

The Emergence of the Arab Engineer: Saba George Shiber, Arab Consulting Engineers (ACE) and *Dar al-Handasah*

Arab engineers, oil boom, planning-architecture, architecture-engineering, Shiber

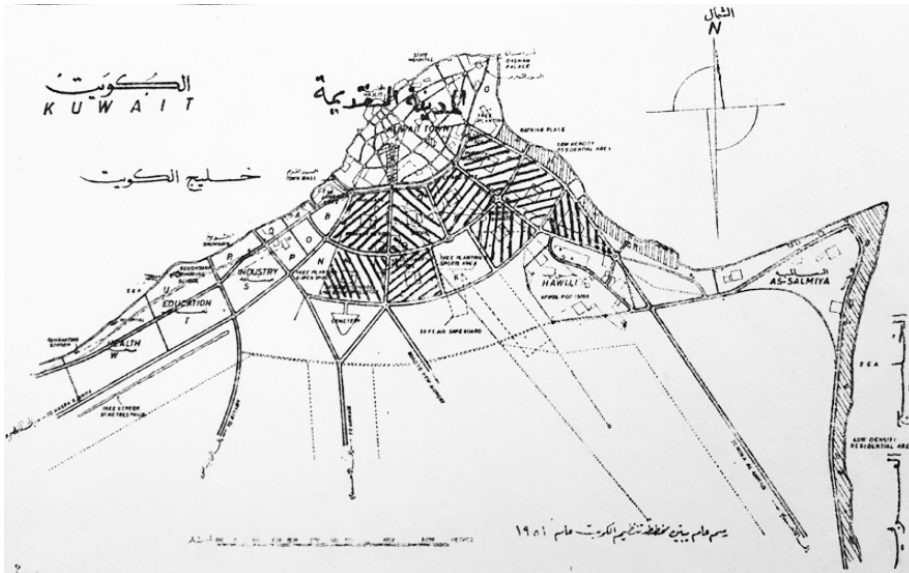
/Abstract

The relationship between architects and consumers in the Gulf cities is a commercial and temporal bond rather than a cultural, dynamic, and interactive one. The dearth of historical and premodern architectural monuments and structures in the Arabian desert combined with the rapid oil construction boom of the second half of the 20th century only further challenged the evolution of the socio-cultural association with architecture. With every new ruler, top planning and architecture firms from around the world are commissioned to speculate on the question of the cultural identity of the Arab-Islamic nation and create its image anew through urban renewal and redevelopment schemes. While in constant pursuit of the national image of a modern Arab nation, Gulf cities are invested in master plans, lucrative structures, and monumental buildings that homogenize as abstracted jungles of concrete and glass. The sociocultural structure of Arab Gulf states has indeed fostered rapid urbanization and hindered the evolution of an Arab discourse on architecture. The lack of professional autonomy for architecture as a practice and a discourse promoted a unique interdisciplinary approach to the building industry combining the fields of design, planning, and construction or what I call planning-engineering. Such a design approach blurs the line between the fields of architecture, city planning and engineering into one expert al-Muhandis, a term inclusive of all scientific and technical fields related to the built environment. In this paper, I trace the emergence of Arab engineering consultancies that shaped the urban scene of Gulf cities even today.

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Aminah Hamed Alkanderi, a fresh PhD. graduate in History and Theory of Architecture from the University of Pennsylvania (Dec 2020). Her dissertation "Saba George Shiber's Kuwaitopolis and the Emergence of the Arab Urban-Architect" traces the contested disciplines of design as practiced in the Arab region through the lens of the Palestinian-born American architect Saba George Shiber. Aminah specializes in contemporary theories of architecture and urbanism in the Arab region with a particular focus on the oil construction booms in the Arabian Peninsula. Her research unfolds the socio-cultural and geo-political exchange between the Levant and the Arabian Peninsula and traces the direct impact of the urbanization of Gulf cities on the evolution of the modern discourse on post World War II architecture. Her work seeks to question modes of translation, mobility, and urbanism in the Global South through the practice of Arab intellectuals, practitioners, and professionals. Aminah is an Assistant Professor of Architecture at Kuwait University.



