

An Intersection: water in Louis Kahn's landscape

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ABSTRACT: This interlocutory research examines American Modernist architect Louis Kahn's (1901-1974) works through the lens of landscape design. This research emphasizes the materiality and design instrumentality of water in Kahn's designs that have significant landscape work and explores the reverberating relationship between architecture and landscape. From the late 1950s to his death in 1974, Kahn produced his most important works, which include: the Salk Institute for Biological Studies (1959-65) in La Jolla, California; the Kimbell Art Museum (1966-72) in Fort Worth, Texas; and the National Assembly Building Complex (1962-83) in Dhaka, Bangladesh. All of these selected works with major waterscapes have been heavily influential in the architectural world. The key questions that the paper explores are: How does the water (waterscape) act as an intersect? What role does water play? How is water a cultural connector? These questions are explored via interviews, conversations, empirical and spatial studies of the selected sites, and archival scholarship that includes study of existing drawings and literature. This paper looks at water primarily as an intersectional element that not only acts as the interface of architecture and landscape, but also helps in creation of "contact zones" and a controlled topographic catalyst. Use of water also creates a link between the East and the West, the local and the global, colonial and native, Islamic and non-Islamic, as well as the seen and unseen, expanding to the perception of real and unreal. Holistically, my research creates a bridge between the larger discourse of different cultures, theory, and a cross practice of disciplines.

Key Words: Water, intersect (tional), Contact Zone, Topography, Landscape and Architecture.

INTRODUCTION

As much as landscape is a way of seeing, it is also a physical embodiment that is instigated by visual and other sensory mechanisms (Mitchell 2002). This interlocutory research examines American Modernist architect Louis Kahn's (1901-1974) works through the lens of landscape design. It focuses on Kahn's use of water and waterscape that does not operate in isolation but creates a visual and sensory, and ultimately a physical, embodiment that catalyzes the audience in engaging and imbibing in his designed built-environment. Landscape, which derives from the Greek verb *Scopein*, also means to "instrument for viewing." Therefore, built-environment becomes a stage for viewing, where the users simultaneously are the actors. Distinctively known for his mastery with forms, Kahn's designed landscapes are an integral part of architecture that has received only a little attention (architecture studies include Scully 1962;; Brownlee 1992; Brownlee and De Long 1997; Carter 2005). From the late 1950s to his death in 1974, Kahn implemented water and waterscapes in his most significant works: the Salk Institute for Biological Studies (1959-65) in La Jolla, California; the Kimbell Art Museum (1966-72) in Fort Worth, Texas; and the National Assembly Building Complex (1962-83) in Dhaka, Bangladesh. All of these projects have water as the kernel landscape element. The two key questions that this paper explores are: How does water in Kahn's design act as a topographic material? How is water a cultural connector creating Kahn's "contact zone" of different cultures and perhaps asymmetric power? Historian Kazi Khaleed Ashraf, in his essay titled "Taking Place: Landscape in the Architecture of Louis Kahn" (2007), departs from traditional form-driven architectural analysis to analyze Kahn's approach to landscape. This paper takes Ashraf's essay as a departure point, but also heavily relies on David Leatherbarrow's *Topographical Stories: Studies in Landscape and Architecture* (2003). The research method includes interviews, talks, historical research from documentaries, videos,

and literature, empirical observations of the selected sites, archival research, and readings of existing drawings for further investigations. Robert Twombly writes that Kahn's primary importance was the past and innate characteristics of material, color, water, light, and nature (Twombly 2003, 10). This paper examines a genealogy of Kahn's topographical stance that through spatial use, materiality, and constructed design of water becomes the hinge between past and present. Water here is an intersectional landscape vis-à-vis topographical element that connects the East and the West; the local and the global; and acts as a link between the larger discourse of culture, theory, and practice. Consequently, these designs turn Kahn's works into cultural contact zones.¹ Holistically this paper views the term "intersectionality" from multiple perspectives and ultimately creates a thread between theory and praxis.

