appropriately experienced architectural firms in the country. Kamil Khan Mumtaz writes about this plight

[21] *Modernity and Tradition: Contemporary Architecture In Pakistan*., By Kamil Khan Mumtaz, pg118 lines 7-8. Karachi, New York: Oxford University Press, 1999.

stating how there was one architect for every million people, ranking Pakistan globally among the poorest supply of architectural skills.[22]

Some of the most prominent buildings designed in Islamabad were part of the Presidency Complex designed by Edward Durrell Stone (FIG 1.3). Stone designed the Presidents house and the Parliament house as part of this complex. The commission was first given to Arne Jacobsen whose design was considered inadequate and criticized as not being 'national' (FIG 1.4).[23] This was due to his uncompromisingly 'modern' design vision for this complex that lacked the "Islamic features" that the CDA was looking for. This work is described in some detail in Nilssons work by highlighting its architectural form and space. The design was a low building on top of which a large cylinder would rise which would contain the assembly hall. The "mighty" form of the cylinder made it visible from all sides and its intentional simplicity and straightforward quality on the architect's part made it more in line with the International Style and made its shell completely free from any "expressionistic overtone".[24] The commission was then given to Louis Kahn whose design was also seen lacking. Sten Nilsson writes in *Islamabad: The Quest for a National Identity*: "The reason for the rejection of Professor Kahn's design is believed to be the inability to modify the design so as to reflect Pakistan's desire to introduce Islamic architecture in Islamabad's public buildings".[25] Stone was eventually chosen to design the buildings because of his known love for Mughal architecture and its grandeur and his designs eventually became the ones to be built. This reputation of Stone may have come about due to his recent works in New Delhi and Los Angeles. In the U.S. Embassy at New Delhi Stone used

[22] Ibid., pg118 lines 12-14.
[23] Op. Cit. Mumtaz 1985. Pg 187 line 12.
[24] Op. Cit. Nilsson. Page 178. Lines 15-20.
[25] Op. Cit. Mumtaz 1985. Pg 187 lines 19-22.

Islamic motifs including lacy grille patterns and, in the Home Federal Savings/Pacific Mercantile Bank Building, Stone's use of the stacked white arches represents, through a modern lens, his re-imagining of the Classical, Indo-Islamic, Moorish styles. The source of Stone's interest in this Indo-Islamic/Mughal style is unclear but his representation of it in his works marks an architectural style that made him famous for his formal gestures to these stylistic elements.

Stone's layout for the Parliament house consisted of a strict formal symmetry, which was evidently derived from his understanding of Mughal concepts, with a formal rhythm on the front façade implied by the row of columns and window openings (FIG 1.5). The Presidents house (FIG 1.6) can be seen to exhibit a similar rhythmic façade on the front and is designed as a tiered pyramid. Stone used his understanding of Mughal and local design ideas to add embellishments in the forms of arches, grills, verandahs and a dome but the verandahs were reduced in number in the final design and the rest of these elements were completely removed. The Mughal inspiration is also visible in the connection between the two blocks of the complex characterized by a formal garden and colonnades.[26] Stones commitment to the inspiration from Mughal architecture is seen in another work he made in the country, albeit not in Islamabad – the WAPDA (Water and Power Development Authority) building in Lahore (FIG 1.7). The inspiration for the corrugated façade is unclear however the inspiration from Islamic/Mughal architecture is somewhat evident in the canopy as well as the great plastic dome. Mumtaz has been rather critical of all foreign architects who have designed in Islamabad especially in the fact that their designs have not, for the most part, been responsive to the local conditions and this particular building has been one of those examples. The corrugated façade increases the external wall area which in turn increases

[26] Op. Cit. Mumtaz 1985, pg 187-188.

heat gain during summers and the plastic dome above traps the heat. The corrugations added to the canopy contribute nothing towards protection from the sun and rain (FIG 1.8).[27]

An important addition to the government buildings in Islamabad was the Secretariat Complex, (FIG 1.9) designed by the Italian team of architects consisting of Gio Ponti, Antonio Fornaroli and Alberto Roselli. Started in 1963 and finished in 1966, the Secretariat Complex consists of a group of straight and L-shaped buildings arranged in right angles to each other and placed on different levels. The office apartments are accessed from behind two distinct systems of precast concrete panels and the stairs and elevators are placed inside towers on the corners of the buildings[28] which Mumtaz views as a successful arrangement of a group of buildings into an integrated unity. He also points out how the complex gestures towards Mughal heritage in its forms and spaces: "The use of water and terraces at many levels is reminiscent of Mughal landscaping. The spaces are self-defined in a series of quiet enclosures which flow into each other through the building masses. The spaces between the tall blocks are bridged by horizontal ducts, framing dramatic vistas of the surrounding countryside."[29] In contrast to Mumtaz's view on this project, however, Nilsson sees the result of this design as a "hackneyed impression of "Muslim tradition"" because the gable ornaments do not convincingly portray the inspiration from Muslim tradition that the architects were hoping to demonstrate.[30] One more notable element present in the design is the use of barrel vaults to provide protection from the sun. Precedents for barrel vaults do not exist in the local vernacular although examples of such constructions do exist in Islamic architecture in more broad examples.

[27] Op. Cit. Mumtaz 1985, pg 179.
[28] Op. Cit. Nilsson. Page 176. Lines 30-34.
[29] Op. Cit. Mumtaz 1985, pg 185 lines 13-17.
[30] Op. Cit. Nilsson. Page 176. Lines 25-28.

The Supreme Court building designed by Kenzo Tange can also be seen as a structure that incorporates Mughal gestures in the large portal like forms at the front (FIG 1.10).

It is particularly interesting to note how Mumtaz points out that religious considerations and "Islamic nationalist sentiments" played an important part in the design commissions of such secular buildings as the ones mentioned above and what makes them even more interesting is how, in contrast, secular considerations played an important part in the design of the one religious building as part of Islamabad's plan. The religious building referenced here is the planned grand national mosque which today is known as the Shah Faisal mosque (FIG 1.11). Designed by Vedat Dalokay[31], the Shah Faisal mosque was the largest mosque in the world at the time and today is the fifth largest. The jury for this project consisted of officials from the International Union of Architects, the CDA in Islamabad as well as architects from within the country. This competition was meant to bring to fruition one part of what was initially considered the 'Greater Karachi Plan' mentioned earlier – the Principal Mosque as part of the Capital forecourt. It was named the Shah Faisal mosque after the then Saudi King Faisal bin Abdul Aziz who underwrote the cost of this project.[32] [33] Mumtaz quotes the jury for the design competition that yielded this design as having rejected designs that "did not fit the contemporary planning and design ideals of the modern city of Islamabad". One can see how there is an explicit attempt among the bureaucrats and national leaders to try and find a fusion between what

[31] A Turkish architect whose most famous work was the Shah Faisal Mosque. He also served as the mayor of Ankara, Turkey from 1973 to 1977.

[32] "Conserving the Religious and Traditional Values of Muslims with a Dome-less Mosque Architecture: A Case Study of Shah Faisal Mosque, Islamabad." Pg 249 lines 28-33. By Rehan Jamil

[33] Pakistan and Saudi Arabia have had a long-lasting diplomatic relationship whereby Pakistan often receives economic and humanitarian assistance from Saudi Arabia. Both countries are also members of the Organization of Islamic Cooperation (OIC) which Pakistan sees as an international platform to voice its concerns regarding the Kashmir dispute with India. Therefore this specific example of the Saudi monarchy funding the Shah Faisal mosque in Islamabad is one instance from a larger picture of Saudi – Pakistani diplomacy.

is considered Modern/conforming to an international style and traditional/regionally inspired, the latter of which was inseparable from a religious identity in Pakistan's case. This is exactly what the jury saw as the strength in Dalokay's design for the mosque in its 'classical approach of formal mosque architecture' and its blend with 'modern form and technology'. The jury even went ahead and suggested a few further edits to the design of this religious structure to fit it more to the 'international style' by suggesting the removal of any remaining references to traditional design. They suggested that the entrance canopy be redesigned to reflect the modern lines of the primary structure and that materials be reduced to as few as possible as well as the structure be expressed internally and externally.[34]

Islamabad's stature as a city and as an emblem of national image was reinforced by all of these structures and how they attempted to find that middle ground mentioned above between a progressive and Modern image as well as a cultural image rooted in its Islamic and Mughal design, heritage and forms. All these projects were commissioned during the tenure of Ayub Khan from 1958 to 1969 albeit their completions followed a few years after his exit from government.

Dhaka

Parallel to this national project of Islamic nationalist image in Islamabad, there was a similar project that had been initiated in another capital city in Pakistan at around the same time. Pakistan, at the time of independence, was divided into East Pakistan and West Pakistan. East Pakistan, after a pro-democratic movement leading to a war, was liberated, and formed what is today known as the country of Bangladesh in March 1971. Ayub Khan, while Bangladesh was

[34] Op. Cit. Mumtaz 1999, pg 117.

still East Pakistan commissioned the National Assembly Complex in the capital city of Dhaka in 1962 (FIG 1.9). Although Ayub Khan had acquired leadership of the country via a coup in 1958, the first genuine democratic elections were to be held in 1965 and Ayub Khan, in hopes of getting reelected and for that, to win the support of the East Pakistani's, declared that the National Assembly which met twice a year in Islamabad, would meet in Dhaka instead. For that purpose, Ayub Khan commissioned a governmental complex to be built there in order to show the people of East Pakistan that the Ayub Khan government was contributing significantly to their architectural development.

The commission of this building was at first given to a local Bengali architect who had graduated from Yale – Muzharul Islam. Early in the design process he realized that his level of expertise would be insufficient to design a project at this scale and he himself suggested three architects to the Public Works Department (PWD) – Le Corbusier, Alvar Alto and Louis Kahn. Corbusier declined to take up the project, Alto had fallen sick, but Kahn accepted.[35] Sarah Goldhagen describes this commission as rather unusual for Kahn as the client, Ayub Khan, cared little for the character and design of what was to be built and despite that he had a large amount of funding available in order to realize the project. Kahn's own beliefs placed the client's importance only insofar as it was in accordance with the architect's ideals and Kahn, in his form-concept of this building, focused on Ayub Khan's stated goal of the creation of a democracy.[36] Kahn, however, was also aware of the fact that common heritage (in Pakistan's case 'religious heritage') was to be equally important in this form-concept and the final building and he justifies

[35] "Situating the Democratic Way of Life: The National Assembly Complex in Dhaka Bangladesh" from *Louis Kahn's Situated Modernism*. Pg 164 lines 5-13. By Sarah Goldhagen. New Haven [CT]: Yale University Press, 2001.
[36] Op. Cit. Goldhagen, pg 166 lines 30-35.

these in his own words from a 1966 lecture where he highlights the importance of an "assembly" and that it is of a "transcendent nature. Men came to assemble not for personal gain, but to touch the spirit of commonness."[37] It is this 'spirit of commonness' through which Kahn was able to justify the inclusion of religious and traditional symbols in this otherwise secular/democratic building – a justification that would evidently have been a difficult one to reach for Kahn whose belief in democracy advocated for the separation of church and state. Kahn's focus throughout this design process for the building was on monumentality. His allusion to past historic precedents, he believed, could also offer new ideas and models for monumentality, which was perhaps another reason for him to look at the local heritage as a means of formalistic allusion as well as the fact that such references and gestures have the power to strengthen the ties of people who are bound together by these historic precedents and elements of heritage. He did, however, also advocate for a considerable amount of abstraction in his work of such symbols so as to make them barely discernible and he did so by integrating specific images into a compositional system that had a potent identity of its own.[38] The monuments of local heritage and examples of vernacular practice that he referred to were monumental Mughal buildings in the region as well as the Bengali vernacular building tradition. Before he started designing the building Kahn visited some Mughal monuments and these visits are documented in the letters he wrote to his wife telling her about his fascination with them and how "superb" the gardens, forts and mosques were.[39]

[37] Op. Cit. Goldhagen, pg 168 lines 9-10. First published as the first draft of Kahn's statements for the publication of his drawings for the Capitol Complex, "North Carolina," box 56, Kahn collection.
[38] Op. Cit. Goldhagen, pg 178 lines 27-35.
[39] Op. Cit. Goldhagen, pg 180 lines 1-4.

Goldhagen's contribution to the historical, philosophical and architectural unpacking of this project and its architect is a significant one. Her interpretation is discussed thus far specifically because of the relationship she draws between the cultural and political requisites of the building, with the uniqueness in design that the architect brought to the work. Her narrative also makes sense because it tells a similar story to the one taking place in Islamabad at the same time. However, in the same way that Mumtaz and his central views were briefly discussed earlier in this chapter in terms of their engagement with this thesis, it is also important to understand Goldhagen's coinage of the term 'situated modernism', its historical context, why Goldhagen believes Kahn's design of the Dhaka complex (and his other works in general) fits into this category, and how it relates to this thesis's discussion on religious nationalism. In contrast to the way Modernist architecture is traditionally understood – as being the product of an aesthetic principle which could fit into any context rather than belong to the specific context where it is conceived – "Situated Modernism", through Goldhagen's writing on Kahn is understood as a practice whereby works of Modern architecture stem from the context where they are 'situated' and are therefore a conscious response to it. Goldhagen credits two events as the historical context for this – first, a "continuous tradition within modernism that Kahn reinvented for himself"[40] and second, "the transformation of the modern movement in the years after World War II."[41] With the National Assembly Complex in Dhaka, Goldhagen takes the opportunity to explore how Kahn 'situates' his modernism by paying attention to themes of institutional character, history and geography – ideals that not only represented the geographical context of the place but also the historical context of the time. This idea of 'situated modernism', however, does not include many themes that this thesis considers important elements in the religious

[40] Op. Cit. Goldhagen, pg 9 lines 10-11.
[41] Op. Cit. Goldhagen, pg 8 lines 10-11.

nationalist project in architecture. These include ideas of local/traditional craftsmanship and religion among others. The inherent idea, however, of responding to the historical, political and geographical context of a nation while designing buildings, dovetails perfectly with the themes this thesis discusses in relationship to nation-building through architecture.

Returning to the discussion of the building itself, the National Assembly Complex in Dhaka houses a democratic parliament and related functions. The main form of this complex is a ten-story prism made of marble and concrete with hostels made of brick on two edges. It consists of eight halls arranged around the central grand chamber and this central chamber acts as the datum around which the other functions of the complex, such as offices, hotels and restaurants, were designed. In contrast to the Islamabad's CDA and its interaction with the architects designing buildings there, Kahn and his interaction with the PWD in Dhaka was very different. Kahn would refuse to comply with many of their suggestions of incorporating blatant Islamic gestures such as knitting the lightwells together to suggest a dome, to avoid overt historical references. His method of gesturing towards these references was considerably more abstracted. Kahn was able to do so by creating a two-tiered design that added a vertical gesture to an already expanding horizontal footprint and this two-tiered system was also an abstract allusion to the double arched porches that he evidently saw in Islamic precedents (FIG 1.13). This subtle referencing to Mughal architecture is also seen in the use of marble banding on the facades.[42] The refusal of Kahn to use Islamic imagery and blatant Islamic symbolism established how doing so would be antithetical to his modernist sensibilities and the rejection of ornament entirely. He instead pursued an authenticity that relied on symbolic imagery from "motifs drawn from local and high vernacular traditions – in order to create an architecture that a people would

[42] Op. Cit. Goldhagen, pg 183 lines 1-8.

appropriate as its own, and in so doing, would be reminded of the traditions its members shared as a community." [43]

The examples of the capital cities of Islamabad and Dhaka and how they were both simultaneously imagined as symbols of an independent, progressive, Muslim nation is indicative of how architecture became a potent vehicle for the symbol of national pride and how this material expression in the context of post-colonial Pakistan – with its religiously charged symbolism – became the starting point of the narrative that continues to weave the secular ideologies of people, nation, democracy and equality with the contrasting and sometimes complementing religious and traditional ideologies of vernacular building traditions, symbolic forms and common heritage and ritual. Both of these contrasting and complementing ideologies are prevalent in post-colonial societies and the importance of the latter has been discussed through works of Bill Ashcroft particularly because of the virtue of such ideologies tying together the identity of a people in a single brand of culture and heritage. The two examples of Islamabad and Dhaka, within the context of Post-colonial Pakistan present us with two contrasting methodologies by which religion and modernism (as an allegory of nationalism and progress) can come together in terms of representation, whereby the former employs many ways of blatant ornamental gestures to the religious and traditional and yet keeps the overall gesture modern, while the latter employs a technique whereby secular ideologies of progress and democracy stand more prominently and symbols of heritage, culture and religion find a new, abstract, non-ornamental method of manifestation in the built form.

[43] Op. Cit. Goldhagen, pg 186 lines 25-39.

Chapter 2: Aga Khan University Hospital – Islamic Cosmology and Indigenous Form as inspiration for the Nation's first medical research institute

The Aga Khan University Hospital (AKUH) (FIG 2.1) was completed in 1985 in the Southern port city of Karachi. It was commissioned by the Aga Khan as the largest medical research institute in the country and through this it was also meant to fulfill the legacy of continuing the propagation of education, knowledge and wisdom among the Muslim community that the Aga Khan and his ancestors have continued to contribute towards for more than a millennium. Before this paper delves into a formal and spatial (architectural) understanding of the project, it is important to understand this historical legacy in some more detail as well as the political situation in Pakistan at the time of this building's construction.

The AKUH, as mentioned before, was the continuation of a legacy of Islamic ideals of knowledge, related to a spiritual lineage. The Aga Khan and the person who holds this title from generation to generation belongs to the Nizari Ismai'li sub-sect within the Shi'a sect of Islam and the Ismai'li's trace their lineage to the Fatimid caliphate.[44] The Fatimids were the ones who laid the foundation of the historic Al-Azhar University in Cairo, Egypt, which was also meant to serve as a beacon for the acquisition of knowledge and the attainment of enlightenment, as well as a higher understanding of God that comes with this acquisition of knowledge. Exactly 1100 years after the formation of Al-Azhar, the spiritual descendant of the Fatimid Ismai'li lineage, the fourth Aga Khan who is also the 49th Imam of the Nizari Ismai'li's, laid the foundation of this institution of higher education in Pakistan and established its roots within these very Islamic

[44] A Survey of Ismaili Studies Part 1 Early Ismailism and Fatimid Ismailism. By Khalil Andani. *Religion Compass*, vol. 10, no. 8, 1 Jan. 2016, pp. 191 - 190.

ideals of knowledge: “Although this University is new, it will draw inspiration from the great traditions of Islamic civilization and learning”.[45]

The political situation in Pakistan at the time was also religiously charged. General Zia-ul-Haq had declared martial law in 1977, only a few years before work on the AKUH started, and seized power (similar to what Ayub Khan had done, except Zia-ul-Haq was not urged to do so by a member of the sitting government). The Prime Minister that he ousted at the time was Zulfiqar Ali Bhutto who was seen as a secular leader and after removing him from power, in an attempt to gain the support of the religious parties in Pakistan and thereby legitimize his regime to some degree, Zia-ul-Haq started the phase of Islamization in Pakistan which marked the first instance of mixing Islam with politics to such a degree in the country. This was also a particularly religiously charged time in Pakistan because only three years before Zia-ul-Haq’s tenure Pakistan was officially declared an ‘Islamic Republic’ and so nationalist sentiment at this particular time in Pakistani history was tied inseparably to Islam and an Islamic revolution. It is worth mentioning here that it was during the time of Bhutto’s government, a perceived secularist, that Pakistan became an Islamic Republic and one of the major reasons for the birth of this identity crisis was the recent separation of East Pakistan from West Pakistan and the resultant establishment of the country of Bangladesh. The formal acceptance of Islam as the nation’s identity at this time was, perhaps, a way towards redemption.[46] This sentiment of associating the nation and its politics with Islam was inevitably taken to new heights during General Zia-ul-

[45] Taken from the Aga Khan’s speech in Karachi on Mar 16, 1983 on the occasion of the acceptance of the charter for AKUH. (https://www.akdn.org/speech/his-highness-aga-khan/acceptance-charter-aga-khan-university)
[46] “Islamization: Religion and Politics In Pakistan." By John L. Esposito. *The Muslim World*, vol. 72, no. 3-4, 1 Jan. 1982, pp. 197 - 196.

Haq's government.[47] It was this very government that, as an act of charity and progressive thought as well as the propagation of pride in an Islamic heritage, provided the land for the AKUH free of cost and it was Zia-ul-Haq himself who presented the Aga Khan with the charter for the AKUH in 1983.