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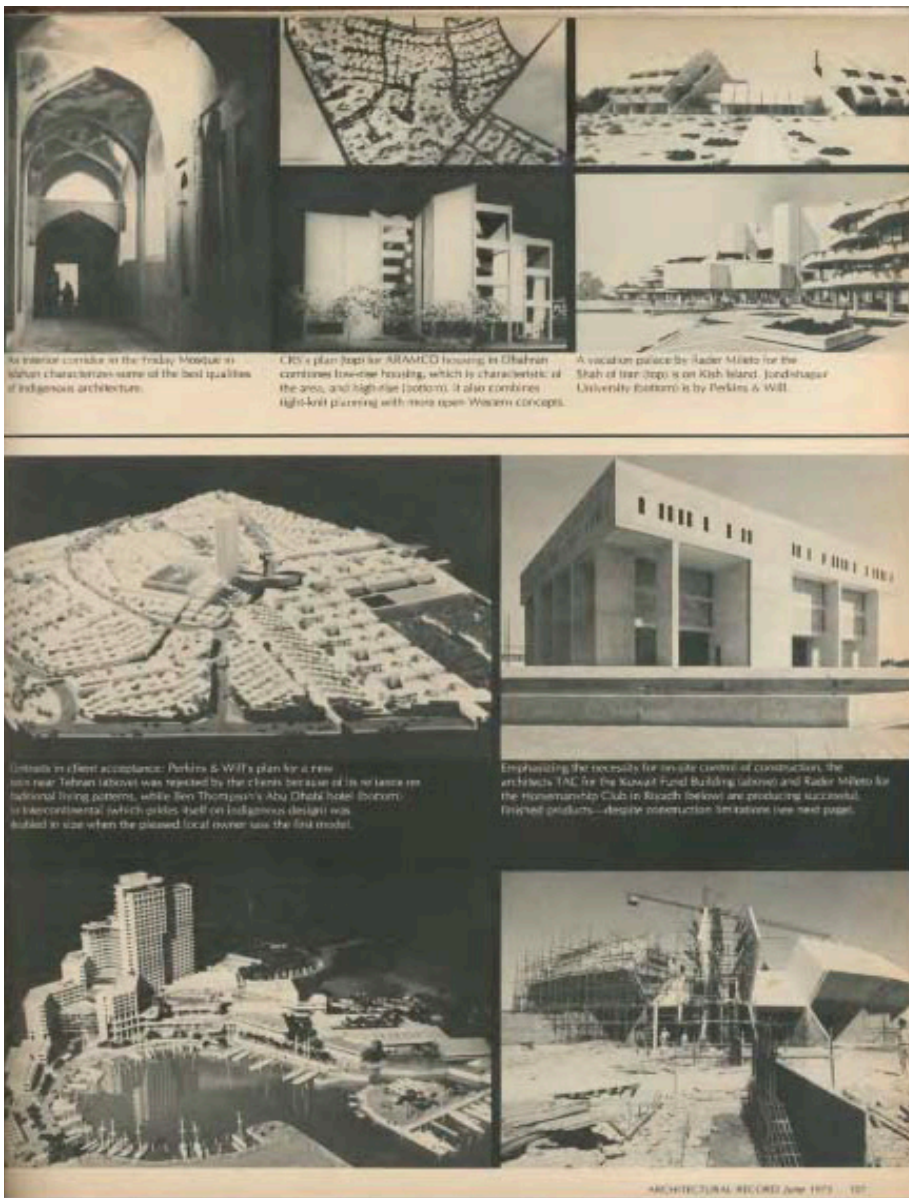
Ever since the discovery of oil in 1937, on the eve of the Second World War, Gulf cities, also known as the Arabian Peninsula, have been in a constant state of change and development in pursuit of modernity and national identity. While rapid urbanism and the making of new cities are the hallmark of oil rich Arab Gulf States even today, urbanism was first perceived as a means to distribute oil wealth through social welfare programs, including housing, free health care, and education services. The first oil boom took place in Kuwait, the Hashemite Kingdom of Iraq, and the Kingdom of Saudi Arabia (KSA), and the three states implemented their first master plans in the 1950s [Fig. 1]. The second oil boom of the 1970s promoted an additional layer of urbanism on a grander scale that included the recently independent states in the Arabian Peninsula, including Qatar and the United Arab Emirates (UAE). The question of temporality is prominent in the evolution of Gulf oil cities, whether in Dubai, Riyadh, Kuwait City, or Doha. Arab Gulf states continue to rebuild and remake their cities in order to refurbish, renew, and restate their national identities.¹ Such a tradition was inaugurated by Kuwait's master plan in 1952 and magnified by the Arab oil embargo of 1973, which dramatically raised the price of oil and increased the revenue earned by the young Gulf states, particularly Qatar and the UAE.² The massive oil income prompted another wave of radical redefinition from town planning to nation building on both the individual state level and the Gulf region at large. While Kuwait entered its second construction boom and its second city-state master plan delivered by Colin Buchanan (1972), Dubai and Qatar embarked on their first attempt at realizing master plans of their own. The trajectory of Doha and Dubai followed the general course of modernization in the region charted by