Water is a topographical element. The Oxford English Dictionary defines topography as the "arrangement of the natural and artificial physical features of an area." Typically, the word *topography* means place description or physical configuration of a site. For the intention of landscape studies, the definition is more akin to what geographers call *surface relief* (Norberg-Schulz 1980). It situates both the landscape and the architecture in a space, creating a more complex and meaningful place. Historian David Leatherbarrow sees architecture and landscape as topographical arts. He writes:

The task of landscape architecture and architecture, as topographical arts, is to provide the prosaic patterns of our lives with durable dimension and beautiful expression. (Leatherbarrow 2004, 1)

He further writes:

Topography gives to landscapes and buildings a kind of sense that differs from that conferred upon them through the intentions, controls and expectations of design and construction, a kind of sense like that of an event: engaging, intrinsic, and more often than not startling. (Leatherbarrow 2004, 256)

Leatherbarrow brings forth the relationship that has historically been seen between landscape and architecture, which were either distinctive or the same. He also brings forth a third option, which says that they are neither different nor alike, but simply similar to each other. Ashraf takes this relationship even further and offers a fourth possibility that

Architecture (as built work) is inscrutably intertwined with landscape, irrespective of whether they appear or are made to appear, distinctive or not, an interdependence or in-betweenness between two objective entities, that I describe as "landscape event." The intertwining is continuous and unpredictable play of the various natural and constructed dynamics, and that is how a building yields to the environing world, and shared latency "rises to the visible" to make an event. (Ashraf 2007, 48)

Following Leatherbarrow, Ashraf claims, "Architecture is inherently a landscape event" (Ashraf 2007, 48). What, then, is the role of water as a topographical element that brings forth architecture as a "landscape event"? The following section will discuss several projects to explore the question, how is water as a landscape event related as a similar, dissimilar, entwined element or extension?

1.0 WATER AS A SURFACE RELIEF: SALK INSTITUTE, LA JOLLA, CALIFORNIA

Johannes Salk (1914–1995), an American medical researcher and virologist, was the founder of the Salk Institute for Biological Research. Salk credited Kahn for defining the shape of the site of the institute, which was considered the most beautiful property left in La Jolla that time. He universalizes the institute, turning it into a contact zone. According to Salk, Kahn's designed master plan wrapped around the coastal canyon whose geometric peculiarities Salk compared with "cerebral convolutions" (Brownlee and De Long 1992, 330). According to Brownlee and De Long, Salk's expectation from Kahn was a recombination of science and humanities to mend the rift between the "two cultures" (Brownlee and De Long 1992, 139). Kahn's translation of Salk's thoughts therefore coincided and was congruent with his own idea of "measurable" and "immeasurable." Salk's vision collapsed into Kahn's design philosophy as a singular thought. These dualities also connect with the qualitative and quantitative, tangible and intangible phenomena of place and space. While architecture is quantitative and often designed with numbers and pragmatic issues, landscape remains as the qualitative part. According to Christian Norberg-Schultz, place is assigned with qualitative phenomena, and

architecture as an “event” of landscape takes place as a qualitative phenomenon. “Taking place” is usually understood in a quantitative way, and that is architecture (Norberg-Schulz 1980, 7) explicitly taking form in the spaces of the Salk Institute.

An image search of the Salk Institute on the internet or in books immediately tells us about its most popular space (Fig. 1). For as much as there are groves, gardens, and lawns at Salk, its main plaza area is the foremost spatial-piece that grabs the attention of visitors and users. There is a water channel running through this travertine plaza towards the westward infinity as if cutting through the cliffs and the canyon reaching towards the Pacific Ocean and sky. This thin water channel bisects the plaza. With lines of poplar trees, Kahn had a very specific central arched garden idea in his mind for this plaza (Brownlee and De Long 1997). The garden idea, however, was changed by another architect. Mexican architect Luis Barragan collaborated with him and offered his simple yet majestic ideas. He annulled Kahn’s previous garden scheme of lined trees and suggested, “there should be no garden”; rather, “it should be a plaza,” which was to become the “façade to the sky” (Wiseman 2007, 128, 130.) According to Barragan:

Lou [Louis Kahn] was thinking...and stated a very important thing—that the surface is a façade that rises to the sky and unites the two as if everything else has been hollowed out.