The AKUH was designed by Boston based American firm Payette Associates and an Irani architect Mozhan Khadem. Payette Associates have won a number of architecture awards including the AIA excellence awards. The brief that they were given was to design a campus that responded to the Islamic culture and history, especially of the region, and to make sure that the environment supports facilities that are required for the highest quality of medical teaching, learning and research.

The plan of the complex (FIG 2.2) can be seen to be characterized by a number of internal courtyards in the different facilities and by a central service "spine" that can be seen to extend from the private wing of the hospital, following through the central length of the main hospital building and culminating in the service building.[48] The medical school and hostels as well as the filter clinic and gate house can be seen to extend from the main hospital building through a series of connecting forms and courtyards. An extension of the medical school and hostels exists to the North of the complex, and a separate housing area is built to the West, both of which are not

[47] There are a few interesting side notes worth adding here. It has been stated that Bhutto was seen as a secular leader, but towards the end of his tenure he started a national process of Islamization in order to appease the religious groups of the country in hopes of getting re-elected. This irony is uncannily familiar because in the previous chapter Ayub Khan, a leader who himself did not acquire power democratically, initiated a national mission to erect monuments to democracy. The individual who ended up overthrowing Bhutto, General Zia-ul-Haq, sets an even more rigorous process of Islamization than Bhutto's as the credo for his regime, showing that the national project for identity has highlighted stakes of different leaders for their own gain. The fact that national culture in Pakistan has oscillated between themes of democracy, secularism, Islam and so on can be tied to Bhabha's ideology which posits the fact that national culture is always changing and we can see that architecture, more often than not, becomes a vehicle for regimes to reflect their political ideologies for a national image.

[48] "The Aga Khan University Hospital". By Hasan-Uddin Khan. *Mimar* 14 pg. 33 lines 28-31. Architecture in Development. Singapore Concept Media Ltd., 1984.

directly connected to the main hospital building. The courtyard typology, which as discussed later was the primary design strategy of the architects, is evident in nearly all of these different facilities that form the entire complex. One can see that there is an awareness of scale where these open courtyards are used. For instance, the main hospital has a relatively smaller court because most waiting areas are inside and because most of its medical functions are housed indoors as well. In contrast, the courtyard of the clinic is much larger in comparison to its built volume so that the outside space with its vegetation and water bodies becomes a pleasant outdoor waiting area for families of the patients. The courtyards in the medical school flow freely from one enclosure to the next and connect various lecture halls.

As mentioned briefly in the introduction, AKUH is characterized by some of the most recognizable and prominent features of Islamic architectural design around the world and its plan featuring the courtyard typologies, the strict axiality implied by local symmetries, geometric patterns on the screens and water courts, all come together to produce an effective and culturally responsive image of a series of structures steeped in vernacular and Islamic influences.

At the onset of the project, Mozhan Khadem, Thomas Payette (Principal architect at Payette) and their design team were sent by the Aga Khan to conduct an on-site study of Islamic historic and vernacular architecture in Spain, North-Africa, the Middle East and South-Asia. This research/study yielded the guidelines that the complex would follow in its interior and exterior forms and spaces. The design team decided that the complex should be designed as a series of continuous spaces rather than an “object” building. Although the physical requirements of the various facilities were rather diverse, this planning strategy allowed the architects to incorporate all of these into an organic whole and entrance portals, fountains and changing levels and vistas were used to identify these different facilities from one another. This results in an experience

where visitors do not sense the exterior geometry of the edifices, instead the experience consists of movement through portals, transitional spaces, and courtyards. These courtyards are each designed with characteristics specific to them which are appropriate to their relationship to the functions that encompass them.[49] Mildred Schmertz, in her article about the AKUH, titled "Indigenous High-Tech" describes how this layout of the complex as an architecture of continuous spaces surrounding an observer comes from indigenous Islamic neighbourhoods and settlements by comparing its plan with an aerial sketch of the roofscapes of an Iranian village in Murchekhort[50] (FIG 2.3). Interestingly, such examples of continuous roofscapes suggested by wind-catchers on top of houses are also present in the local vernacular of Pakistan, particularly Sindh (FIG 2.4).

It is worth mentioning here that, unlike the Alhamra Arts Council that will be discussed in the next chapter, the AKUH is situated in the South Eastern province of Sindh which has many historical examples of vernacular and Islamic design renditions that are unique to that province which, as will be discussed further in detail, manifest in different formal and spatial gestures within the AKUH in the same way that the vernacular and Islamic design examples of Punjab, the province where the Alhamra Arts Council is located, manifest as formal and spatial gestures in the Alhamra Arts Council. This makes for a significant and interesting regional study on how, within the same country, regional variants of the same religion and vernacular are present and how they influence modern works that look to these precedents as examples of traditional craftsmanship. The courtyard typology along with the formal and climatic responsive feature of

[49] "Indigenous High-tech [Aga Khan University Hospital and Medical College, Karachi, Pakistan]." By Mildred F. Schmertz, in the *Architectural Record*, vol. 175, no. 6, 1 May 1987, pg 136 lines 23 - 40
[50] Op. Cit. Schmertz. Pg 138 lines 1 – 5.

the wind-catcher, both of which are characteristic of Sindh's long-standing house building tradition, are evident in formal and spatial gestures in the AKUH.

Vertical structures with angled roofs (FIG 2.5) are present throughout the AKUH which are reminiscent of the wind-catchers present in Sindh. These wind-catchers (locally known as *mungh* and *badhgeer*) are present in many different configurations, especially in the Sindhi city of Thatta (FIG 2.6), and are usually found in groups of 4 or 5. Their singular forms and their angled roof pointing upwards gives the sense of a head raised high and their sculptural silhouette provides for an interesting architectural character.[51] The sheer number of them being present in the semi-urban cities of Sindh would give these cities an interesting skyline where one could at once recognize these structures as uniquely Sindhi in their architectural rendition. Like many of the building forms within the AKUH, the wind-catchers derive from the regional vernacular as they are the continuation of an ancient tradition still present in local villages that used them as thermal devices, and the architects for this complex took inspiration from there.[52] Within the Muslim world the form and use of the wind-catcher is historically documented in places like Egypt, Iran, Iraq and Pakistan in various cities. Yasmeen Lari's book, "*The Traditional Architecture of Thatta*," places the historic documentation of these wind-catchers in Pakistan in a larger historical tradition that spans many countries in the Islamic World. They were known as *Malqaf* in Egypt, *Bating* in Syria and *Badhgeer* in Iraq, Iran and Pakistan.[53] Descriptions of these wind-catchers can be found in writings as early as the thirteenth century in the recordings of travelers to Muslim cities with excessively hot climates such as Hormoz, Shiraz, Lar and Yazd.

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[51] *Traditional Architecture of Thatta*. Pg 134, lines 1-13. By Yasmeen Lari. Karachi: Heritage Foundation, 1989. Print.
[52] "Setting a Standard for Architecture In Islam: the Aga Khan School of Nursing In Karachi, Designed by Payette Associates and Mozhan Khadem". By Mildred F. Schmertz in the "*Architectural Record*", vol. 169, 2 Oct. 1981, pg. 88 lines 1 – 3.
[53] Ibid. Lari. Pg 127 lines 20 – 23.

Marco Polo in his record of a visit to Hormoz recounts how the extremely hot climate there results in people fitting their houses with "ventilators that catch the wind. The ventilators are set to face the quarter from which the wind blows ."[54] The Irani wind-catchers are multi-directional (FIG 2.7) square towers which account for the changing breeze direction and are different from the ones mentioned in Marco Polo's writings as well as those in Pakistan which are uni-directional and cater to prevailing breezes from the same direction. The wind catchers of Baghdad are documented in Ihsan Fethi's book on the houses of Baghdad.[55] Aydin Germen documents the evolution of the wind-catcher in Iran from Yazd,[56] and Prisse D'Avennes, the prominent French archaeologist and art historian recorded the use of Cairene wind-catchers in the nineteenth century.[57] What is interesting in the AKUH and its symbolic representation of these wind-catchers is exactly the fact that they are symbolic as well as functional. The intent on the side of Payette Associates was to add them as a climatic response as well as formal gestures to a symbolic vernacular building tradition. Symbolic and iconographic references play a significant part in expressions of identity and this will be evident in many of the following architectural elements as well, which reminds us, in a way, of the reconstruction of a pre-colonial tradition that Bhabha and Ashcroft speak of. Granted that these constructions in Thatta may still be very recent but their craftsmanship represents a centuries old building tradition that belongs to the land itself (and a larger tradition of Islamic settlements) and a symbolic gesture towards these in a contemporary building represents this sentiment of post-colonial societies attempting to pay homage to pre-colonial traditions and elements of culture.

[54] Ibid. Lari. Pg 128 lines 29 – 39. Originally published in *Architecture of the Islamic World*, edited by George Michell. Published by Thames and Hudson Ltd. London, 1978.
[55] Op. Cit. Lari. Pg 130 lines 36 – 54.
[56] Op. Cit. Lari. Pg 132 lines 1 – 3.
[57] Op. Cit. Lari. Pg 133 lines 1 – 3.

The courtyards and water courts in the AKUH (FIG 2.8), like the wind-catcher forms, serve a very functional purpose as spaces that allow for wind to enter the closed spaces attached to these courts as well as evaporative cooling from the water bodies. There is a certain historical value attached to courtyards in relation to Islamic architecture as well. Among many things the "bright courtyards" of mosques would serve as the counterparts to "shadowy mosque interiors",[58] and this would be most visible in the mosques that followed the four *iwan* style of mosque architecture (FIG 2.9) where a central courtyard would be surrounded on four sides by built horizontal structures. Houses, also, in many Muslim cities in the past such as Fez and Cairo and even Thatta were built around a courtyard that would seclude the private inside spaces of the house from the streets.[59] All of these cultural usages of the courtyard were in addition to its climatic value whereby the open space of the courtyard would allow for sunlight and wind to enter the spaces. This climatic value is embodied in the functional aspects of the courtyards in the AKUH as well. Before delving further into the functional and symbolic use of the courtyards in this complex, it is worth discussing the courtyard's historic importance in Islamic building tradition and its importance in a post-colonial setting. Nasser Rabbat, in his preface to his edited volume, "*The Courtyard House,*" discusses the perspective among modern architects that sees the courtyard house as a response to the "homogenizing tendencies of Western modernism." It was a centuries old regionally developed architectural feature that "addressed both cultural specificity and formal diversity."[60] This counter-internationalist response resulted in the courtyard house re-emerging as potent and honest architectural representation of traditional

[58] "Plurality, Continuity and the Function of Forms". Pg 13 lines 65-66, by Dogan Kuban. published in *Architecture As Symbol and Self-Identity*.l: Aga Khan Awards, 1980.
[59] Ibid.
[60] Preface. *The Courtyard House: From Cultural Reference to Universal Relevance*. Pg xxiii lines 29 – 34. By Nasser O. Rabbat. Ashgate, 2010.

culture. Culture, in this sense, says Rabbat, becomes a symbol of identity and post-colonial national(ist) unity:

"It is therefore no accident that the rediscovery of the courtyard house as the embodiment of cultural identity coincided with the age of decolonization and independence. Its revival was a direct outcome of a rising ardent nationalism that located its identity in the original, authentic culture of the homeland to which it laid claim. To the nationalist and culturally sensitive architect, the courtyard house was therefore … a sign of the vitality and depth of native culture that existed before and would, hopefully, be restored to its former glow after the overthrow of the tarnishing colonial experience. The architects positioned the courtyard house as both an affirmation of an active, pre-colonial traditional architecture and the foundation for a post-colonial national architecture."[61]

Apart from the courtyard typology having roots in a post-colonial discourse, it has an equally important Islamic discourse mostly owing to the notable Egyptian architect Hassan Fathy. In his own Arab-Islamic conception of a house he employed references to Islamic ideals of serenity and protection of the family which, among other features, contributed to his trademark courtyard house design being seen in the southwestern American wilderness as a recognizably Islamic form albeit predicated on an idealistic universalism.[62]

The usage of courtyards in the AKUH complex is varied. As was previously noted in the plan of the building, the courtyards change in scale throughout the complex and so does their intended use. Some of them are ideal for private contemplation where doctors and students can find a moment of respite (FIG 2.10), others act as waiting areas for both patients and visitors, and those present in the medical school and dorm facilities encourage interaction between students.[63] Garr Campbell was the landscape architect who developed the character of these courtyards by using

[61] Op. Cit. Rabbat. Pg xxiii lines 35 – 42 to pg xxiv lines 1 – 6.
[62] Op. Cit. Rabbat. Pg xxiv lines 24 – 34.
[63] Op. Cit. Schmertz 1987. Pg 142 lines 1 – 12.

indigenous vegetation, surface treatment and water bodies to create visually pleasing and soothing spaces with effective climate control capacities.[64]

At many points the courtyards contain water bodies that not only provide the evaporative cooling mentioned before but also serve as interesting geometric features with characteristic narrow water channels culminating in wide but shallow pools of water. These are rather reminiscent of such features present in Andalusian architecture especially in Granada (FIG 2.11) where water features and their axial arrangements were effective design elements in directing the eye to certain parts of the architecture. This attempt at creating a serene, peaceful and contemplative environment can be seen as the "continuation of the grand tradition of health-care in the ancient Islamic world" as it reflects the belief that the creation of a pleasing setting for patients, students and staff plays a part in aiding recovery and increasing productivity.[65] It is interesting to note here that such a precedent of using water bodies inside courtyards and open spaces does not exist anywhere in the Sindhi or, for that matter, Pakistani architectural tradition and so the fact that an international firm designed this building rather than a local one shows how a more over-arching and international view of Islamic design is visible in many of the places in the AKUH. This is in contrast to what the following chapter on the Alhamra Arts Council will discuss where a local Pakistani architect designed the building and so it focuses on a much more fixed lens of Islamic architectural heritage within that particular region.

The *jaali made* of terracotta (FIG 2.12) and the *mashrabiyya* screen (FIG 2.13) made of wood highlight the use of Islamic geometry in the design of the AKUH. Geometry and geometric patterns are sacred art-forms in Islam and they developed into a complex artistic expression

[64] Op. Cit. Schmertz 1987. Pg 142 lines 12 – 18.
[65] Op. Cit. Khan 1984. Pg 35 lines 12 – 18.

mainly because of the orthodox Islamic abstinence from representing human or animal form in art. Such patterns would usually develop from six, eight and ten sided polygons which would then be superimposed to form even more complex polygons. A prominent example of this process is present in the Bhong Mosque in Rahim Yar Khan in Pakistan.[66] This example of Islamic design is rather universal and is used both as an ornamental feature as well as functional. In its functionality it serves both a climate-responsive role by providing shading as well as a cultural role by providing a visual buffer between two spaces in order to create a sense of privacy. In its ornamental nature it adds to the complex and its emphasis on Islamic ornamental themes that are present in various parts of it. It is important here to touch upon the significance of ornament in the larger tradition of Islamic art and architecture. The very conception of "Islamic art and architecture" as a distinct category in western Europe in the nineteenth and twentieth century was, according to Gülru Necipoğlu and Alina Payne, a result of "a growing preoccupation with ornament and abstraction … a context in which Islamic visual culture was conceptualized as a purely decorative tradition."[67] Islamic art and architecture has, since then, played a significant role in international debates regarding ornament and abstraction. I. M Pei, in his personal statement regarding the design of the Doha museum of Islamic Art, writes that he had "at last found what [he] came to consider to be the very essence of Islamic Architecture" when he studied the ablutions fountain surrounded by double arcades in the Mosque of Ahmad Ibn Tulun in Cairo. The geometric progressions in the decorative ornaments that relied heavily on superimposed octagons, squares and circles here inspired his design. His observations in this

[66] Madiha Ahmad, Khuram Rashid and Neelum Naz in "Study of the Ornamentation of Bhong Mosque for the Survival of Decorative Patterns In Islamic Architecture." *Frontiers of Architectural Research*, vol. 7, no. 2, 2018, pp. 122 – 134.

[67] Gülru Necipoğlu and Alina Payne in *Histories of Ornament: From Global to Local*. Page 3. Lines 8-15. Princeton University Press, 2016.

mosque and the resulting inspiration that helped him design the museum in Doha led him to be convinced that "Islamic Architecture often comes to life in an explosion of decorative elements … the decorative art of Islam – the complexity of the geometry – is absolutlely superb."[68] Since the AKUH complex and its designers also sought inspiration from the grand tradition of Islamic art and architecture from around the world, it is no surprise that ornament and geometry became significant sources of inspiration. Payette, Khadem and Campbell paid significant attention to these ornamental themes because of the interest of the Aga Khan and his brother. As is previously stated, since an international firm designed this building, they brought with them an understanding of Islamic design themes that were more global and not always vernacular to the region. The ornamental use of marble, tiles and teak and their decorative motifs in the AKUH borrow directly from the Muslim court tradition rather than the vernacular village craftsmanship.[69] Schmertz justifies this with the idea that since the AKUH was envisioned as the largest and most consequential building in Karachi since independence, it made sense for it to reflect "the grand, rather than the village, tradition." The village/vernacular building tradition, however, is revalidated by the simple use of local craftsmanship and the use of labor-intensive hand-skills that even now are important criteria in the developing world. Through this, the Aga Khan and the designers of the AKUH provide education not only in medicine but also in the neglected building/craft trades.[70] On the theme of ornament, calligraphy has long been used as architectural and artistic ornament in the Islamic tradition. These inscriptions, designed in geometric and organic/floral patterns are words that come from religious poetry.[71] Such ornamental usage can be seen in the AKUH in its grills (FIG 2.14) and the aforementioned *jaali*s.

[68] Op. Cit. Necipoğlu and Payne. Pg 4 lines 1 – 8.
[69] Op. Cit. Schmertz 1981. Pg 86 lines 15 – 40.
[70] Op. Cit. Schmertz 1981. Pg 86 lines 42 – 66.
[71] Op. Cit. Schmertz 1981. Pg 88 lines 66 – 79.

This use of calligraphy is also visible in the use of interior tiles where a number of scripts such as *Nastaliq* and *Kufic* are used to inscribe words from the Holy Quran in floral patterns (FIG 2.15). Similar inscriptions can be seen in different designs right below this one such as the mirrored use of the word 'Muhammad'. The combined use of both of these symbolic designs was meant to be an homage to the Quranic event of *Miraj* (The Holy Prophet's Heavenly Journey) where the image of the flowers in the calligraphy right above the name Muhammad signified his ascent to the Heavens. The double mirroring of the name Muhammad below was a gesture to the four Islamic theosophical realms *Lahout, Malakut, Jaharut* and *Nasut*. This calligraphic border was also meant to evoke the image of the mythical bird *Simurgh* which represented man's quest from "the self to the Self."[72] The specific attention to ornamental detail in the AKUH is perhaps best seen in a sketch (FIG 2.16) by Payette Associates renderer Jim Gabriel and some of its first physical, architectural manifestations in a lounge of the School of Nursing (FIG 2.17). Such examples throughout the complex are a reaffirmation of the Aga Khan and the architects working closely together in the development of an appropriate ornamental language.