1 Future development of Old Kuwait City (1968): New Kuwait 2035; Doha 2022; KSA (2030); See also "Proposals for Restructuring Kuwait," *The Architectural Review Archive (1896-2005)* (Sep 1, 1974): 178-90.; Adam Himes, "Competing Visions for a Modern Emirate: The Government Centre of the State of Qatar," *International Journal of Islamic Architecture* 7, no.1 (2018): 143-69.

2 While oil excavation began in the Arabian Desert before World War II, its discovery varied in disparate states. Oil was first discovered in Kuwait and KSA in 1938, Qatar in 1940, and the UAE, almost twenty years later in 1958. Both UAE and Qatar gained their independence in 1971, while KSA was established in 1932. Oman received its independence in 1951 and Kuwait received its independence in 1961.

Fig. 1

Minoprio, Spencely, and Macfarlane (MSM) Master Plan for Kuwait City (1952). Source: Shiber Archive, Washington, DC. © 2018.



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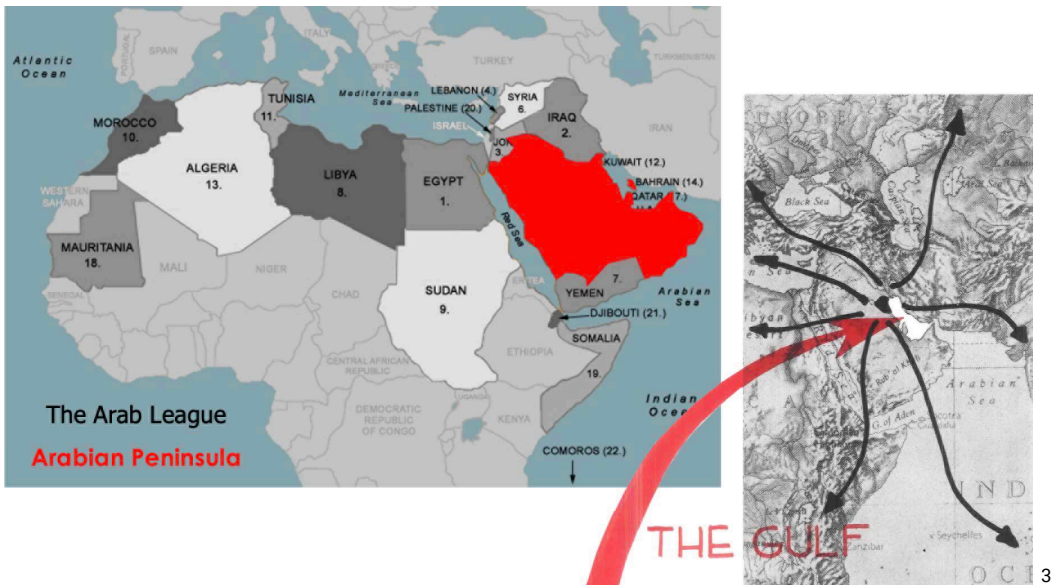
KSA and Kuwait.³ Expert Arab and Western consultants, such as Saba George Shiber; *Dar al-Handasah*; Constantinos Doxiadis; The Architects Collaboratives (TAC); Skidmore, Owings & Merrill (SOM); and others, were heavily involved and often commissioned simultaneously by multiple Gulf governments [Fig. 2].⁴ This is not to say that these experiences were identical, but rather that a general urban trend remained identifiable; thus, understanding the structure, organization, and nature of Gulf cities today is linked to the lessons learned from the urbanization of Kuwait and KSA. Describing the current construction boom in the Gulf, Rem Koolhaas, whose firm OMA operates intensively in the Gulf (and particularly in Dubai), wrote in *al-Manakh Cont'd* (2010):