The texture of the travertine plaza closely resembles the fair-faced concrete of the buildings. For this unity of materiality, Kahn’s architecture of Salk almost seems to be sculpted out from the topography just like a deep “surface relief.” The surface, like plastic, almost molds out from the ground, creating an architectural form that rises above.

While Barragan suggested a plain plaza, it was Kahn’s idea to insert a narrow channel of water running down the middle of the plaza to reduce its harshness (Wiseman 2007, 128–129). The narrow controlled stream cascades to a sculptural cistern at the western end through a water pond. This system of water channel, pools, and cisterns opened Kahn’s idea of “architecture of water,” where the water system lies in between the two laboratory buildings of Salk (Brownlee and De Long 1991, 332). This gesture was an isolation of nature or control of nature. “Architecture is what nature cannot make,” Kahn preached at Yale (Brownlee and De Long 1997, 150).

Nature cannot make anything that man makes. Man takes nature—the means of making a thing—and isolates its laws. (Kahn 1965, 305)

The thin slit of water trickles down the middle on the concrete plaza towards the infinite landscape of the Pacific and the sky. This situates the complex more to the site-context and makes the Salk Institute a part of the Pacific. Vision is thus also controlled to situate ourselves in a perceptual infinity. A visual sensation infiltrates into a conceptualized spatial and physical containment that is regulated by Kahn’s constructed landscape. Water becomes a device for a creating connection between sight and space, creating what Elizabeth Kreider-Reid calls a “visual vocabulary of perception,” where the users instantaneously learn to use vision to understand the space (Harris and Ruggles, 2007, 8).

This aspect of a channel of trickling water, which is primarily visual, transforms into more holistic sensations of sound, beauty, and the imagery of an infinite line to the sky. These qualitative aspects are present, diluting the quantitative measures of pure architecture and forms. The users from the laboratories and study rooms of the building, who were intended to enjoy the previously envisioned garden, now enjoy the plaza with the water channel, the pools, the cliff, and the Pacific.

Islamic landscape culture is rich with examples of such visual experience. Historians mention that Kahn was inspired by the water channels and fountains in Islamic architecture such as those of the medieval palace-city Alhambra, in Granada, the capital of Al-Andalus (present-day Spain) that was designed to spill over and irrigate the gardens (Wiseman 2007). The Nasrid Sultans (1230–1482) built the Alhambra palace complex, in fact, on a similar topography; it was atop a highland overlooking Granada. The oratories of these highland palaces gave opportunity for the sultans and elite members to have their view towards the lower areas and garden (Ruggles 2008). This “gaze” feature is a predominant phenomenon of Islamic architecture, which brings a possibility of an equal analogy to the Salk design concept

where each laboratory building allows a gaze towards the central plaza and the Pacific, towards infinity.