One of the more monumental Islamic features present in the AKUH complex are the large portals that lead from one part of the complex to another (FIG 2.18). These portals appear to be heavily influenced by the *muqarana's* (FIG 2.19) in Islamic architecture especially mosque architecture. These *muqarana's* are often visible in the four *iwan* style of mosque architecture and are essentially inward tapered corbelled arches with three-dimensional geometric tessellations on the top and sides. They encapsulate the grandeur of Islamic geometric patterns and fit them inside large, monumental structural gestures in the forms of portals that mark the passage from one space to another – usually an outside space to an inside space as can be seen in

[72] Op. Cit. Schmertz 1987. Pg 147 lines 1 – 28.

the four *iwan* style of mosque architecture. The AKUH takes the same design language and converts it into modern straight lines and does away with the ornamental tessellations, instead using Islamic calligraphy that follows the edges of these portals. Schmertz identifies the use of these portals in the AKUH as historical identifiers that would distinguish mosques from caravanserais and other building types. They essentially "announce the beginning of an aesthetic experience" in a way as to prepare the visitor for a spatial transition. These portals have historically and traditionally received significant volumetric and ornamental treatment. The AKUH complex uses these portals in a similar way and similar design with their monumental gestures and their role as doorways from one aesthetic experience to another.[73]

After having discussed the formal and spatial features of the complex and their influences from Islamic and vernacular traditions, it is also important to discuss the role that indigenous craftsmanship played in the formation of this complex. Through this one also gets an idea of the close collaboration of the foreign architects with the local craftsmen. As has been previously noted, the Aga Khan sending the architects to study global works of Islamic architecture influenced the design of this complex. In a similar way, the close collaboration of the architects with local craftsmen made it into a work that was sensitive and responsive to its context. Schemrtz notes Thomas Payette having said "By chance we stood next to a garden wall… We liked its texture and found the local craftsmen who knew how to do it – so we worked it out with them."[74] What he was talking about was the weeping plaster that is used on almost all of the exterior walls of the complex which provide a significant amount of self-shading capacity to the walls and allows them to be cooler in Karachi's hot climate. This use of plaster has been used

[73] Op. Cit. Schmertz 1987. Pg 14 lines 1 – 18.
[74] Op. Cit. Schmertz 1981. Pg 88 lines 11 – 17.

extensively in the local building tradition in Pakistan as an ancient handcraft method. Continuing on this impetus to work with local craft traditions, the Payette team selected tile products from the city of Hala which is arguably the most famous craft centre in the country with its bazaars lined with beautiful hand crafted tiles, textiles, ceramics etc. Interestingly, when the architects found the tiles inappropriate for their intended use, they personally traveled to the tile factory in Hala and saw first-hand the centuries old craft tradition whereby the artisans sit on the floor and use their bare hands to craft their products with knowledge and craftsmanship passed down from their forefathers. They journeyed there to convince these craftsmen to travel with them to Karachi so that the architects could have a more direct influence on the production of these tiles. When they went to Karachi to work they brought with them not only their craft but also their indigenous way of working. They sat on the ground besides their teachers, rejecting the stools. This resulted in the production of traditional Hala tiles which were in compliance with modern size and strength as the architects required. This also revived the Hala craft tradition in Pakistan which has since been used extensively in the country.[75]

Having summed up how the AKUH brings together vernacular and Islamic gestures together as culture appropriate and climate appropriate, there is something to be said about the value of Truth, in Islamic architecture. Hasan Fathy, an architect who has advocated for regionally appropriate building traditions, points this out in relation to man's direct interaction with his environment. In his words "If the form is not true to its environment, it will be false. And Islam does not accept falsehood".[76] It is safe to say here (and to assume for the sake of the arguments

[75] Op. Cit. Schmertz 1987. Pg 147 lines 30 – 70.
[76] "Fragmentation: The Search for identity" page 82 lines 93 - 101, by Hasan Fathy. published in *Architecture As Symbol and Self-Identity*.: Aga Khan Awards, 1980

that this paper makes) that the word ‘environment’ most definitely does suggest, first, the physical environment thereby implying the climatic and cultural elements in architecture that stand as responses to this physical environment and, in so doing, imply the essence of being True. But second, the temporal equivalent to this physical ‘environment’ is an equally important constituent in the appearance of Truth for a work of architecture. The fact that this building stands in post-colonial Pakistan; represents a millennium worth of efforts of a spiritual lineage to impart knowledge; and is made possible during a time of religious nationalist apotheosis, says something of the temporal moment that this building was built in. The fact that this building attempts to encompass all these three characteristics by virtue of its design, function and philosophy also contributes to it being True not just in its physical representation of Islamic architecture, but also its propagation of these religious, spiritual and philosophical ideals at a time in history when these values coincide perfectly with the nation’s collective sentiment.

By virtue of also being a work that pays homage to local building traditions that existed before the colonial moment, and the elements of Islamic heritage that defined the region before the era of the colonizer, the AKUH also fits Bhabha’s and Ashcroft’s definition of finding a new nation by reconstructing the pre-colonial past. There is also something to be said about the ‘hybridization’ that Bhabha talks about. The argument made thus far is that this idea of incorporating vernacular and indigenous elements into an architecture is essentially the reconstruction of a pre-colonial moment into a post-colonial rendition. This then warrants the question: Is the very idea, then, of a “vernacular and indigenous culture”, in itself, not the construct of the colonial perspective? Perhaps so, and in the process of hybridization that Bhabha talks about, when the post-colonial nation attempts at reconstructing this pre-colonial indigeneity it consciously and/or subconsciously reinforces that colonial perspective but it does so with a

sentiment of accepting that indigeneity as its identity, as opposed to suppressing that in an attempt to civilize (as the colonizer would want). It hybridizes the idea of the indigenous by accepting that it was, in fact a colonial construct, and then fusing it with the idea that this indigenous is now the source of the nation's identity. This process of hybridization, then, becomes an important part in this act of 'reconstructing' the pre-colonial moment.

Chapter 3: Alhamra Cultural Complex – The Nations center for the arts inspired by Mughal architecture

In the same way that Pakistan's immediate post-colonial years were spent in seeking an architectural identity, there was also a search for an artistic identity. This search for an artistic identity gave rise to groups whose aim was to promote arts and culture in the newly formed country, among which, the Alhamra Arts Council emerged as a prominent non-governmental organization interested in theatre and arts. The piece of land on which the current Alhamra Arts Council complex (FIG 3.1) stands was given to this organization by the Pakistani government in the years immediately after independence and it was occupied by a few temporary structures along with a small hut and most of its theatrical productions here were held in the open air.[77]

As the council grew in numbers and popularity, the members decided to construct a purpose-built complex to cater to its growing activities and Nayyar Ali Dada, who was a member of this council at the time and still a student at the National College of Arts, was commissioned to design it. Dada's AAC complex design was heavily influenced by the Mughal architectural monuments that characterize Lahore and its surrounding regions in central Punjab especially the Lahore fort and the Badshahi mosque, as an homage to the Mughal heritage of the region[78]. This

[77] "Alhamra Arts Council". *Legacies for the Future Contemporary Architecture in Islamic Societies*, page 117, lines 32-41 edited by Cynthia C. Davidson. London Thames and Hudson, 1998.

[78] It is worth mentioning here that the discussion around Mughal identity in this chapter is meant to highlight not just the fact that the dynasty represented an Islamic culture and architectural image but also that it represented precedents of local monumental architectural heritage – a heritage that belongs to this region specifically rather than anywhere else. The hope here is that a distinction can be made between the Islamic architectural image that the previous chapter showed (with the AKUH exhibiting formal, spatial and ornamental gestures from global works of Islamic architecture) and the Islamic architectural image that the Alhamra Arts Council encapsulates by paying homage to a local Islamic visual and cultural heritage rather than a global one. The aim is not to claim that this Mughal brand of Islamic visual culture is more adequate because of its regional value rather than an amalgamation of design gestures from global precedents, but to discuss how both processes, in their own distinct conception and rendition were able to articulate an Islamic national image through architecture.

project would eventually earn him great repute in the Pakistani architectural fraternity and beyond, as well as earn him a number of significant architectural commissions which would solidify his stature as one of the major contributors to the Pakistani architectural landscape. He would go on to win the Aga Khan Award for Architecture for this particular complex and the government of Pakistan would, later in his career, award him with the *Husn-e-Karkardagi* (Pride of Performance), *Hilal-e-Imtiaz* and the *Sitara-e-Imtiaz*, three of the highest civilian awards in the country.

The importance of this project and the discourse around it is particularly significant for this thesis because, after having discussed so far the international architects who were designing in Pakistan, it finally brings to light a Pakistani architect whose work can be seen as a significant contribution to a national architectural identity. It highlights how, at this particular moment in post-colonial Pakistan, local architects had started to use their architectural practice to address questions of identity. Immediately after independence, the Pakistani architectural fraternity was made up significantly of architects who were schooled in the "Western tradition" and many of them, after acquiring their architectural training at the J. J. School of Art in pre-independence Bombay, had gone abroad, usually to England, for further education.[79] Many of these would later become architect-teachers at one of the only two institutes in Pakistan's early years which offered any architectural training – the Mayo School of Arts, which in 1958, was upgraded to the National College of Arts and introduced the first regular courses in architecture apart from just teaching architectural drafting. Nayyar Ali Dada was one of the earliest graduates of this institution and a student of the same architect-teachers who were trained in and practiced the Western Modernist tradition. Dada's work, especially in the Alhamra Arts Council, and its

[79] Op. Cit. Mumtaz 1985. Page 164. Lines 14-17.

formal and symbolic allusions to local architectural heritage and building traditions showed a growing realization among this generation of architects that, apart from adhering to the teachings of modern architecture passed down to them from their teachers, there was a need to reflect a regional identity while designing which would make the architecture more pertinent to its time and place. His architectural philosophy, as evident in the AAC complex, was to employ ideas from "modernism and the vernacular, simultaneously".[80] He believed in a "hybrid architecture, which takes care of both the past and the present, which takes care of the identity of the people and which makes use of the fertility of minds of your own creative people".[81] Dada's AAC complex turned out to be an architecture of pure forms and reflected "shades of Louis Kahn" while simultaneously taking inspiration from the Mughal architectural icons present in Lahore specifically and the central Punjab region generally. The project was given the Aga Khan Award in 1998 "For having created a significant cultural complex as a continuously used art forum in the city of Lahore, while interpreting traditional Mughal style by way of a modern architectural vocabulary. The whole complex is a rare example of flexible spaces, and has enabled several additions to be made over time, each of which has in turn enhanced rather than detracted from, its overall architectural value."[82]

Before analyzing the complex itself, it is worth delving into a brief history of Lahore as a prominent Mughal city to better understand why Dada was inclined to use iconographic and symbolic gestures from Mughal architecture (specifically those in Lahore) in the design of the AAC (FIG 3.2). Understanding this history and then relating it to the design of the complex can

[80] *Searching for Identity: The Approaches of three Pakistani Architects*. Page 62. Lines 20-21. By Nadir M. Khan. Cambridge [MS]: Massachusetts Institute of Technology, 1990.
[81] Taken from an Interview of Nayyar Ali Dada conducted by editors of Zameen.com (an architecture/real estate/property consultation website).
(https://www.zameen.com/blog/mr-nayyar-ali-dada-zameen-interviews.html)
[82] Op.Cit. Davidson. Page 115.

also help draw parallels with Bhabha's and Ashcroft's description of post-colonial societies and their reconstructions of pre-colonial moments as reflections of identity.

Lahore was made the capital of the Mughal empire in 1585, under the rule of Akbar, the third Mughal emperor, and it continued to stay an important center for the empire until the mid-18th century.[83] It was customary during the early decades of Mughal rule for an emperor to show his partiality towards a city by patronizing large-scale building campaigns within it and its surroundings and so Lahore became a significant location for Mughal architectural patronage during the reign of the first three Mughal emperors along with the cities of Agra and Delhi. Between 1556 and 1627, Mughal architectural patronage in Lahore was at its peak.[84] Mehreen Chida-Razvi writes "Many noteworthy and important sites were already constructed or were under construction and, as attested by the continued architectural patronage of the city during the reign of Shah Jahan, Jahangir's son and successor, Lahore retained an important status in the Empire."[85] When a city would be declared a capital under Mughal rule one of the first buildings to be constructed would be a Fort-Palace known as a *Qila*, which would be symbolic of the "pomp, wealth and life of the Mughal Court."[86] The Lahore Fort (FIG 3.3), therefore, was and still is one of the two most iconic Mughal monuments in the city of Lahore (Apart from the Badshahi Mosque). Spread over 20 hectares, and consisting of 21 significant monuments including fortified gates, palaces, pavilions and attendance halls, the Lahore Fort was started during the reign of Emperor Akbar and construction/expansion continued throughout the reigns

[83] Lahore, Delhi and Agra served simultaneously as the Mughal imperial capitals from 1556 to 1648.
[84] "Where is the greatest city in the East: The Mughal City of Lahore in European Travel Accounts" By Mehreen Chida-Razvi. *The City in the Muslim World: Depictions by Western Travelers*. Pages 79-84. Edited by Muhammad Gharipour and Nilay Ozlu. New York: Routledge, 2015.
[85] Ibid Chida-Razvi. Page 84. Lines 11-16.
[86] Ibid Chida-Razvi. Page 79. Lines 31-32.

of Emperors Jahangir, Shah-Jahan and Aurangzeb. Aurangzeb's addition to this fort complex was the iconic *Alamgiri Darwaza* (Alamgiri Gate) (FIG 3.4) which was meant to face the Badshahi mosque (FIG 3.5) commissioned by him and built in 1671. Being the largest mosque from the Mughal era and the second-largest mosque in Pakistan, the Badshahi mosque, with its red-sandstone and white-marble inlays is another iconic addition to Mughal architectural patronage in the city of Lahore.

It has been implied previously in the introduction that Pakistan as a post-colonial nation-state sought to represent itself as a nation for the Muslims of the sub-continent and therefore its nationalist sentiment was most often mixed with an Islamic sentiment. Arguably the most prominent Islamic heritage in the Indian sub-continent was symbolized by the architectural legacy of the Mughal Empire. Saleema Warraich writes that these Islamic/Mughal "monuments of Lahore have been at the centre of debates regarding the nations commitment to its Islamic past."[87] Nadir M. Khan echoes these thoughts by saying that since "Pakistan was created as an independent state for the Muslims of India they sought inspiration from the Mughal Empire".[88] This existence of a pre-colonial architectural heritage in this region and use of its formal and visual symbolisms in the architecture of Nayyar Dada's AAC complex underscores the importance of looking at this work as a significant example of a Pakistani architectural identity, embedded within a Muslim heritage.

The Alhamra Arts Council Complex was built in four phases (FIG 3.6), over a period of 15 years, with the main auditorium (the principal building of the complex) (FIG 3.7) finishing in 1981 with Phase I and the entire complex finishing in 1992. The second phase consisted of art galleries and offices housed inside four octagonal structures arranged symmetrically around a

[87] "Locations of Longing." *Third Text*, vol. 25, no. 6, 1 Nov. 2011. Page 705. Lines 3-5. By Saleema Waraich.
[88] Op. Cit. Khan. Page 14. Lines 15-17.

central axis and was completed in 1984 (FIG 3.8). The third phase, which was completed in 1985, marked the completion of a second, smaller auditorium which was connected to the first auditorium in way that they could share backstage facilities (FIG 3.9). The fourth and final phase added two more octagonal structures connected to each other. The first one of these was another small auditorium which was intended to be used for lectures and traditional musical performances and the second one was to house another set of offices.[89] The completion of this final phase in 1992 created for a composition of buildings that significantly enhanced the character of the central courtyard and green spaces. These spaces would become the most active ones as they would generally be open to the public all the time making this one of the most active and regularly visited buildings in Lahore.

The inspiration from the Lahore fort is most evident in the forms of these buildings, especially the principal auditorium from the first phase of construction. This building is characterized by its monumental and imposing scale as well as its large walls which taper by starting thicker at the bottom and becoming thinner at the top. They slant inwards near the corners where they also disengage in an attempt to soften the mass of this imposing and monumental form. This character of the building is visually and symbolically allegorical to the fort-like monumentality visible in certain structures of the Lahore Fort. The walls alone form a significant symbolic and formal allusion to the Lahore fort through their sheer size and width (FIG 3.10) and a number of architects and scholars who have written about this building agree on this one point of comparison between the AAC complex and the Lahore fort. Cynthia Davidson writes how the tapering of these walls near the corners are done in a way "not unlike the walls of the Lahore Fort",[90] Nadir M. Khan writes how these "massive buttress like walls [are] reminiscent of an

[89] Op. Cit. Davidson. Page 122. Lines 4-23.
[90] Op. Cit. Davidson. Page 122. Lines 2-4.

endearing monument of Lahore, the Imperial Mughal fort,"[91] and Hasan-Uddin Khan adds how the "imposing scale and clean geometricality of the walls" make for very potent "references to monumental architecture of the Mughal period in Pakistan."[92] The polygonal form used throughout the premises, interestingly, is inspired by both – local heritage and modern architectural philosophy. The influence of the former is evident through a comparison of the geometry of the Lahore forts towers and the forms of the AAC complex (FIG 3.11) while the influence of the latter is implied in the 'form follows function' approach whereby Dada's use of polygonal forms was also informed by the belief that such forms are most conducive for theatrical performances because of better acoustic and visual capacities in the inside spaces. This polygonal configuration prevalent around the complex is not only present in the forms but also the resulting spaces between those forms. Similar configurations are visible in the Lahore Fort complex not only in the forms of the pavilions and halls and so on, but also in the concentric squares that form the gardens and courtyards (FIG 3.12).

An interesting observation about this complex that was mentioned briefly before was the one made by Nadir M. Khan where he says that the uniqueness of this design lay in its fusion of local architectural heritage with modern architectural renditions that reflected "shades of Louis Kahn." In his mention of Louis Kahn, Khan intends only to direct attention to the concrete waffle slabs inside the auditorium building (FIG 3.13) but apart from that, Dada's use of openings to light interior spaces is also somewhat reminiscent of Kahn's designs. The AAC complex follows two main configurations of openings seen throughout its various buildings. The large vertical slits in the auditoriums (FIG 3.14) and the semi-open concentric octagons on the roofs of the galleries

[91] Op. Cit. Khan. Page 62. Lines 2-4.

[92] "Public Auditorium, Alhamra Arts Council". *Mimar* 23. Page 21. Lines 41-46. Architecture in Development. Edited by Hasan-Uddin Khan. Singapore Concept Media Ltd., 1987.

(FIG 3.15) both are similar to Kahn's method of cutting geometric voids in forms to allow light inside the spaces. Dada's inspiration from iconic works of Modernist architects is most evident in such architectural renditions in the AAC complex.

The extensive use of red-brick, in part, also came from the desire to reflect in the AAC an image of Lahore's Mughal history because it "recalled the red sandstone of the Mughal Lahore Fort and Badshahi Mosque, the two most important historic buildings in the city."[93] (FIG 3.16) One of the more interesting points of discussion here is how Dada's use of brick in the AAC complex also reflected his attempt to reconcile "modernism and the vernacular". Nadir M. Khan writes that Dada had, in his designs before the AAC complex, exhibited a fairly 'purist' tendency in his use of brick which had become a signature in most of his works. In the AAC Dada moves away from this and uses brick only on the surface of these buildings rather than expressing this material internally and externally. The inside spaces consist of plastered walls and concrete columns – an evidently modernist influence. Dada's use of brick in the AAC complex "while relating to a local building tradition is, through the use of cantilevers and large span openings, utilized in a manner that negates its inherent structural expression and potential."[94] Dada takes a local material that is used extensively in the region and expresses it in a way that marks a break from traditional forms. Dada recalls in the interview mentioned before that this extensive use of red brick was also informed by observing some colonial era British buildings in Lahore and how "wonderful" these "masterpieces" looked because of the use of red-brick. Despite his view that architecture at this time in Pakistan needed a strong expression of national/regional identity he adds that his "western training had taught [him] that replicating an architectural construction didn't hold merit

[93] Op. Cit. Davidson. Page 121. Lines 3-6.
[94] Op. Cit. Khan. Page 63. Lines 1-3.

and that architecture has to move along with the progression of time."[95] The importance of reconstructing the pre-colonial moment in a way that it is relevant to the contemporary era is evident in Dada's philosophy behind this design.