3 Himes, "Competing Visions for a Modern Emirate": 143-69.

4 See Michael Kubo, "Speculations: US. Architects and Modernization in Kuwait," in *Essays, Arguments and Interviews: Modern Architecture Kuwait*, ed. Ricardo Camacho, Sara Saragoça and Roberto Fabbri (Salenstein, Switzerland: Niggli, 2018), 184-96; Mohammad al-Asad, *Contemporary Architecture and Urbanism in the Middle East* (Gainesville: University Press of Florida, 2012); Charles Hoyt, "Oil Rich Middle East: the New Frontier for Professional Services?", *Architectural Record* (June 1975): 101-108. Himes, "Competing Visions for a Modern Emirate": 143-69.

Fig. 2

Urban development projects in Kuwait and Saudi Arabia in the early 1970 published in 1975 under the title: "Oil Rich Middle East: the New Frontier for Professional Services?" Source: Architecture Record (June 1975).



“The Gulf is the current frontline of rampant modernization . . . if you want to be apocalyptic, you could construct Dubai as evidence of the end-of-architecture-and-the-city-as-we-know-them; more optimistically you could detect in the emerging substance of The Gulf—constructed and proposed—the beginning of a new architecture and a new city...”⁵

The practice of planning-architecture in Gulf cities today is directly linked to the sociocultural, technical, and environmental contexts that gave rise to the Arab region post WWII that led to the emergence of the Arab expert, *al-Muhandis*. The term “Arab region” references those states in the Arabian Peninsula, as well as some in the Levant, whose urbanization was a direct result of oil production and revenue, including present-day Kuwait, KSA, Bahrain, Oman, Qatar, UAE, Lebanon, Iraq, and Jordan [Fig. 3]. Some of these states, mainly those in the Gulf states, are the largest exporters of oil in the world. The others, grouped in the Levant area, benefited from the financial programs funded by oil income, such as the Kuwait Fund for Arab Economic Development, and the business and professional opportunities associated with the rapid urban, social and cultural development process.⁶ These two groups share a common spoken language (Arabic) and popular religious belief (Islam) along with diverse ethnic and ideological minorities, which facilitated their exchange of expertise.

For this study, I contextualize the socioeconomic exchange between the Gulf and Levant, which was manifested in the idea of an Arab renaissance city during the first oil construction boom, between the 1950s and 1970s.⁷ The goal is

5 Rem Koolhaas, Reinier de Graaf and Iyad Alsaka, *Al Manakh: Gulf Cont'd* (Amsterdam: Archis, 2010), 198.

6 Saba Shiber, *The Kuwait Urbanization* (Kuwait: Government Printing Press, 1964), LXIII: Al-Hamad, “Some Aspects of the oil controversy: An Arab Interpretation”, in *Essays*, eds. Camacho, Saragoca, and Fabbri, , 190.

7 al-Asad, *Contemporary Architecture and Urbanism in the Middle East*. See also The World Bank Report 1963. The Arab oil boycott in 1973 was followed by a massive increase in the income of several nations, which not only benefited the oil-rich Gulf states but also assisted neighboring countries, such as Lebanon, Jordan, and many African states. According to a World Bank report, Kuwait was the fifth largest exporter of oil in the world at the time. The state invested one-sixth of its oil income in other Arab countries’ development through the financial programs of the Kuwait Fund for Arab Economic Development. Another model of modernization was explored in the following decades, resulting in the strong presence and influence of American architectural practices in the region (predominantly by TAC., SOM, and HOK).

Fig. 3

Plan of the Arab league states highlighting in red the Gulf states by the author and the Gulf Map by Shiber. Source: Saba Shiber, *The Kuwait Urbanization*, (Kuwait: Kuwait Government Press, 1964).

to highlight the unpopular narrative on postwar urbanism in the global south, particularly the role of *al-Muhandis al-Araby* (the Arab Engineer) whose theories, plans, and articulation of the urban built environment shaped the practice of architecture-engineering in the Gulf region today. The lack of significant urban and architectural heritage in the Arabian Peninsula, Arab engineers adapted the abstract form of the land ordinance grid based on the principles of rectilinear boxes and structural frames of commercial buildings in the industrial American cities. Gulf cities emerged as free-standing objects surrounded by vacant spaces and street parking rather than pedestrian plazas surrounded by buildings [Fig. 4].⁸ Such a city proto-

type dominated the practice of urban-architecture for the entire 20th century. It was not until the recent financial and oil crisis in the 2009 that Gulf cities began to reclaim its right to public urban spaces and pedestrian spaces in the city core at least.⁹