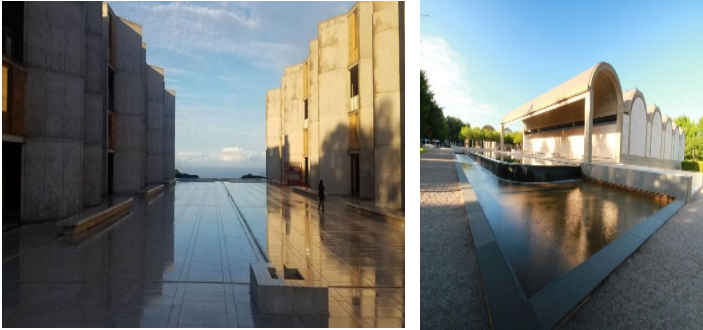


Figure 1: Plaza of Salk institute, Photo by A. Tobia, Author's collection

Figure 2 Kimbell Art Museum, Author'd collection

Live gardens with water acquired the religious concept of Islamic paradise more at a later phase, particularly developed and predominantly observed in Mughal tomb architecture (Mughal era: 1526–1856) and associated with paradise gardens in India, which Kahn was familiar with. As per Quran, water is clearly an important element of Islam. It is often instrumentalized in Islamic architecture and landscape, symbolizing purity, landscape of heaven, of abundance and therefore richness. This is particularly so as Islam is a religion that germinated in an arid landscape area (Saudi Arabia) in the sixth century. Mughal tombs were set on *Chahar-bagh*, which had water channels similar to that of the Salk Institute (Ruggles 2008). With Kahn's concurrent work being executed in South Asia at that time, Kahn already had experience with Mughal garden architecture and landscape.ⁱⁱ These Mughal landscape experiences may have been influential for him and been the decisive factor for bringing the water channel at Salk. The channel closely resembles Mughal water systems, which were used for cooling, aesthetics pleasure, and irrigation purposes. This is also indicative of Kahn's predisposition to spiritual spaces, which we commonly see in religious institutions and edifices. It indicates and coincides with Kahn's intension of making Salk a monastic space.ⁱⁱⁱ

With the implication of the water channel in Salk, Kahn essentially transpired an existential content of the site. Here, water dematerializes concrete, which becomes part of the landscape, just as a continuation of the sky. The complex becomes a microcosm in essence also turns into contact zone where two oppositional cultures meet and blends. In Salk, he "dematerializes the physical and finally touches the psyche" (interview of B. V. Doshi in Blackwood 1995). The view of the Salk Institute changes not only with seasonal and diurnal patterns; the slit of water also captures the reflection of the sky, which becomes the surface of Salk's plaza. Perhaps this was what he intended when Barragan said it was to be "the façade of the sky," thereby conceding and intertwining with nature's rhythm and order. In this way, architecture also becomes a topographical art perpetually dependent on time. Architecture as a landscape event yields to the world and environment around; it becomes nature's narrative and ontological condition. Following Merleau-Ponty's conception of the "lived-body," Ashraf considers this phenomenon as "lived-architecture," where he conceptualizes architecture as an animate being. He elaborates:

In living, the body not only lives itself but also lives the environment, making the body what I would like to describe as landscaped subject. (Ashraf 2007, 51)

So, building becomes a landscape subject where users are invited to look and think beyond. Conversely, the landscape around becomes an extension of architecture. In fact, a building is a landscape. Architecture dissolves with users' experience. In Merleau-Ponty's words, it is "reciprocal insertion and intertwining...the limits of one is lost in the other" (quoted in Gallagher 1986, 165). The water channel creates an emblem of tranquility in architectural quality enhanced by water in the symmetrical vistas overlooking the Pacific.

With this design of the water-system, Kahn created an infinity that correlated with the distinctive quality of landscape, “extension” (Norberg-Schulz 1980, 32). This extension can be of different spatial properties and character and therefore depends on their very design and articulation. According to Norberg-Schulz, a flat plain surface is “general and infinite.” In Salk, the flat plaza’s water channel connects the complex to the infinite. Through the interaction of concrete surface and water, it creates a totality of space, which is a totality of the context. Variation of surface relief only fits to the different totality of sites.

Here, architecture becomes what Ashraf brings forth, a part and extension of the open area and landscape. It is neither separate nor the same, but only a part of the landscape is inscrutably intertwined with architecture. The water in Salk also recreates the space-extenuated natural qualities of the place, thereby granting the design its pertinence to “genius loci.”^{iv} While the entity of waterscape is instrumental in creating the genius loci of Salk, Kahn’s waterscape can be seen through a similar or perhaps dissimilar lens in other projects. The design philosophy and use of water also situates Kahn’s design beyond the boundary of La Jolla or California, evocative of a design trajectory that comes from the East and particularly, in this case, the Islamic world. This sets Kahn and his design as a harbinger of cultural efficacy connecting the East and the West and, more specifically, the Muslim and non-Muslim worlds, modern and tradition and, consequently, the slit of water as an intersectional element. While Islamic Spain and Mughal India already represented paradigms of successful melting pots of different ethnicities, races, and religions, the Salk landscape became a palimpsest of multi-religious mingling, or perhaps a secular platform, as if those cultural ties from the past guide the modern landscape of the present. This establishes an essence of cultural osmosis and continuation. This is the concept of the *translocality* of space, where this particular design phenomenon exists in more than two spaces. Subsequently, this also brings the concept of *chronotope*, where time and space collapse into an element of the past used in modern language and support Kahn’s work being “timeless.”^v So where does the water idea come from? Is it of the East or of the West?