Dada's conceptualization of this complex is based significantly on the attempt to bring together teachings of modern architecture, which were prevalent at the time, with local sensitivities that were not only restricted to local labor and materials but also included formal and symbolic allusions to a local monumental architectural heritage. One of the major ways that this complex differs from the AKUH complex from the previous chapter is that its architectural features borrow mainly from a singular source of Islamic architectural heritage rather than a global one -. The discourse around it, therefore, revolves only around the Islamic architectural heritage of this particular region. The central Punjab region has many architectural monuments constructed by Muslim rulers not just from the Mughal Empire but even their predecessors in India that formed the Delhi Sultanate. Nadir M. Khan writes how not only is AAC's use of octagonal forms present in Mughal architectural precedents, one can also see it in works such as the Tomb of Shah Rukn-e-Alam, (FIG 3.17) present in the Punjabi city of Rahim Yar Khan which, although not a work from the Mughal era, also represented the tradition of Islamic monumental architecture in the Punjab region. Nayyar Ali Dada also admits that these were sources for his design inspiration as well.[96] This constitutes another big difference between the AKUH with its design influence from local Sindhi architectural precedents and the AAC with its design influence from local Islamic architectural precedents in the Punjab region. This highlights the fact that within the same country the different regions and their precedents of local and Islamic building traditions can be vastly different and therefore expressions of national identity derived from them can manifest in

[95] Op. Cit. Dada.
[96] Op. Cit. Khan. Page 62. Lines 4-6.

different ways – what stays common, however, is the need to reconstruct the pre-colonial moment which can range from vernacular building traditions to formal gestures borrowed from local architectural heritage. The AAC's inspiration from its local/regional Islamic architectural precedents rather than a global grand tradition of Islamic architecture (as seen in the AKUH) can be attributed to the fact that a local architect was more inclined to using only local precedents as inspiration for designing a complex that he envisioned as an expression of a national identity by evoking "memories of a local monumental architecture."[97]

Dada sees himself as a staunch believer in the notion of taking inspiration from local architectural heritage while at the same time learning from contemporary global architectural practices. He addresses how these beliefs stem from his life in the city of Lahore and as a student at the National College of Art. He recounts how in the early 1900s in British India, John Lockwood Kipling, the Principal at the National College of Art (which was then the Mayo School of Art), debated with the viceroy at the time who wanted to introduce buildings in Lahore that followed the Western Classical and Palladian styles of architecture as testament to their rule. Kipling disagreed with the idea of introducing such "foreign implants" in India and advocated for indigenous vocabulary/material and local architects/craftsmen to build there. The viceroy was against building more of what he considered "indecent, indigenous things" but despite that Kipling hired Ganga Ram and Bhai Ram Singh, two of the most revered designers and craftsmen from pre-independence India, who designed buildings in Lahore such as the High Court, Aitchison College and Punjab University. Dada adds how these works represented a potent "hybrid architecture" between the "layouts of the British and … our native material and language". Dada, by narrating this story, highlights how in his view this act of representing the

[97] Op. Cit. Khan. 1987. Page 22. Lines 66-67.

"indigenous" and the "native" in the architecture of Lahore actually became a kind of resistance against the colonial ruler and it is evident that by representing these ideals in the AAC he meant to establish this work as a potent representation of post-colonial Pakistan.

One of the most pertinent questions that could be asked after this study of the AAC complex is whether Dada's idea of hybridity in architecture can be looked at through the lens of cultural hybridity that Bhabha points out in his texts. First, in the same way as was discussed in the previous chapters conclusion, the transformation and therefore 'hybridization' of the word 'indigenous' is evident here. The idea that in the post-colonial society the negative connotation given to this word by the former colonizer is removed by the former colony (and now the post-colonial nation) and is therefore transformed into a source of pride. The reconstruction of this 'indigenous' culture in the post-colonial nations artforms such as literature, art and architecture, therefore, represents shrugging away the colonial past. Apart from this there is another discourse around the word 'hybridity' that is of merit here because a major discourse in this work of architecture was the marriage between Western Modernist architectural teachings and traditional representations of the vernacular and local architectural heritage. The very focus on the "Western tradition" of education (not just in architecture) in this part of the world is seen as the remnant of the colonial mindset and this was present in the first generation of architects in Pakistan. It was passed down to their students who were taught to adhere to Modernist teachings which were prevalent in the West because that is what they were taught themselves. Dada's and his generations belief that this philosophy fused with the sensitivity of local traditions and symbols could be an ideal representation of our time and place, is a very potent reflection of the kind of "syncretic" hybridity that Bhabha points out as a characteristic in post-colonial nation states. The AAC complex is therefore an important precedent to study because it represented a collectively

growing mindset in contemporary architects which sought to reconcile the western/modernist architectural teachings of their teachers while addressing the emerging need to represent a language that could serve as an example for expressing identity through architecture.

Conclusion

Recounting the historical narrative of architectural development in Pakistan from the presidential commissions of Islamabad and Dhaka, to the conception of the Aga Khan University Hospital in Karachi, and finally with the Alhamra Arts Council in Lahore, one of the themes that is apparent is that this reflection of a religious nationalism in architecture, throughout the history of the nation, has been tied together with the narratives of multiple political, religious and architectural stakeholders. With the presidential commissions of the two capital cities, it is evident that this religious nationalist sentiment (tied with the propagation of a democracy) was sometimes a tool for a military dictator to validate his own political career. With the Aga Khan university hospital, this narrative of a religious nationalism is also tied to the identity of an institution (The Aga Khan Foundation), which is in turn tied to a religious and spiritual lineage (The Fatimids and the Nizari Isma'ili's). With the Alhamra Arts Council, the manifestation of a religious nationalism in its architecture is tied with the development in late 20th century Pakistani architectural pedagogy that fuses Western schools of thought with local sensibilities. This highlights that the national image was never unitary and that different stakeholders projected this mission of presenting a religious nationalist image through architecture by also fusing it with their own ideologies.

The two works analyzed in this thesis, the Aga Khan University Hospital and the Alhamra Arts Council, in an attempt to reflect a national/regional identity, play a significant role in reviving and revitalizing local craftsmanship, traditional ways of building, vernacular methods of construction and treatment and paying homage to a regional history through formal, spatial and ornamental allusions to historic works of architecture – all of which represent a pre-colonial culture that belongs to this region and therefore form a post-colonial reconstruction of cultural

and architectural identity. However, apart from the importance of these two works of architecture in a local/national discourse, they also occupy a place in a more international discourse because of their narratives surrounding a global 20th century expression of Islamic architectural identity. This theme of an Islamic architectural expression of identity, in the post-colonial project, is of immense importance and the case of Pakistan is just one example of how inherently the discourse around Islam and national identity is tied together with the effort of decolonization. As mentioned before in the introduction, the age of decolonization that ranged from the 1940s to the 1960s saw a number of Asian and African states acquire their freedom, and many of them were Muslim majority states ranging from Algeria, Morocco, Indonesia, Sudan, Pakistan and so on.

Upon acquiring freedom and as a result, upon rejecting the colonial world view, these countries took control of their own resources and began the project of decolonization that was inherently tied to the development of a national identity and, as the discussion of Ashcroft's theory has highlighted, these countries sought to reflect their national identity by reconstructing the pre-colonial moment which, in the case of these Muslim states, was their Muslim heritage and culture. This age of decolonization therefore gave birth to a new kind of Pan-Islamic architectural expression that although differed in all these various contexts, was also tied together by certain influences, arguably the most prominent among which was the influence of the Aga Khan Foundation which, since 1977, has had a significant presence around the world and has promoted contemporary expressions of Islamic architecture in many countries especially these post-colonial states mentioned above. The two works analyzed in this thesis, fit into this global, international Pan-Islamic narrative but also tie it down to local, national stories of architecture and culture, thereby showing that they were involved in a similar process of shrugging off the colonial past that these other Asian and African countries were.

Another theme that the discourse thus far highlights, since the discussion revolves significantly around the schools of thought that were prevalent in the 20th century (Modernism, post-coloniality, 20th century Islamic architecture), is that all the ideas discussed in this thesis regarding architectural development in Pakistan are periodic phenomena. They belong specifically to this period in history – the mid to late 20th century. Architectural and cultural identities have sought different forms of materialization and manifestation in different periods of time and this specific era was characterized by the expression of an Islamic nationalism which reached its apotheosis with the advent of the Aga Khan Foundation and its efforts (among other local actors and stakeholders as mentioned at the start of this conclusion). This raises some potent questions which could become worthwhile ideas for further development of this research such as how this continuing movement could develop and transform in the years to come, and how, if at all, could the design philosophies enshrined in the works analyzed here carry on into the 21st century. By keeping these questions in mind, one wonders if there is a certain time period after which the post-colonial society stops identifying itself in relation/contrast to its colonial past and, as mentioned above, architectural and cultural identities in this society start seeking different forms of materializations. The two works discussed in this thesis – the Aga Khan University Hospital and the Alhamra Arts Council Complex – pay homage to the pre-colonial moment and the vernacular, indigenous and Islamic past of the country but at the same time offer directions for the future of an appropriate architectural expression for the country as well. By acts such as revitalizing a local craft tradition such as in Hala by not only reviving it but also bringing it up to international and modern standards (in the AKUH), and by taking a local, indigenous material such as red-brick and using it in a way that marks a break from traditional methods of building (in the AAC Complex), the two buildings offer sustainable ways of staying

true to local roots while simultaneously adapting to contemporary technological standards. This highlights how architecture can, despite learning from and borrowing elements from the past, can gesture towards future developments that are not constrained by this past.

Apart from material and structural innovations these works also highlight the importance of a contemporary expression of Islamic architectural heritage whether local or international and how this 20th century Islamic expression in architecture is important to national identity, thereby highlighting the fact that we cannot simply continue to replicate elements from that pre-colonial moment that we recognize as our cultural identity but we must also recognize that it must be adapted into a contemporary expression.

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Illustrations

Chapter 1:

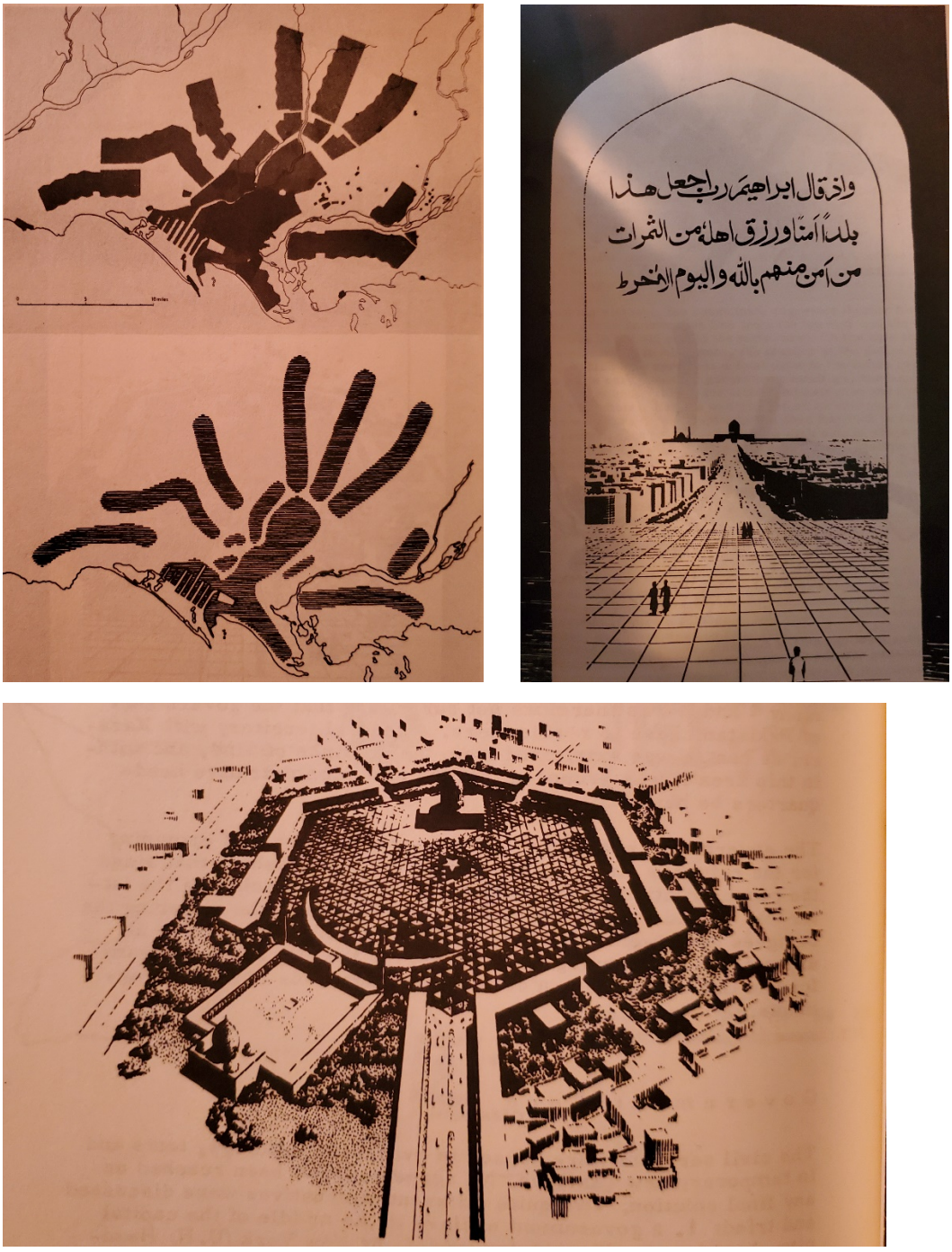

FIG 1.1 Alternative Developments of Karachi, In accordance with the Greater Karachi Plan (Top Left), Karachi, Main Axis, as shown in the Greater Karachi Plan 1952 (Top Right), Street Dwellers, Saddar bazaar Area, Karachi 1969, and "The Heart of Pakistan", as shown in the Greater Karachi Plan 1952 (Bottom). Pictures taken from *The New Capitals of India, Pakistan and Bangladesh*. By Sten Åke Nilsson. Studentlitteratur, 1973.

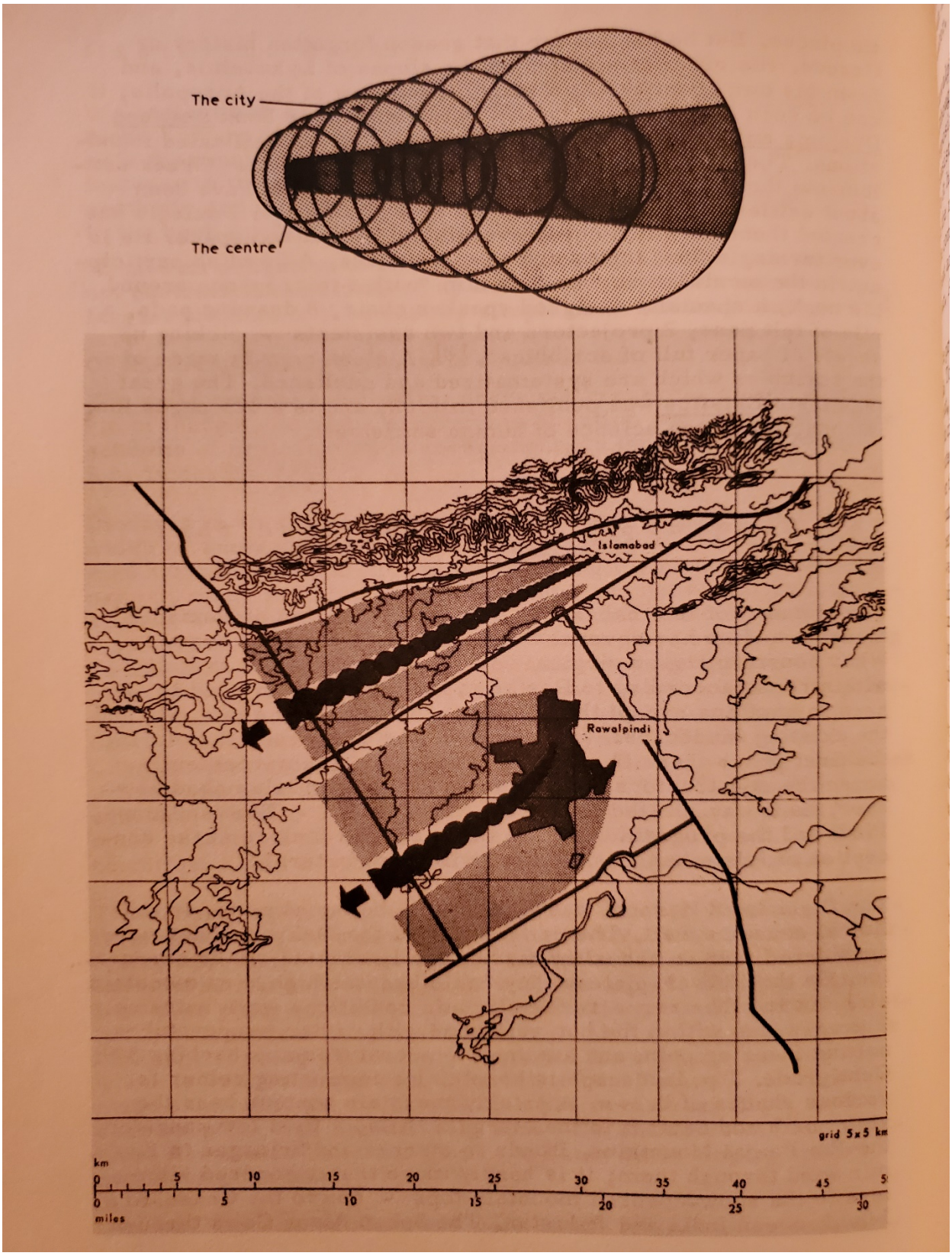

FIG 1.2 Diagram of Dynapolis and the dynamically growing dynametropolis of Islamabad, 1960. Picture taken from *The New Capitals of India, Pakistan and Bangladesh*. By Sten Åke Nilsson. Studentlitteratur, 1973.

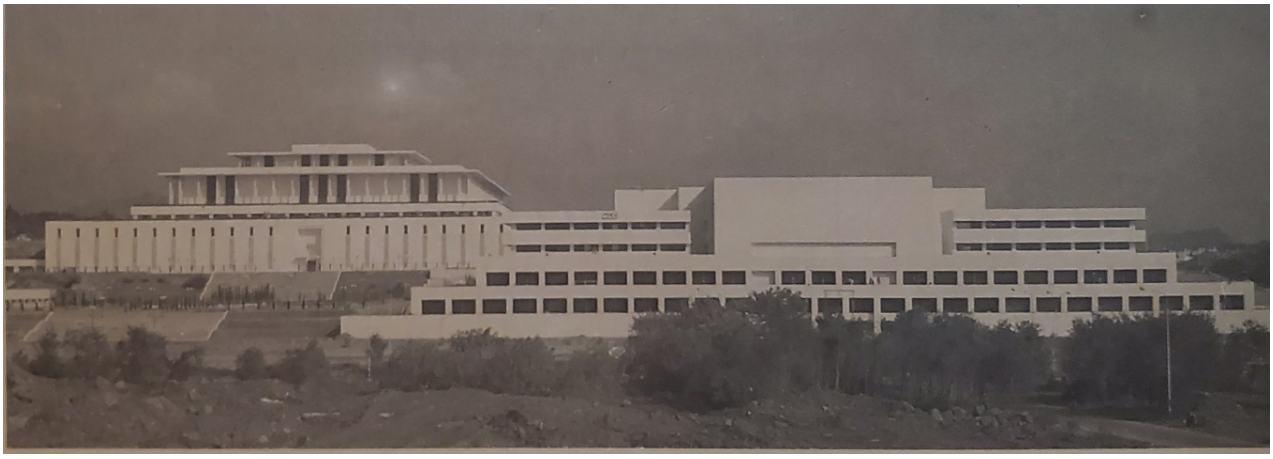

FIG 1.3 The Presidency Complex in Islamabad designed by Edward Durrell Stone. Picture taken from *Architecture In Pakistan*. By Kamil Khan Mumtaz. Singapore: Concept Media, 1985.