2.0 LANDSCAPE OF DECEPTION: KIMBELL ART MUSEUM, FORT WORTH, TEXAS

In the Kimbell Art Museum, the water is placed, not in the center, but at the side of the building. While natural light is the prime focus of the museum, which creates elegant spaces perfectly suited for displaying art, the aspect of water and green is no less important. To this end, gardens and landscaped areas have been introduced both outside and inside the museum. Particularly on the north and south sides leading to the western side entrance, which leads one to the main gallery level, there are gardens and groves of trees. Yet accessing the museum on foot compels a visitor to experience the two water bodies, which are almost symmetrically positioned on the western side, creating a Roman pristineness for the museum. Kahn designed the museum in a way that the experience can be gained on foot in a very indirect way. According to Wendy Lesser, Kahn designed it in such a way that one is unable to get in easily or see it without experiencing the constructed landscape environment; one has to see and hear the trickling water and walk on the gravel, imbibing and engaging through a process of preparation prior to entrance to the museum. According to Lesser, the Kimbell’s seeming straightforwardness is rather deceptive (Lesser n.d.). The trickling water, in addition to visual pleasure, offers one a transitional experience prior to entering the museum (Lesser 2017). The water also changes its rhythm: the water here cascades like a waterfall to a level down. This not only creates sound but also changes the view depending on the time of day and the changing sky colors. Hence, water is used as an opening experience to the gallery space, which again creates architecture as an animate being.

This landscape design of the nine-acre museum was done with a major contribution from Harriet Pattison, who worked for Philadelphia architect George Patton. She took the lead role of landscape design. The landscaped area has different level changes, as if the ground planes created with its level changes create a site-relief. Therefore, the landscape here creates a canvas for the museum. Harriet Pattison herself claims her contribution by saying

I soon took exception to Lou's imposing plinth and eased his building into the site, persuading him to incorporate the paired porches at the garden entrance. In my mind, they were, "Kahn ambulatories," an alternative way to experience his building. The ambiguous middle that tied the museum to nature and lent same dignity to live forms that sculpture had within. (quoted in Wiseman 2007, 226–227)

About her choice of traditional landscape elements, she further says:

I chose groves of trees and water—reflecting, tumbling, purling—to temper the climate, animate a featureless site, and attract the public. (quoted in Wiseman 2007, 227) With these elements: the garden then water, trees and then plinth, created a transition from the garden settling easing the building of galleries. In her mind, Pattison called these transitions, "Kahn Ambulatories," an alternative way to experience Kahn's building. (Wiseman 2007, 227)

Though not visually connected to the gallery spaces, the water bodies are experientially connected. They create a contiguity with inside and outside. The museum building itself is not isolated, but a part of the larger landscape palate. Nature expands beyond physicality. Looking at the plan (Fig.), we can also see the proportion of water, which is almost the same as the width of the repeated vaults. The waterscape emulates the longitudinal entity of the vaults and takes up another module of the same, which inherently justifies Ashraf's observation on architecture as inscrutably intertwined with landscape, making Kimbell evidently an "event" of the surrounding landscape. The water becomes a transitional platform to the museum. On this record, Curtis also relates the water to Dhaka's Assembly Building Complex, which creates a citadel atmosphere on a much smaller scale, where the citadel is devoted to culture and not the government (Wiseman 2007, 230–231). The water seems like a moat, as in the Dhaka Complex.

3.0 WATER AS IDENTITY: NATIONAL ASSEMBLY BUILDING COMPLEX, DHAKA, BANGLADESH



Figure 3, 4: National Assembly Complex, Dhaka, Photo by author.

Dhaka's Assembly Building Complex in Bangladesh is arguably Louis Kahn's magnum opus of architecture that constructs the nation's identity. Regardless of the programmatic differences, here too, his citadel idea is consistent and creates a continuum to his previous works. Kahn envisioned the National Assembly Building Complex both as a "Citadel of Assembly" and as a "Citadel of Institution of Man." The Assembly retained its supremacy as the "Citadel of Institution" in the composition, set in the center as a crowning element among surrounding buildings, lakes, gardens, and plazas, and thus an emblem of Bengali identity, which is analogous with the symbolic use of water.

The Assembly Building Complex, as it exists today, is in the center of Dhaka city. The city is positioned at the confluence of two major rivers, the *Buriganga* and the *Shitalakha*, while the country itself is formed by the lower reaches of the Ganges (locally known as Padma River) and the Brahmaputra. Dhaka is centrally located on higher land. Dhaka's regional location meets with central rivers: the Meghna, the Brahmaputra, the Lakhya, and the Dhaleswari (Fig.), so Dhaka as the city and holistically the country has long roots and cultural ties to water. According to Kahn:

The two elements of nature most pervasive in the landscape of East Pakistan

(Bangladesh) are water and vegetation. They almost assert their presence. The examples of intelligent cooperation with these pervasive elements of water and vegetation in some of the best examples of Mughal Garden architecture has been great inspiration to me. (Ashraf and Haque 2002, 15–16)

However, as the Complex spanned two independence movements, Kahn had to work on meeting both Islamic value—which was the core reason for the Partition (1947), to have Pakistan as an Islamic country—and, on the other hand, Bangladesh as East Pakistan as a part of larger Bengal, which was already a fusion of sensibilities, including but not restricted to Sufi (unorthodox Islamic) and Hindu influences.^{vi} Henry Wilcot, Kahn's project manager for this project, cynically thinks it was perhaps a satirical response to West Pakistan, which was rather an arid land without water (author's interview of Henry Wilcot, March 6, 2019).

To many historians, Kahn's work in Dhaka with red and white contrast and water setting relates to its Mughal past.^{vii}

Therefore water, vegetation and the sculpting of horizontal plane became key premises for the architecture of Sherebanglanagar. (Ashraf and Haque 2002, 16)

They describe this gesture of water-based planning as “an image of a visionary Bengali City” (Ashraf and Haque 2002, 44) which today is a symbol of victory against and independence from Pakistan.^{viii} Ashraf and Haque argue that the complete landscape of the Assembly Complex indicates a possible relation of the natural landscape of Bengal, meaning not just land and water but also how the culture is intertwined with it. The mere size and depth of water also allow small boats within, simulating the rural landscape of Bangladesh. Therefore, it's not clear but seems plausible that, while designing the complex, Kahn was influenced and inspired by the region's deltaic landscape and its longstanding influence on the culture, for which water is featured prominently in this design. His dexterity with water also seems to have evolved with significant confidence from the previous projects.

In this complex, the Assembly building itself appears to float on a constructed, moat-like lake. The other key buildings are placed by this artificial lake, thereby granting the entire site a sense of dynamic interplay with the lake and surrounding landscape. The lake takes a crescent form opposite the North Plaza area and is called “Crescent Lake,” which is often misinterpreted as an Islamic symbol, which was not Kahn's intention. Accompanying the focus on water, there are other elements of the design that Kahn intended as nationally symbolic: the immense lawn, the basic geometric shapes, the gardens, and the open plazas. The water body is a major element of the complex landscape form which has taken a huge place in Bangladesh's national identity, and which was much needed in that political paradigm.