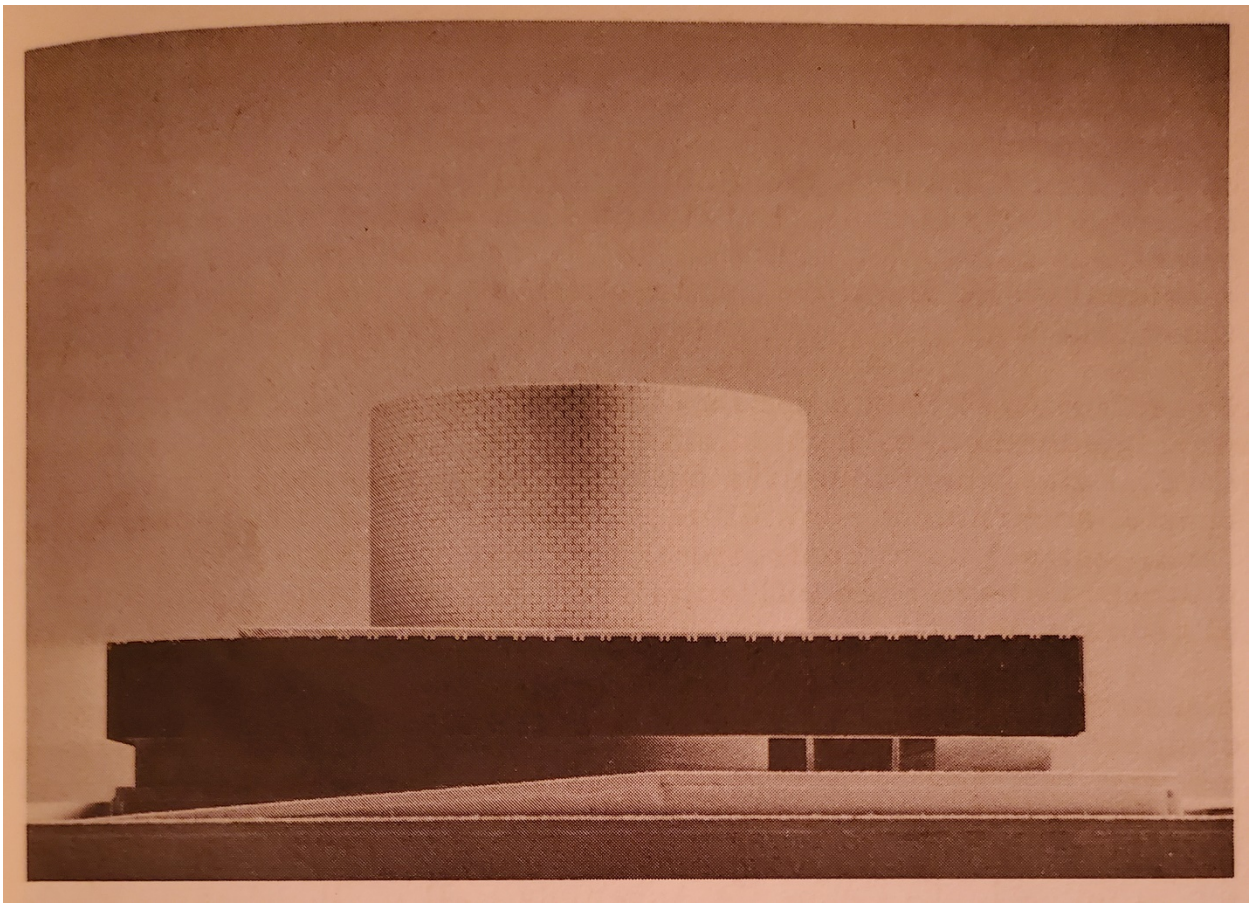

FIG 1.4 Model of the Assembly Building in Islamabad designed by Arne Jacobsen. This proposal was rejected by the CDA. Picture taken from *The New Capitals of India, Pakistan and Bangladesh.* By Sten Åke Nilsson. Studentlitteratur, 1973.

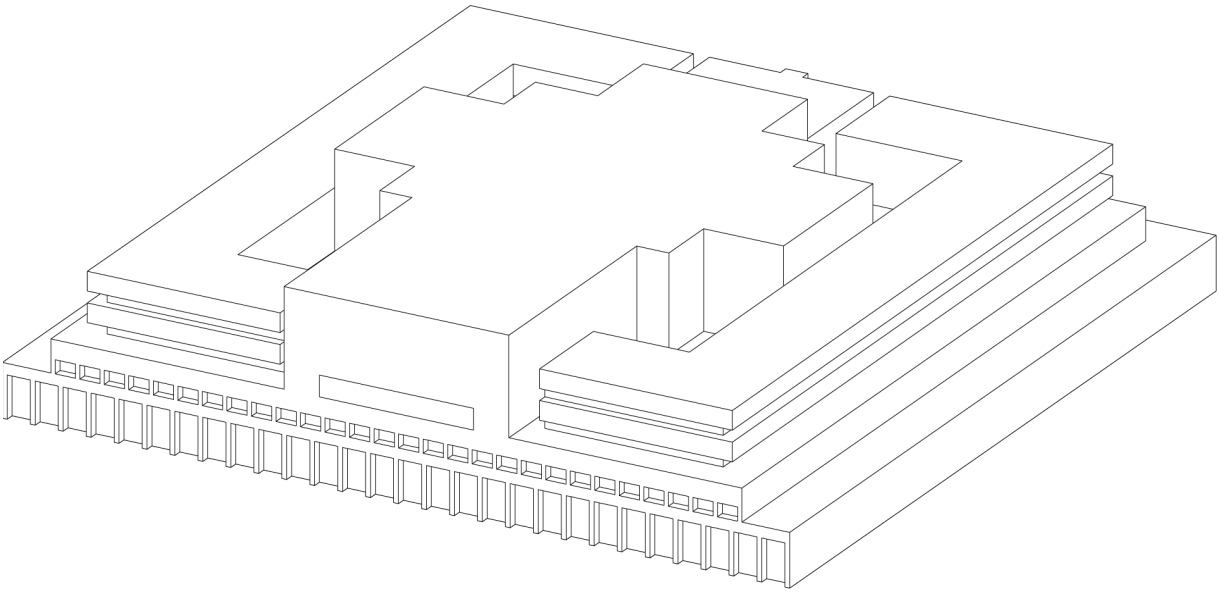

FIG 1.5 Axonometric diagram of the Presidency Complex in Islamabad showing symmetry in plan and formal rhythm in the colonnade and openings in the front façade. Picture taken from https://www.places-of-power.org/wiki/index.php?title=Pakistan.

FIG 1.6 The Presidents house as part of the Presidency Complex in Islamabad Designed by Edward Durrell Stone. Picture taken from *Architecture In Pakistan*. By Kamil Khan Mumtaz. Singapore: Concept Media, 1985.

FIG 1.7 WAPDA Building in Lahore Designed by Edward Durrell Stone. Picture taken from *Architecture In Pakistan*. By Kamil Khan Mumtaz. Singapore: Concept Media, 1985.

FIG 1.8 Perforated canopy on the WAPDA Building in Lahore. Picture taken from *Architecture In Pakistan*. By Kamil Khan Mumtaz. Singapore: Concept Media, 1985.

FIG 1.9 Secretariat Complex in Islamabad designed by Gio Ponti, Antonio Fornarolli and Alberto Roselli. Picture taken from *Architecture In Pakistan*. By Kamil Khan Mumtaz. Singapore: Concept Media, 1985.

FIG 1.10 Supreme Court Building in Islamabad designed by Kenzo Tange. Picture taken from https://www.supremecourt.gov.pk/about/building/

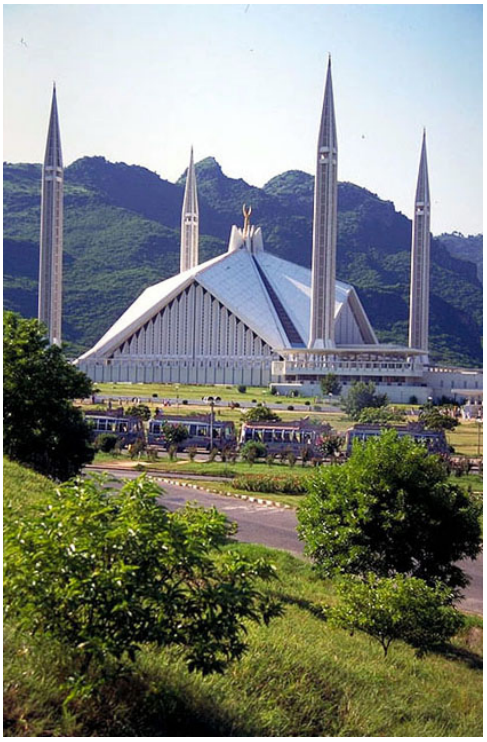

FIG 1.11 Shah Faisal Mosque in Islamabad designed by Vedat Dalokay. Picture taken from https://archnet.org/sites/649/media_contents/22833

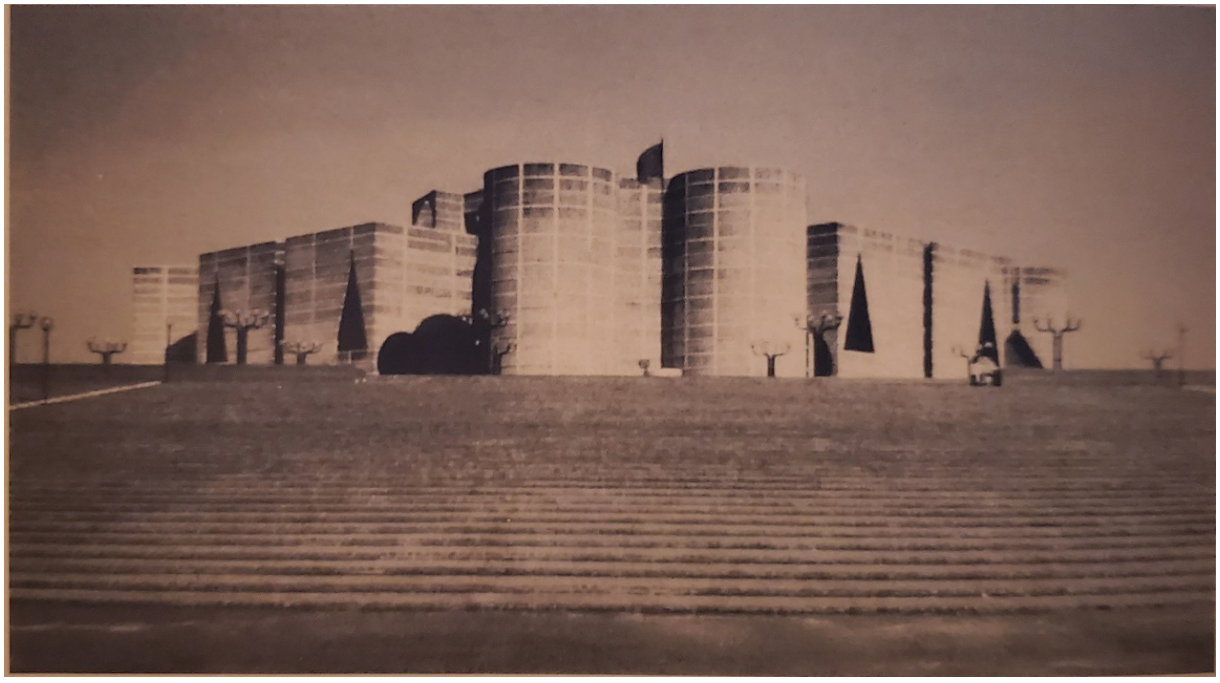

FIG 1.12 National Assembly Building in Dhaka designed by Louis Kahn. Picture taken from "Situating the Democratic Way of Life: The National Assembly Complex in Dhaka Bangladesh" from *Louis Kahn's Situated Modernism*. By Sarah W. Goldhagen. New Haven [CT]: Yale University Press, 2001.

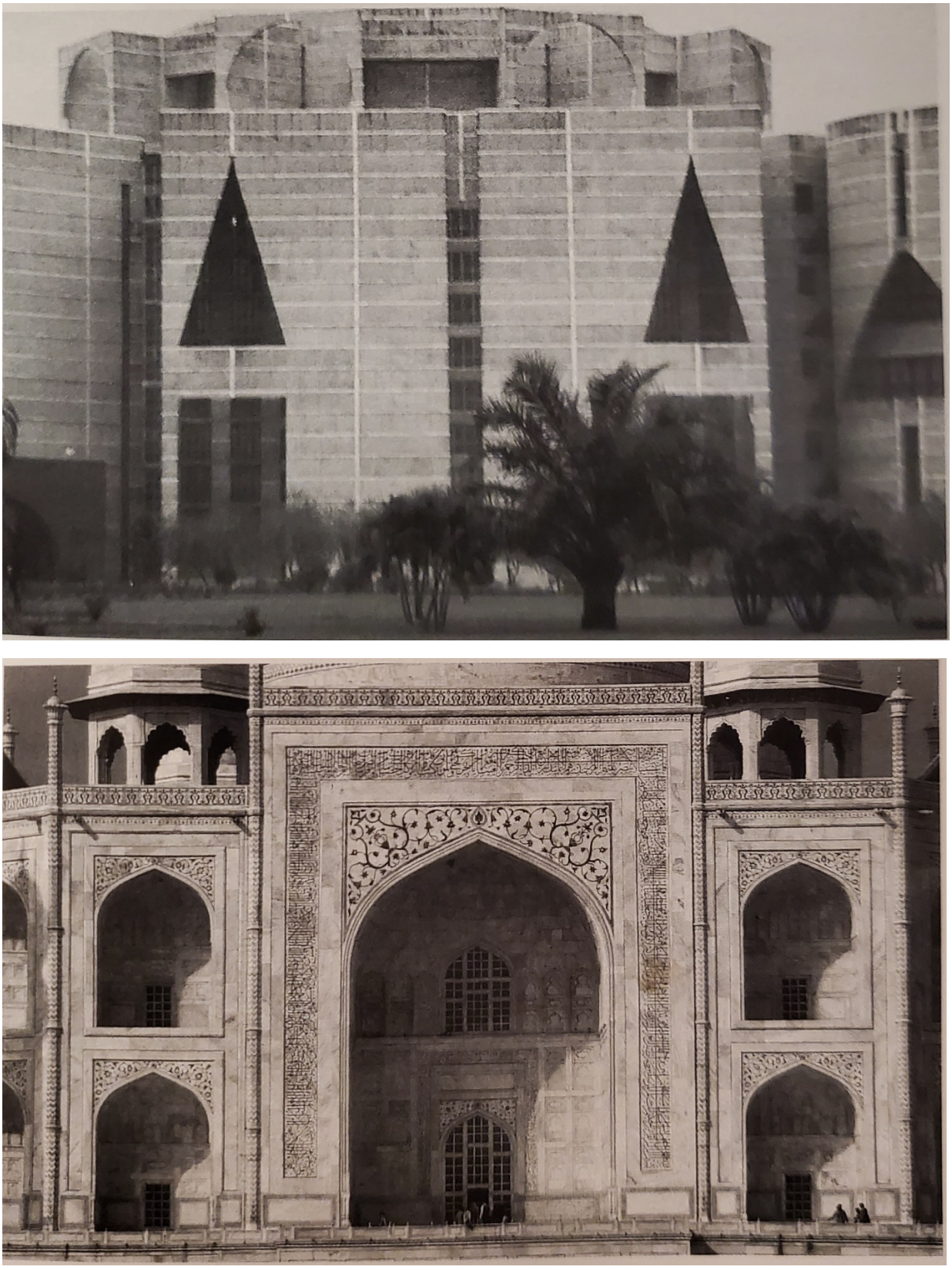

FIG 1.13. The two-tiered system in the National Assembly building (above) as well as the perforated forms as inspired by Mughal architecture (pictured below in the Taj Mahal)

Chapter 2:

FIG 2.1. The Aga Khan University Hospital. Pictures taken from Payette Associates website (https://www.payette.com/project/aku_recent/) and (https://www.payette.com/project/aku_mp_ms/)

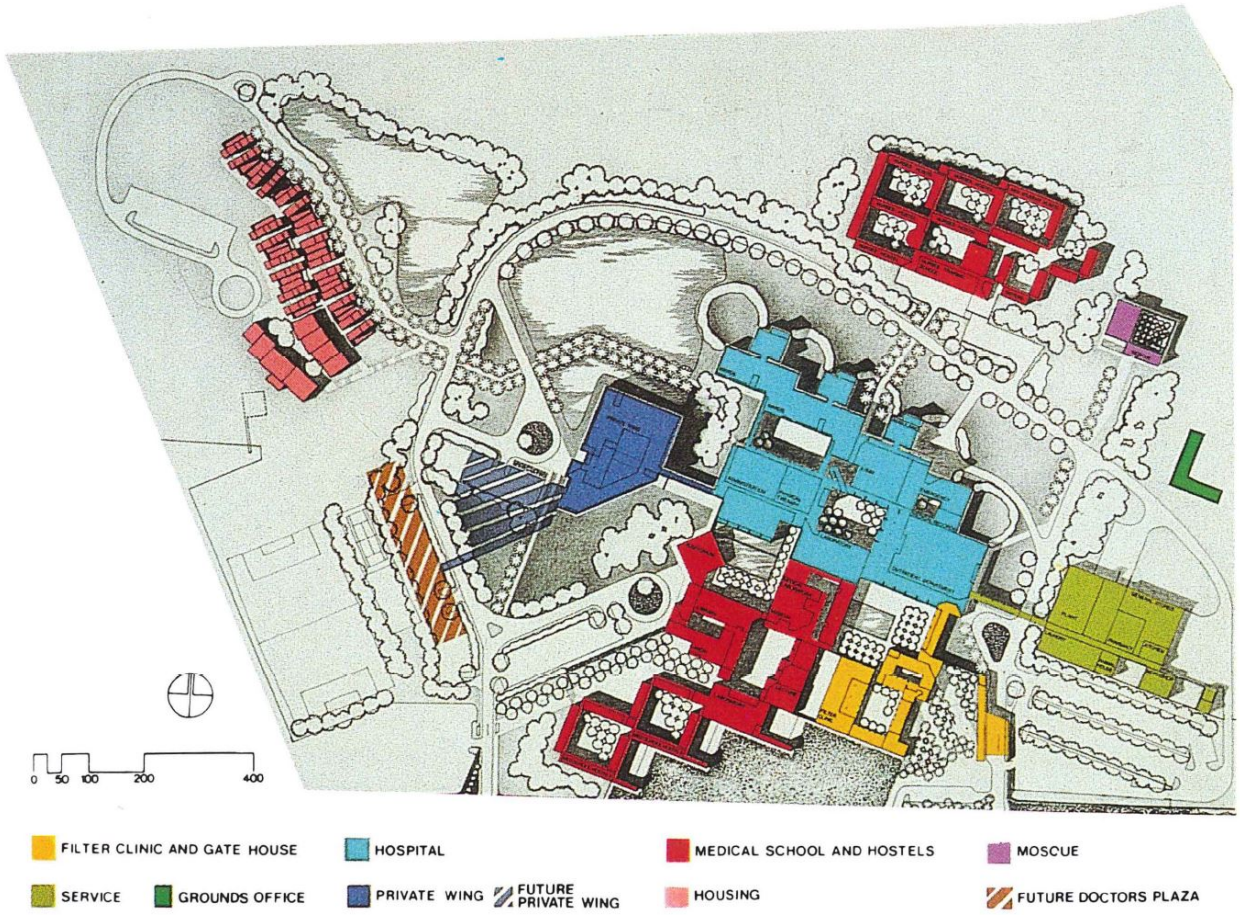

FIG 2.2. Annotated plan of the AKUH Complex as designed by Payette Associates. Diagram taken from "The Aga Khan University Hospital". By Hasan-Uddin Khan. *Mimar* 14 pg. 33. Architecture in Development. Singapore Concept Media Ltd., 1984.