Kahn initially got the aerial view of Bangladesh, which was primarily covered with water. He also visited Bangladesh in 1963 for the first time and experienced Dhaka from waterways on the Buriganga. Kahn's early sketches of the Complex show a fascination with the deltaic landscape, as Ashraf and Haque iterate (Ashraf and Haque 36). Kahn asserted that in Bangladesh, one needs to think of “an architecture of the land” (Ashraf and Haque 2002, 36). According to Ashraf and Haque, he saw molding of the earth as the process of “dig and mound,” and “something that involves an excavation of the ground” that would “create an earth to provide both platforms and proto architectural shapes” (Ashraf and Haque 2002, 15). Like the rural huts in Bengal that are built on mounds, the Assembly Building was also built on a mound that was created with soil from the excavation of the artificial lake surrounding it (Ali 2006). For others, this is just atypical Kahn, who uses landscape elements like temporal form (author's Interview of Shamsul Wares, Louis Kahn expert, Dhaka, Bangladesh. January 2019). However, it is now immensely crucial in the creation of a national identity of Bangladesh. However, *Identity* is a loaded word, particularly in the case of Bangladesh, which went through multiple rulers and paradigm shifts which historians often fail to notice. Therefore, the word *identity* demands acute probing on what it means. With the water as an essential element of rural Bangladesh, it creates identity. Its edge and relation to the built form also need exploration. There are several kinds of relation of the elevated Assembly Complex to water. One of them is the *ghat*.

The ghat as a cultural symbol fits perfectly in the semantic discourse for dissecting the Assembly Building Complex. The water encodes the cues of Bengali riverine imagery and cultural values, which are decoded by the people of Bangladesh. The water edge condition and *ghats* on the South Plaza side of the lake are monumental, creating a smooth interface between water and the red-bricked plaza. The predominant river edge landscape itself is *Zaminder Villas* and *Bagan baris* (garden houses). According to Swati Chattopadhyay, these *Bagan-Baris* derived their architectural characteristics locally and were also overlaid with British aesthetic prerogative. With the designed gardens, the new landscape also bore resemblance to the pastoral and picturesque English landscape. For the British, these were more a pastiche of the past, fulfilling the nostalgia of the European colonizers (Chattopadhyay 2007). These villas evolved during the British colonial era and with time became a part of Bangladesh's heritage and constructed identity (See, Hobsbawm and Ranger, 1-14). It also creates an asymmetric visual connection with the centered and more privileged Assembly building, which is elevated higher than the *ghats*' plane and the rest of the complex, creating a power-space relation and affirming Michel Foucault and Michel de Certeau's teachings that institutions govern our modes of seeing and produce a subjectivity (Foucault 1984).

The edge of the water also has a low height wall around the lake, which helps people to sit and enjoy the ambiance. The centrally located Assembly Building acts as a focus and prime background without direct palpable connection with the water and indirect visual connection to the building, which sets the users of the Assembly Complex more visually empowered being in the higher level.

The border of the water landscape has a slanted edge (like a dam, which is also evident in Kahn's Indian Institute of Management in Ahmedabad and water edge of many colonial buildings including Victoria Memorial of Kolkata) but doesn't halt there. Kahn made a porous façade or large openings through which the water is seen and therefore visually gets connected, which Adnan Morshed calls "Urban Windows," which work on a much larger scale (interview of Adnan Zillur Morshed in Tagore 2018). Ashraf writes that when Kahn makes those gigantic perforations, those cavernous spaces of shadows, he is surreptitiously "landscaping" the building (Ashraf 2007, 56). These openings are a landscape continuum where landscape enter visually and experientially inside the architecture. However, the Assembly being on the higher elevation further establishes the separatist relation of the colonizers and the native/vernacular, making it a semi-democratic place. However, both these emblematic forms—the colonial landscape and the citadel—allude to the *bourgeois* culture or societal elite position which acutely resembles upper-class and a nondemocratic symbol, further questioning its democratic stature that Thorsten Botz-Bornstein (2016) has already questioned (he also relates Kahn's work to Nordic architecture). However, perhaps the colonial relation is so deeply ingrained, that with water and the *ghat* it becomes a Bengali normative and essentially symbolic of Bengal's landscape. Therefore, while the Complex is a national monument and may allude to the colonial power structure, it is accepted as a national monument precisely because of its effective association with the people (Rappaport 1990, 39). Yet, the Complex becomes a contact zone which is evocative of ancient Roman ruins, Medieval water castles, Mughal tombs, and British colonial landscape to the Bengali vernacular, leaving its meaning to the mind of the interpreters.