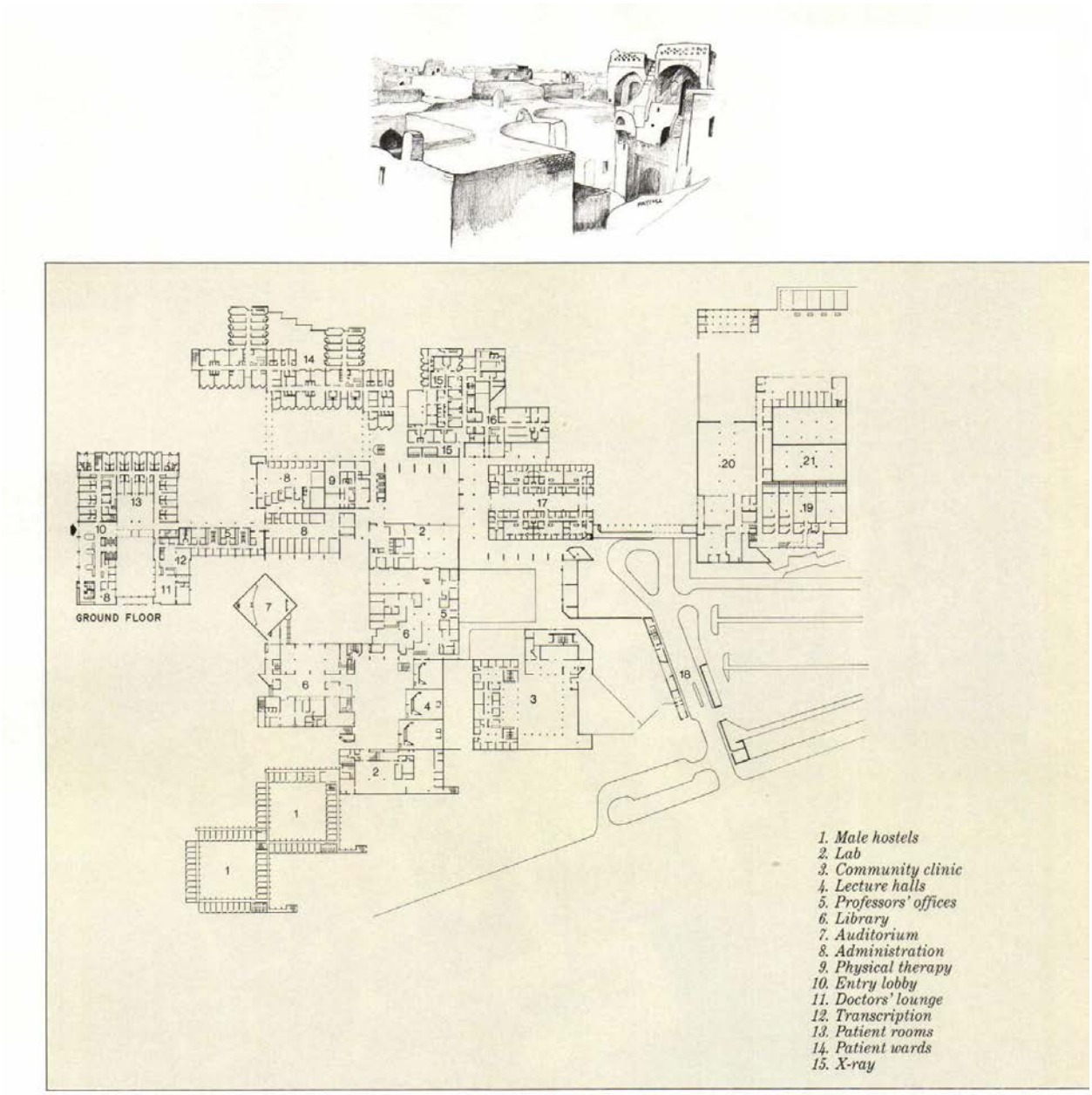

FIG 2.3. Schmertz's diagram showing the relationship between the roofscapes of Irani villages and the plan composition of the AKUH. Diagram taken from "Indigenous High-tech [Aga Khan University Hospital and Medical College, Karachi, Pakistan]." By Mildred F. Schmertz, in the *Architectural Record*, vol. 175, no. 6, 1 May 1987

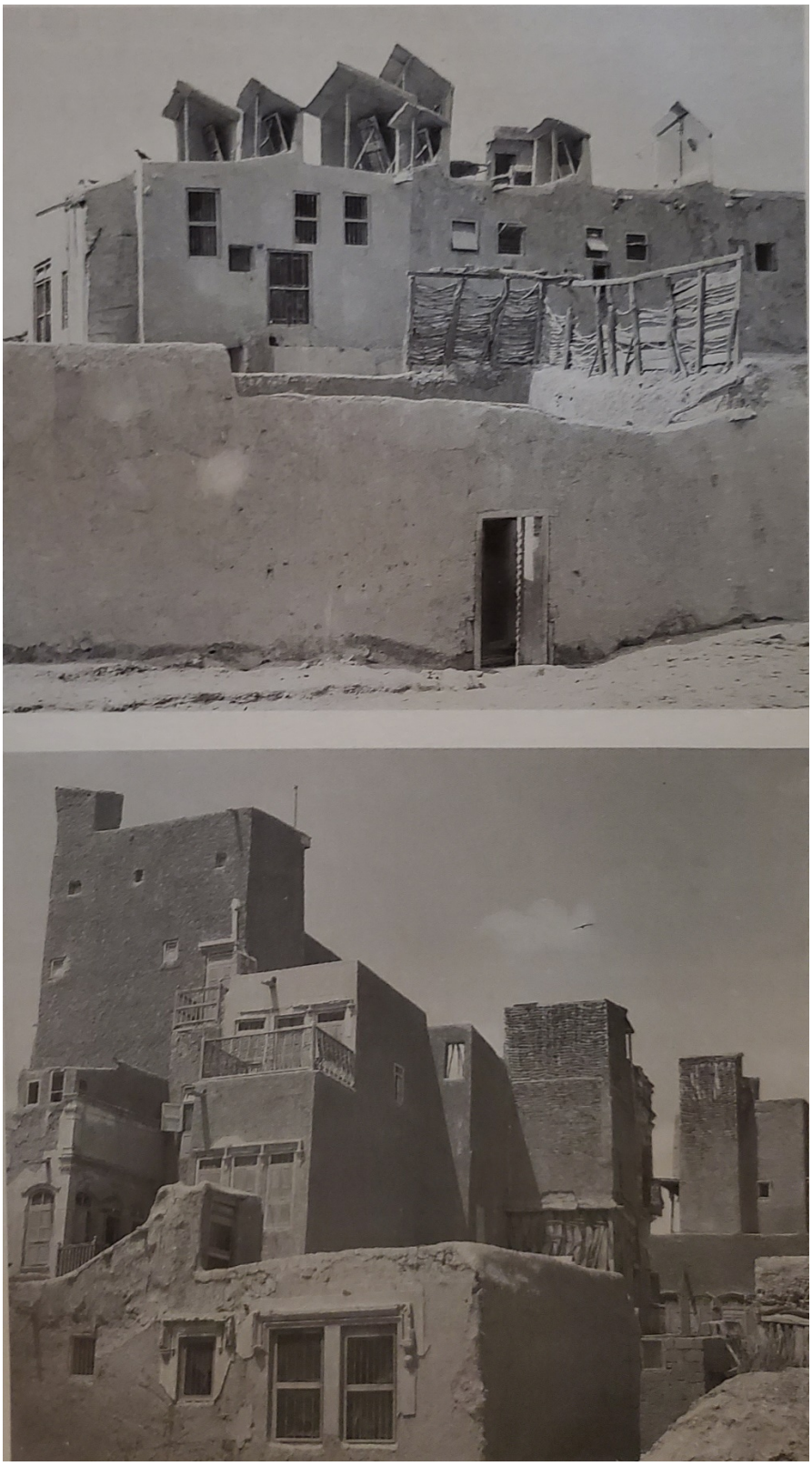

FIG 2.4. Pictures showing continuous roofscapes of Thatta characterized by the wind-catchers. Pictures taken from *Architecture In Pakistan* by Kamil Khan Mumtaz. Singapore: Concept Media, 1985.

FIG 2.5. Vertical structures with angled roofs in AKUH reminiscent of Sindh's wind-catchers. Picture taken from Payette Associates website (https://www.payette.com/project/aku_mp_ms/)

FIG 2.6 Wind catchers at Thatta. Pictures taken from *Architecture In Pakistan* by Kamil Khan Mumtaz. Singapore: Concept Media, 1985.

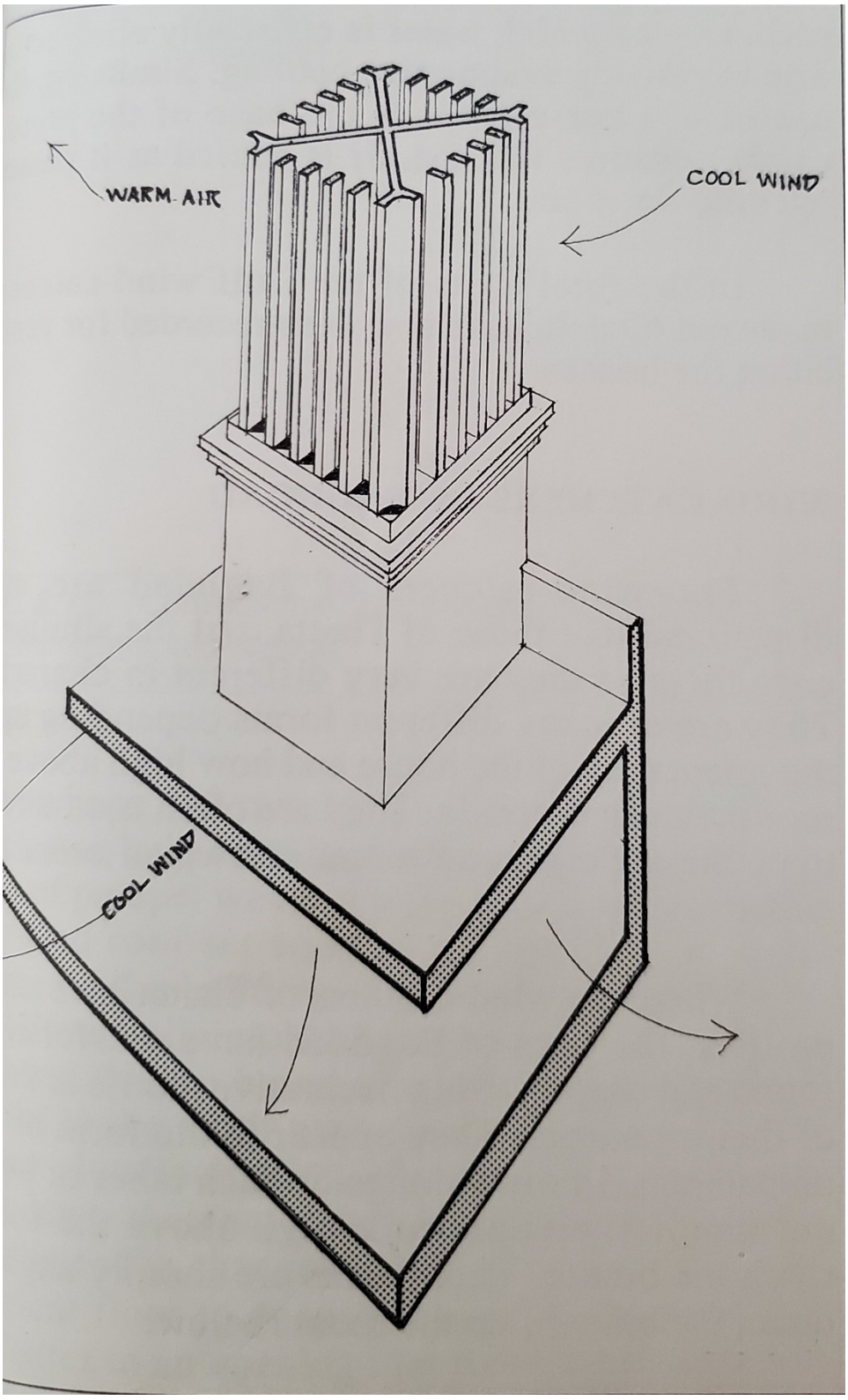

FIG 2.7 The multi-directional wind-catcher from Irani vernacular examples. Picture taken from *Traditional Architecture of Thatta*. Pg 134 by Yasmeen Lari. Karachi: Heritage Foundation, 1989. Print.

FIG 2.8. Courtyards and Water Courts at the AKUH. Pictures taken from Payette Associates website (https://www.payette.com/project/aku_recent/) and (https://www.payette.com/project/aku_mp_ms/)

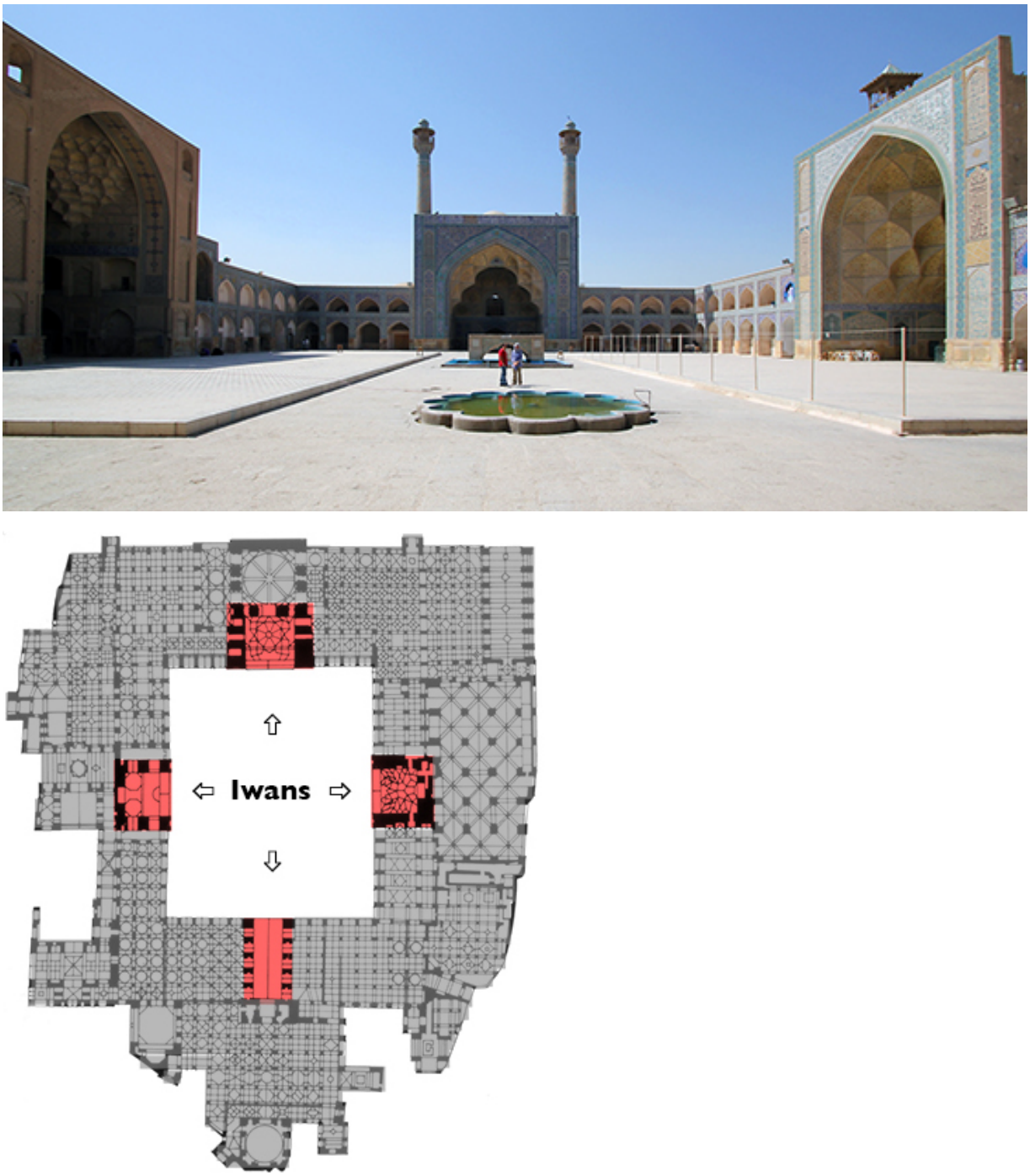

FIG 2.9. The Four-*Iwan* mosque prototype as shown in the Jami Mosque of Isfahan, Iran. Picture taken from Khan Academy website (https://www.khanacademy.org/humanities/art-islam/beginners-guide-islamic-world-art/beginners-guide-islamic-art/a/common-types-of-mosque-architecture)

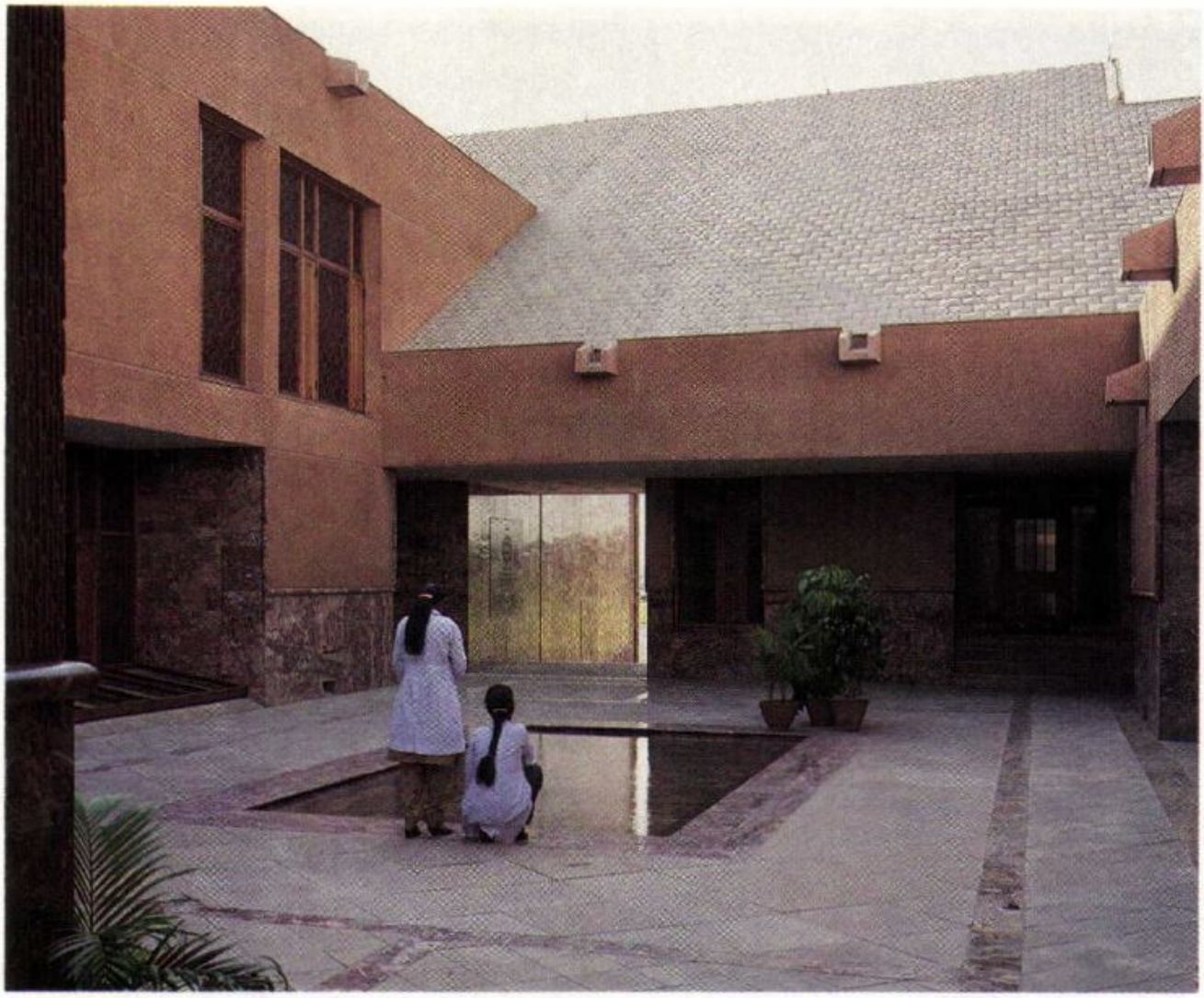

FIG 2.10. A quiet contemplative courtyard in the AKUH. Picture taken from "Indigenous High-tech [Aga Khan University Hospital and Medical College, Karachi, Pakistan]." By Mildred F. Schmertz, in the *Architectural Record*, vol. 175, no. 6, 1 May 1987

FIG 2.11. The axial geometry in the water channels in Andalusian architecture. The first picture is from the Court of the Long Pond and the second one is from the Court of the Myrtles in Alhambra, Spain. Picture taken from Khan Academy website (https://www.khanacademy.org/humanities/ap-art-history/early-europe-and-colonial-americas/ap-art-islamic-world-medieval/a/the-alhambra)

FIG 2.12. The terra-cotta *jaali* in AKUH casting a shadow which highlights its Islamic geometric patterns. Picture taken from Architizer.com (https://architizer.com/projects/the-aga-khan-university-hospital-and-medical-school-campus/)

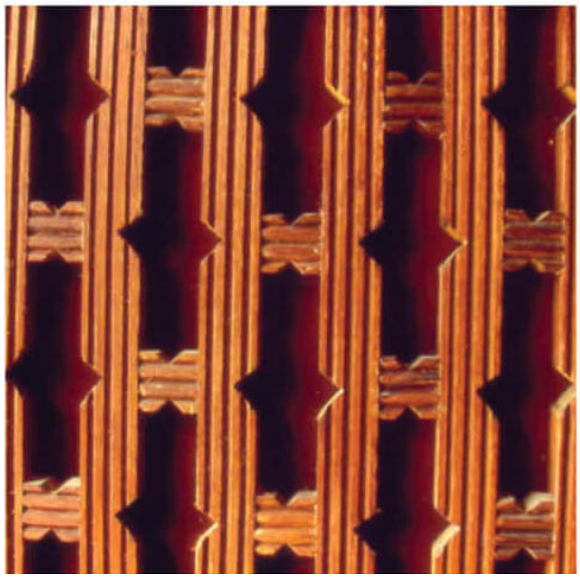

FIG 2.13. The wooden *mashrabiyya* screen in AKUH also representing use of Islamic geometric patterns. Picture taken from Payette Associates website (https://www.payette.com/project/aku_mp_ms/)

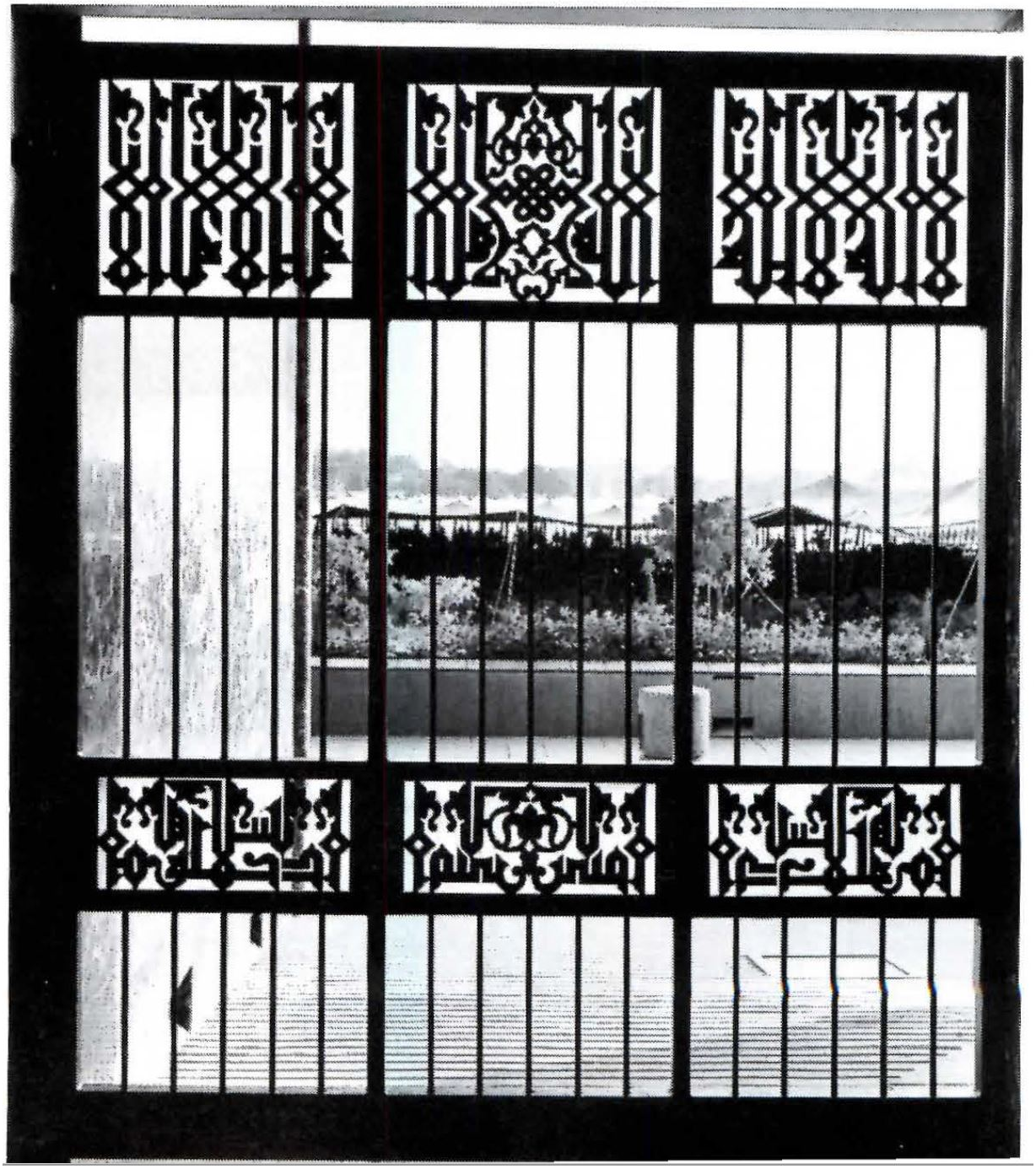

FIG 2.14. Islamic calligraphic inscriptions on the grills in the AKUH. Picture taken from "Setting a Standard for Architecture In Islam: the Aga Khan School of Nursing In Karachi, Designed by Payette Associates and Mozhan Khadem". By Mildred F. Schmertz in the "*Architectural Record"*, vol. 169, 2 Oct. 1981.

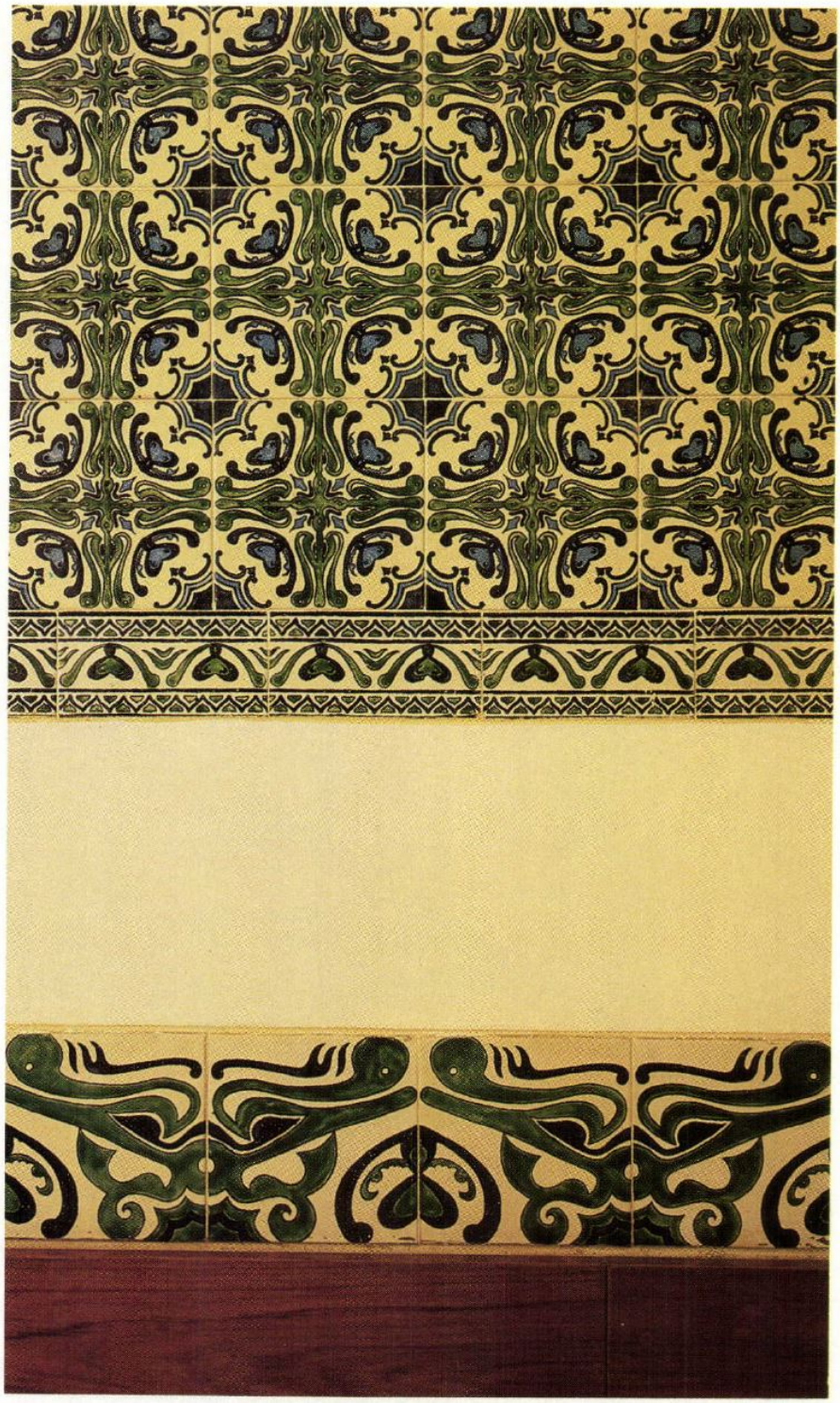

FIG 2.15. Islamic calligraphic inscriptions on the bottom represent the name “Muhammad” mirrored twice gesturing the shape of the mythical bird *Simurgh* as well as the four Islamic theosophical realms *Lahout, Malakut, Jaharut* and *Nasut*. The floral rose patterns on the top represent the Heavenly realm. Together these inscriptions are meant to denote the event of *Miraj* where the Holy Prophet ascended to the Heavens. Picture taken from "Setting a Standard for Architecture In Islam: the Aga Khan School of Nursing In Karachi, Designed by Payette Associates and Mozhan Khadem”. By Mildred F. Schmertz in the "*Architectural Record”*, vol. 169, 2 Oct. 1981.

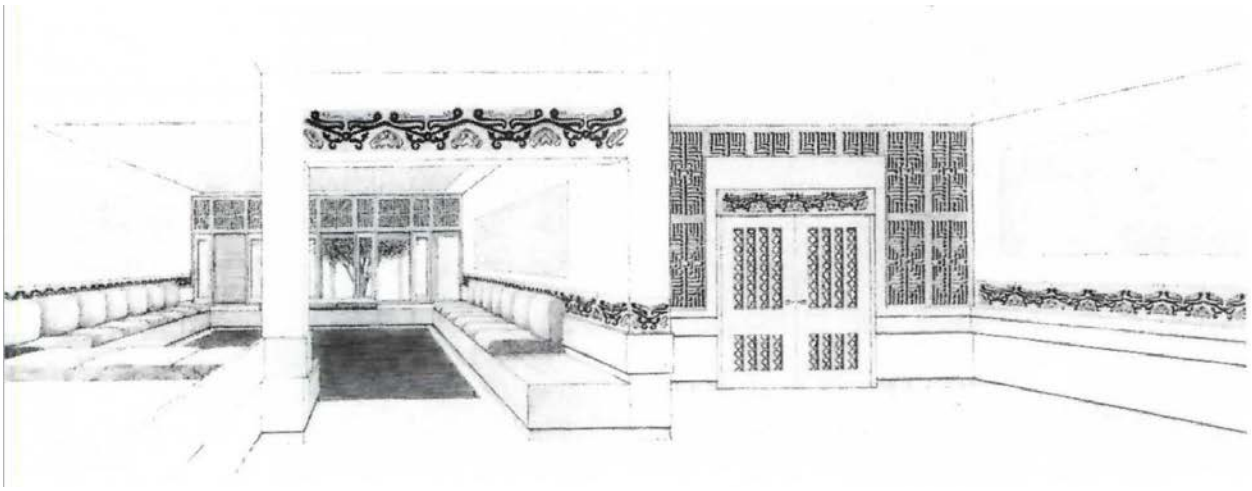

FIG 2.16. A rendering of a lounge space in the AKUH School of Nursing by Payette Associates renderer Jim Gabriel showing the specific attention to ornamental detail during the design process. Picture taken from "Setting a Standard for Architecture In Islam: the Aga Khan School of Nursing In Karachi, Designed by Payette Associates and Mozhan Khadem". By Mildred F. Schmertz in the "*Architectural Record"*, vol. 169, 2 Oct. 1981.

FIG 2.17. The actual physical architectural manifestation of the space rendered by Jim Gabriel above. Picture taken from "Setting a Standard for Architecture In Islam: the Aga Khan School of Nursing In Karachi, Designed by Payette Associates and Mozhan Khadem". By Mildred F. Schmertz in the "*Architectural Record"*, vol. 169, 2 Oct. 1981.

FIG 2.18. The monumental portals in AKUH reminiscent of the *muqarana's* from Islamic architecture. Picture taken from Payette Associates website (https://www.payette.com/project/aku_mp_ms/)

FIG 2.19. A *Muqarana* from the Jami Mosque of Isfahan, Iran. Picture taken from Khan Academy website (https://www.khanacademy.org/humanities/art-islam/beginners-guide-islamic-world-art/beginners-guide-islamic-art/a/common-types-of-mosque-architecture)

Chapter 3:

FIG 3.1. Interior and Exterior pictures of the Alhamra Arts Council Complex in Lahore, Pakistan. Picture Credits: M. Farhan Baig.

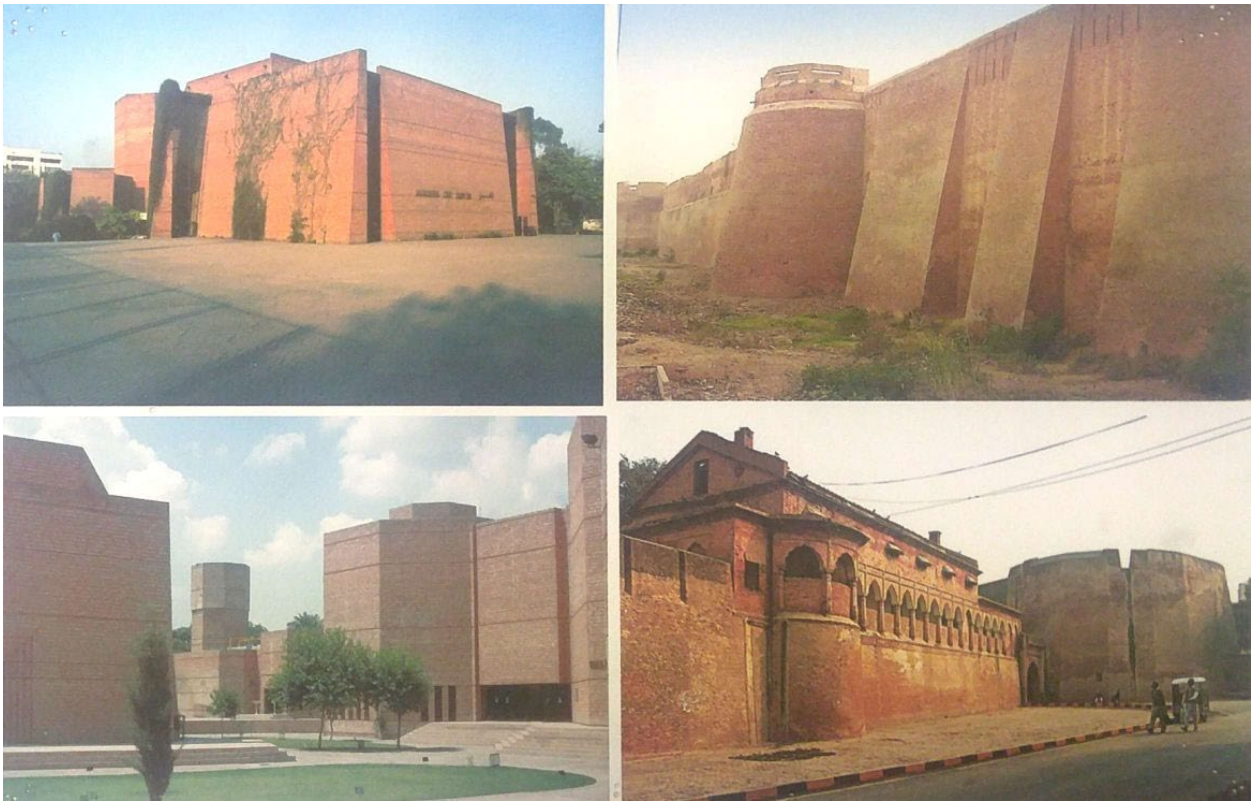

FIG 3.2. A side-by-side comparison of the Alhamra Arts Council Complex (left) and the structures of the Lahore Fort (right)

FIG 3.3. Some pictures of the Lahore Fort. The top 2 pictures show exterior buttress walls. The middle 2 pictures are of the Postern Gate. The bottom picture shows the *Alamgiri Darwaza*.
Picture Credits: M. Farhan Baig.

FIG 3.4. The *Alamgiri Darwaza*. Picture Credits: M. Farhan Baig.

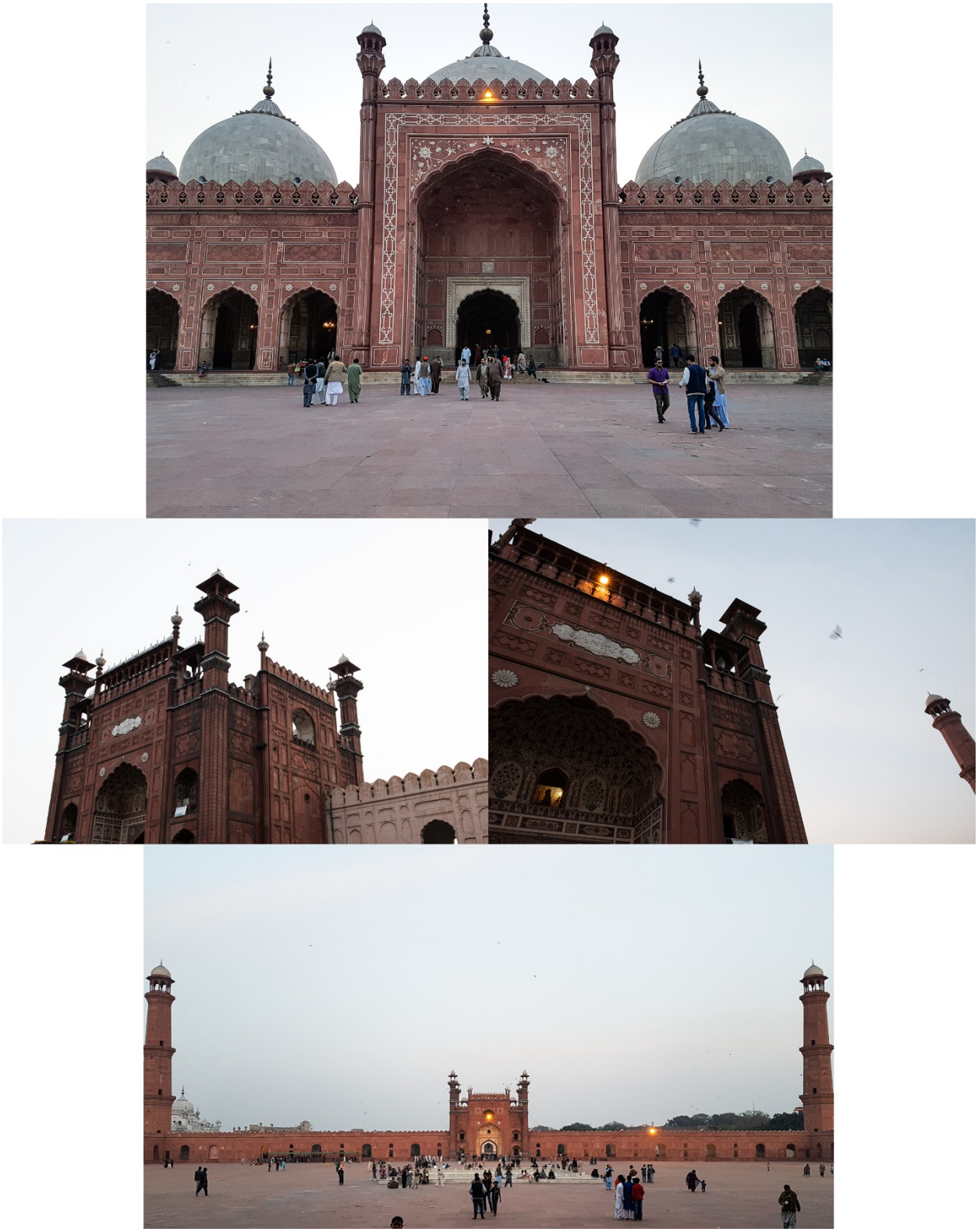

FIG 3.5. Pictures of the Badshahi Mosque. Picture Credits: M. Farhan Baig.