CONCLUSION

In Kahn's words, "Architecture has to have the element of time." He further notes, "Teak will fade away, but the spirituality will remain" (Khan 2003). Water is the element through which Kahn consistently merges his inherent coexisting binaries of poetic with inherent rationality, mystic sensibility with objective intentions and the new with the old (Louis 2017). But what is implicit in these examples is that these three sites become contact zones of different cultures, including apparent binary cultures like the East and the West, Islamic and non-Islamic, colonial and vernacular merely by the materiality and design instrumentality of water. These landscape act as contact zones, forming a modernist landscape where these become spaces in which opposite cultures meet, clash and grapple with each other, often in contexts of highly asymmetrical relations of power. The unique capacity of Kahn is to blend the past and the

present and the ancient with the modern, classical with contemporary sensibilities in connection to universal power and perceptual strata (Louis 2017). Filmmaker Sundaram Tagore, obsessed with Kahn's work in Dhaka, says that they are futurist and ancient at the same time (Tagore 2018). Consequently, it is difficult to situate Kahn in any stylistic classification of modernism, classical, post-modernist, regionalist or critical-regionalist or transcultural. With his dexterity of material and unconventional universality and permissible multiple readings, they fall under many genres and no particular genre at the same time. Kahn unites the world with a single building in one a single site that becomes a sub-world creating a contact zone of past and present, traditional and modern, and East and West which constantly grappling with their very presence

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ⁱ Mary Louise Pratt introduced the phrase "Contact zone." According to Pratt, this term refers to social spaces where cultures meet, clash and grapple with each other, often in contexts of highly asymmetrical relations of power, such as colonialism, slavery, or their aftermaths as they lived out in many parts of the world today. See Pratt (1991).

ⁱⁱ Louis Kahn was working on designing the Indian Institute of Management in Ahmedabad (started 1961) and Dhaka's Assembly Complex (1962–63), hence he was already well traveled in South Asia. Through his travels he knew much about the Mughal landscape in South Asia.

ⁱⁱⁱ "Kahn's scheme for the Institute is spatially orchestrated in a similar way to a monastery: a secluded intellectual community" (Fleiderer 2019).

^{iv} The term *genius loci* has a Roman root, which means protective spirit of the place. In Latin, the word *genius* comes from guardian deity or spirit that watches over each person's birth, incarnation, and talent.

^v The "chronotope" is how configurations of time and space are represented. It is primarily used in literature and philosophy. Russian literary scholar M. M. Bakhtin used it as a part of his literary work, which is derived from the Greek *time* and *space* and therefore, literally translated as "time-space." See also Clifford (1997). Clifford questions the concept of "culture" as a rooted body (grows, lives, dies and so on) and rather argues for routes (or travel) for cultural exchange mode.

Louis Khan has an essence of time in his work and often beyond any particular phase or paradigm and is "timeless". For more see Kahn (2003).

^{vi} Bengal: The people in Bengal speak a common language, Bangla/Bengali, which is formed from Sanskrit roots. The Bengali-speaking eastern region of India and Bangladesh together are called Bengal. Bengali is thus used both as noun and adjective. Prior to Bengal's division in 1905, it was one region of the Indian subcontinent sharing a common language and culture. After this division, East Bengal became Bangladesh, and part of the region was called West Bengal, which today falls in India. Kahn's design and construction work for this Assembly Complex spans two eras: one under Pakistan, and the second phase in post-1971 independent Bangladesh.

^{vii} Goldhagens. 2001

^{viii} Note: The Assembly Complex project was given to Kahn in 1963, at a politically tumultuous time for Bangladesh. Dhaka was the capital of East Bengal, or then East Pakistan, under the Pakistani regime. Later in 1971, East Pakistan gained independence, renaming itself Bangladesh.