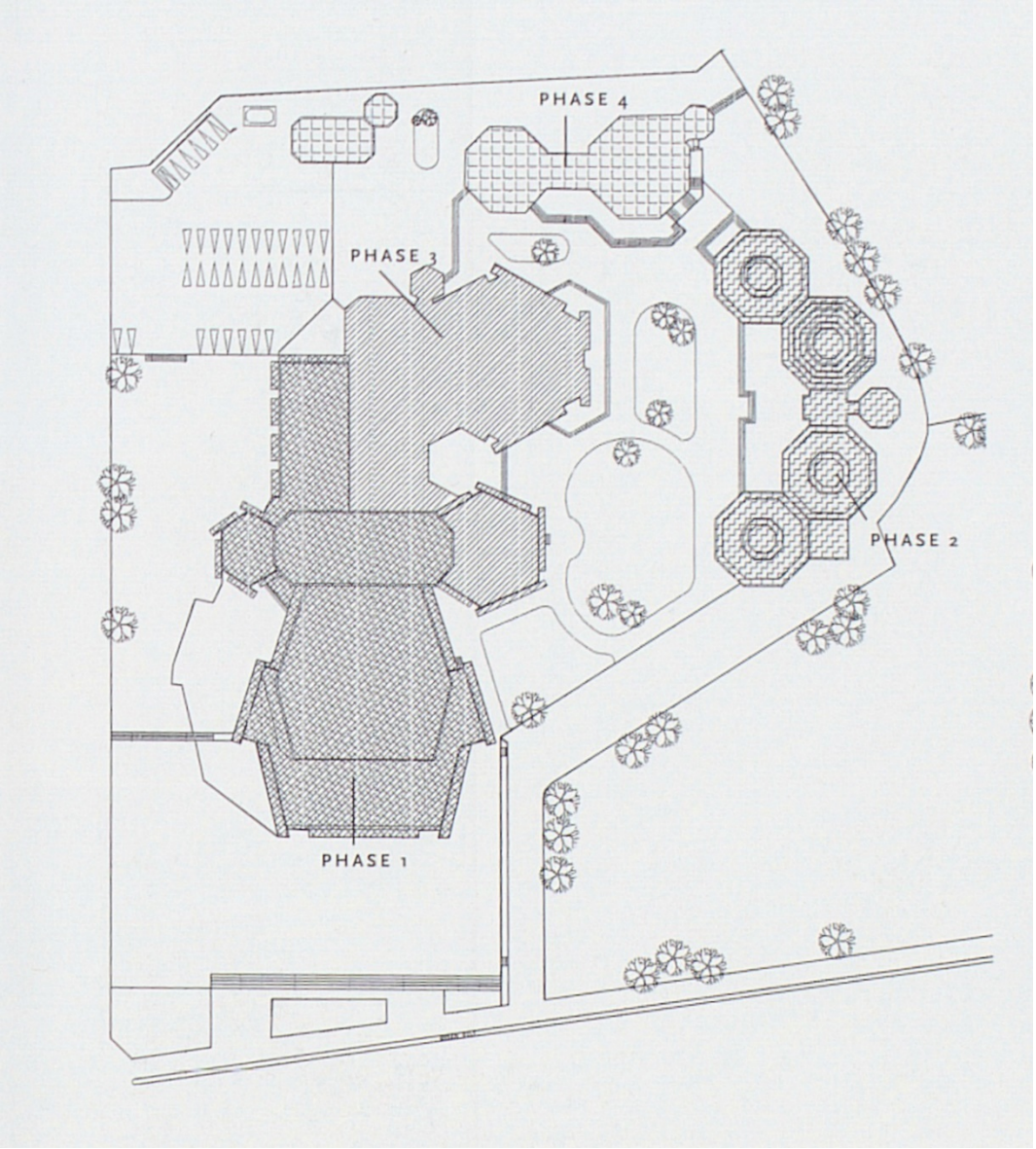

FIG 3.6. Plan of the AAC Complex showing phase-by-phase construction sequence. Diagram taken from "Alhamra Arts Council". *Legacies for the Future Contemporary Architecture in Islamic Societies*, edited by Cynthia C. Davidson. London Thames and Hudson, 1998.

FIG 3.7. Principal auditorium of the AAC Complex built as the first phase of construction. Picture taken from archnet.org (https://archnet.org/sites/308)

FIG 3.8. Offices and Galeries built in the second phase of construction. Picture Credits: M. Farhan Baig.

FIG 3.9. Second smaller auditorium built in the third phase of construction. Picture Credits: M. Farhan Baig.

FIG 3.10. Thick buttress walls that form the outer fortification of the Lahore Fort. Picture Credits: M. Farhan Baig

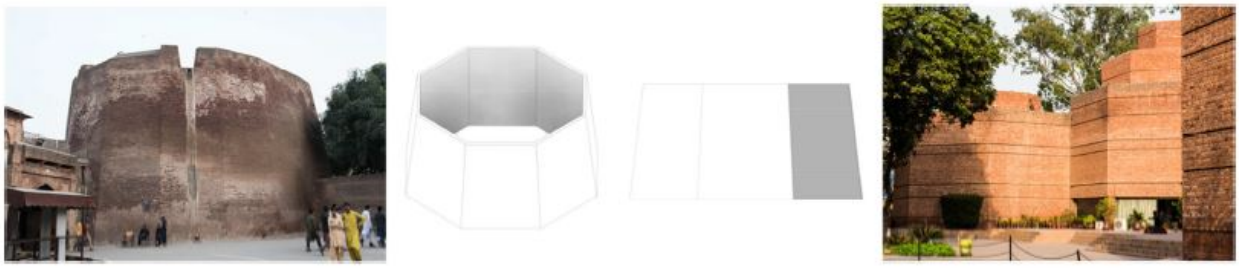

FIG 3.11. A comparison of the forms of the fortifications in the Lahore Fort (left) and the structures in the AAC Complex (right).

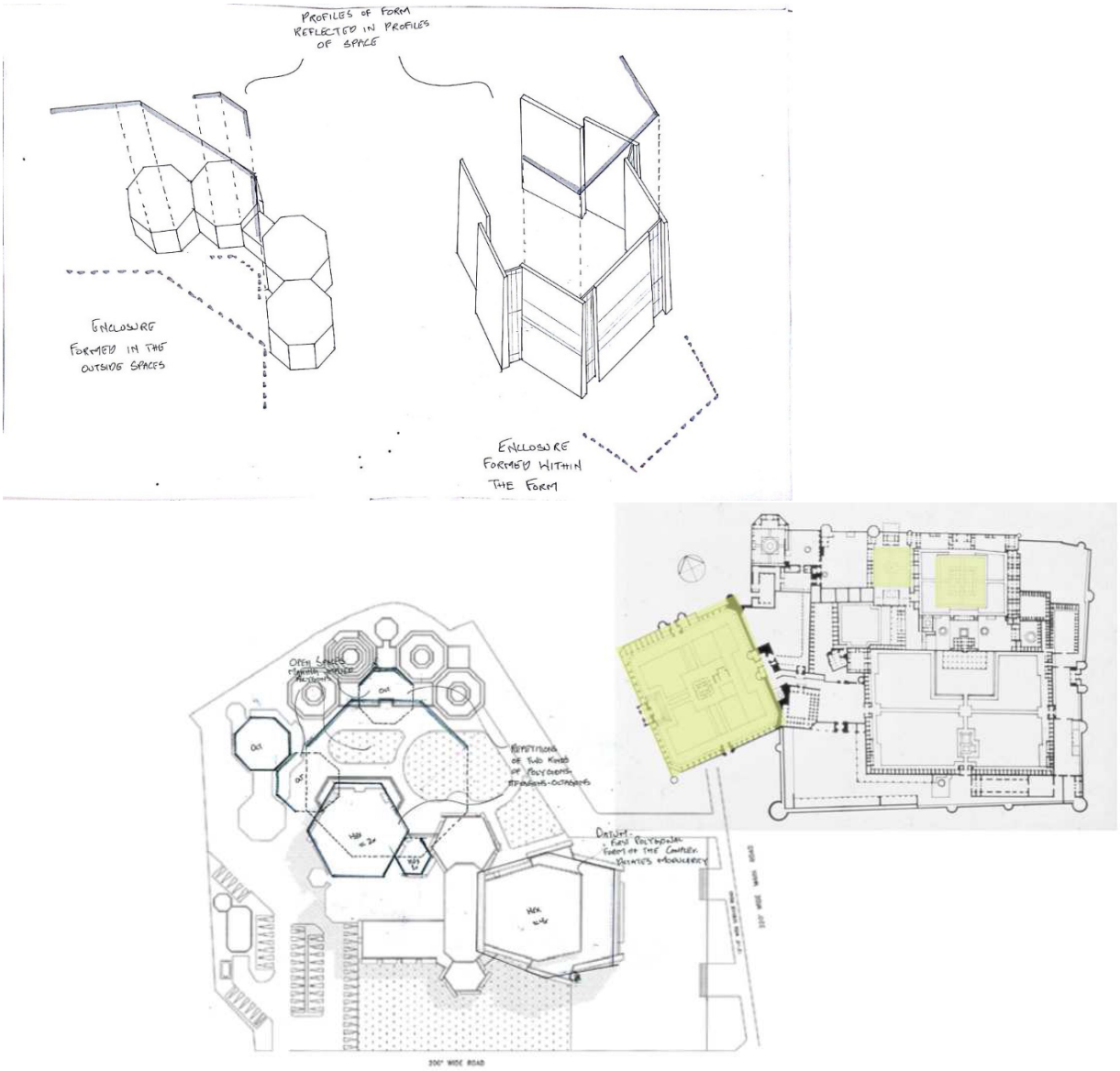

FIG 3.12. A study of the geometry of the polygonal forms in the AAC Complex and similar geometric configurations in the Lahore Fort complex showing the geometric coherence between built forms and resulting spaces between those forms.

FIG 3.13. Waffle slabs visible in the principal auditorium of the AAC complex. Picture Credits: M. Farhan Baig.

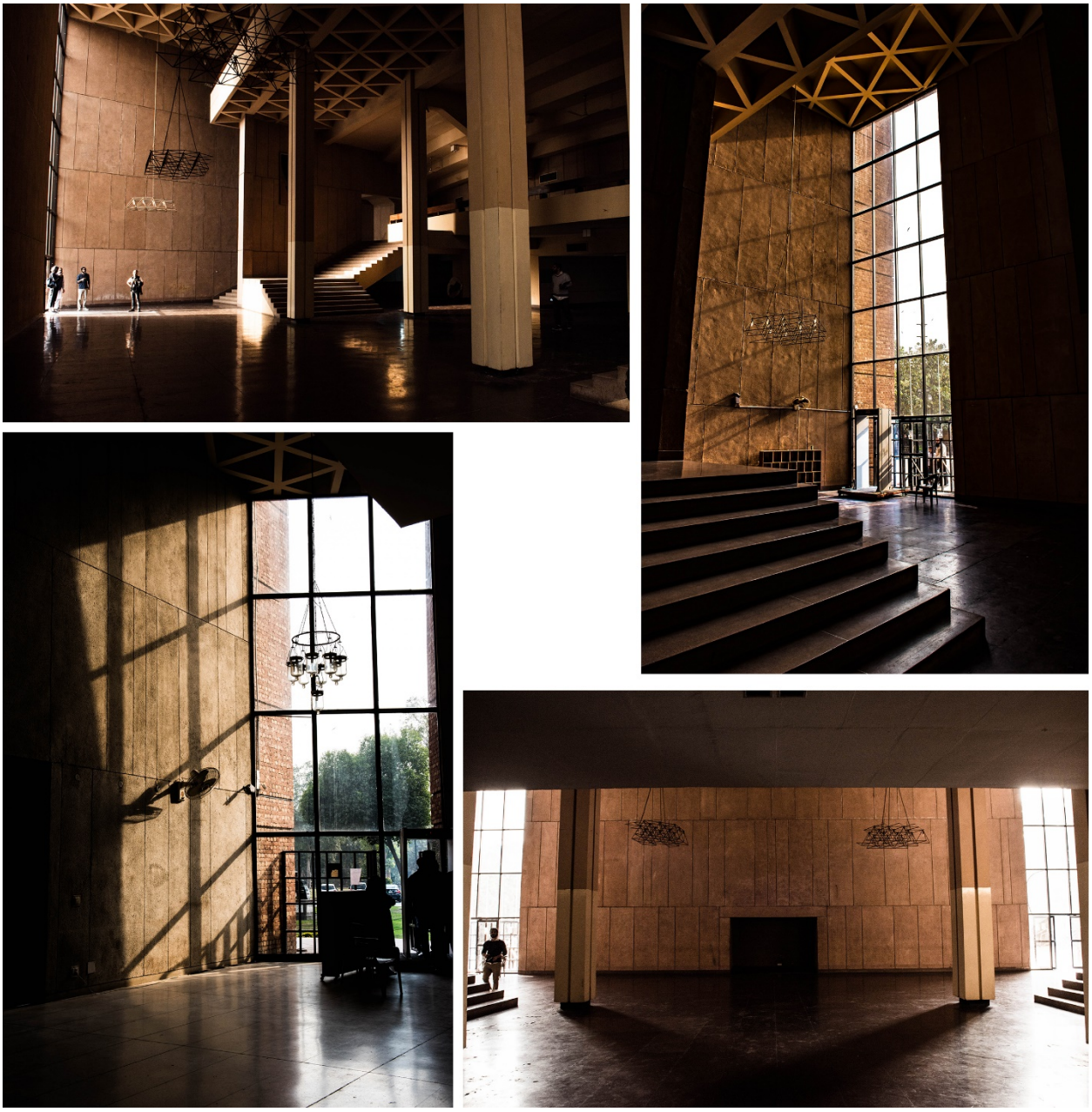

FIG 3.14. Interior spaces of the principal auditorium showing the large vertical slits that allow light inside.
Picture Credits: M. Farhan Baig.

FIG 3.15. Oculus-like light openings in the roofs of the galleries in the AAC complex. Picture Credits: M. Farhan Baig.

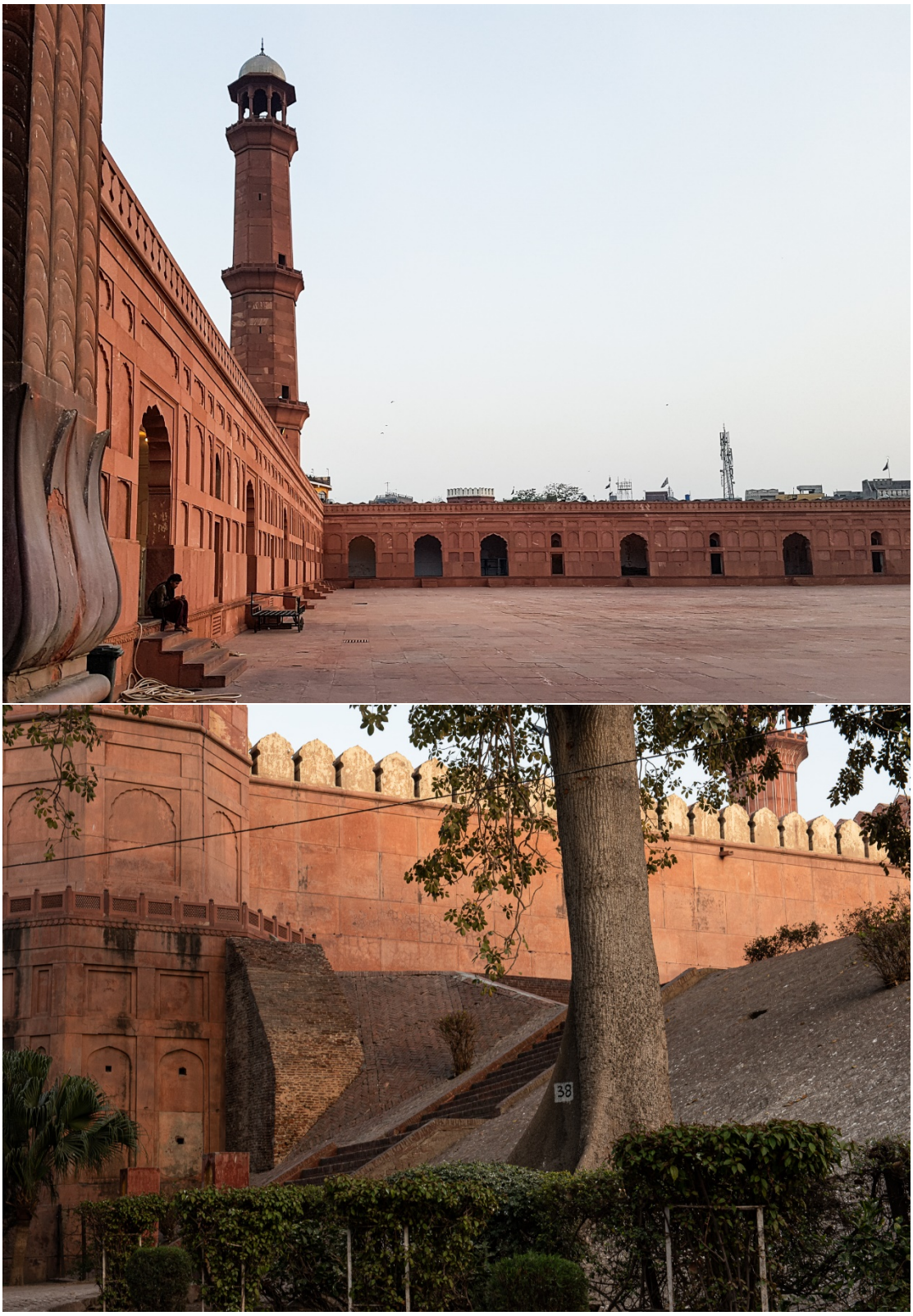

FIG 3.16. Walls of the Badshahi Mosque (top) and Lahore Fort (bottom) showing red sandstone as a prevalent material. Picture Credits: M. Farhan Baig.

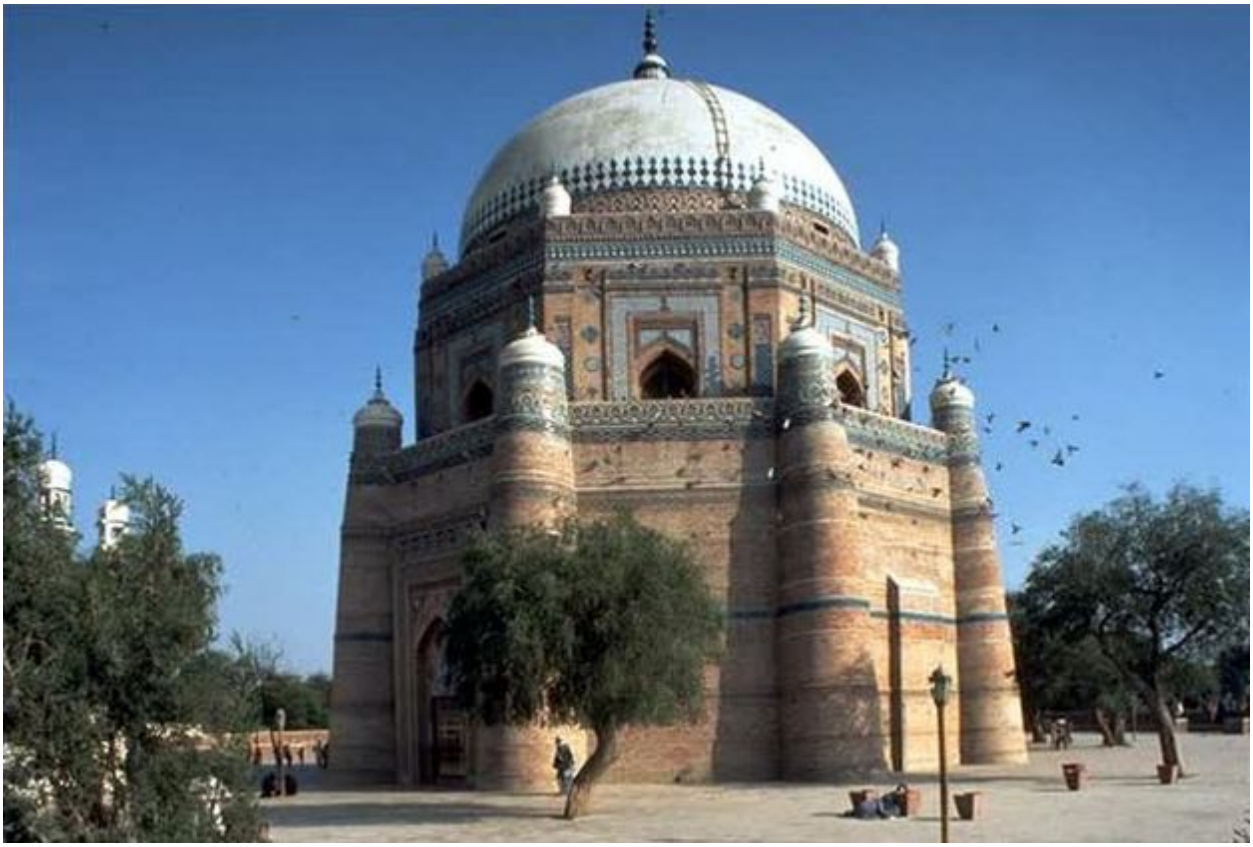

FIG 3.17. Tomb of Shah Rukn-i-Alam in Punjab. Picture taken from archnet.org (https://archnet.org/sites/5013)