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Through the reconstruction of the contemporary urban history of cities in the Gulf, one would identify the unique system of urban production and practice of planning architecture that had emerged from the domination of *al-Muhandis's* rational in the Arab region in general and the Gulf in particular. Despite the existing historical narratives surrounding the discourse of postwar urbanism that demonstrate the influence of geopolitics, nationalism, technology, and the energy market in the Global South, the Gulf architecture is generally perceived as a Western creation; in fact, prewar Congrès Internationaux d'Architecture Moderne's (CIAM) concepts and principles of universal urbanism were challenged by the new geopolitical context of the desert cities in the Gulf. In this paper, I demonstrate the modified urban and architectural design principles instigated through the urbanization of Kuwait City in association with the pan-Arabism spirit of 1958.

The unique socioeconomic capacity of Kuwait and the climax of Arab nationalism allowed for the evolution of a multifaceted modernization process driven by the United Nations (UN) and Levantine Arab experts from Palestine, Lebanon, and Egypt. Following the Suez War of 1956 to regain Western (French and British) control and overthrow the Egyptian leader Gamal Abdel Nasser, who had nationalized the Suez Canal, pan-Arabism gained increasing popularity. The establishment of the United Arab Republic two years later, and the short-unification of the two states, Syria and Egypt, which lasted until 1961, revived the pan-Arab

8 Al-Nakib, Farah. "Cities and belonging in the Gulf Arab States", Panel, The Arab Gulf States Institute in Washington, Washington, DC, July 24, 2019. Stephen Gardiner, and Ian Cook, *Kuwait, The Making of a City* (Harlow, Essex: Longman, 1983), 14-21.

9 Farah al-Nakib, "Cities and belonging.": Alexandra Peca Amaral Gomes, Asseel Al-Ragam, and Sharifa AlShalfan, *Reclaiming public space in Kuwait's residential neighbourhoods: an applied policy-oriented approach*. Kuwait Programme paper series (8). (LSE Middle East Centre, London, UK. 2021).: Masdar City (2006), Msheireb Downtown Doha (2010): City Walk, Dubai (2016), and King Salman Park, Riyadh (2030).

Fig. 4

Commercial buildings along Mubarak al-Kabeer street in Kuwait City and the Textile market on the right bordering a street level parking in the 1960s. Similar conditions still exist in different parts of Kuwait City today. Courtesy to Deema Al-Ghunaim, "Trading from Route to Floor: Mubarak Alkabeer Street.", Madeena Pamphlet, (2019)

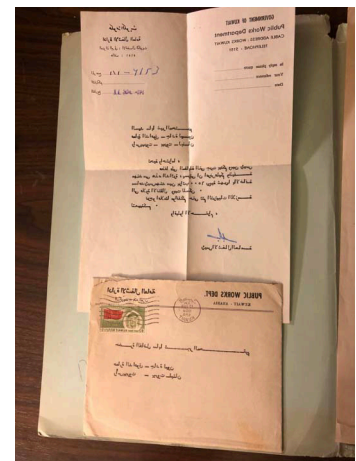
sentiment across the entire region.¹⁰ The state of Kuwait under the leadership of Sheikh Abdullah III al-Salem al-Sabah was in fact strongly affiliated with the idea of pan-Arabism and nationalism, which was in turn reinforced by anti-Western sentiments [Fig. 5].¹¹ Abdullah III was not necessarily in total alignment with Nasser, but he supported nationalizing Arab resources.¹² On the eve of its independence from the English protection treaty in 1961, the majority of



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development projects and plans administered by international architects and contractors in Kuwait were suspended;¹³ instead, Arab practitioners, intellectuals, and architects were hired from neighboring countries to convey the modern face of Kuwait through a reformation of the fields of education, health, and other social services. Arab contractors, architects, engineers, and planners from Palestine, Egypt, Lebanon, and Iraq were contracted by the recently established Public Works Department (PWD) at *al-Baladiya* (the Municipality) to supervise the modernization of Kuwait [Fig. 6].

During the first two decades of its independence, the city-state of Kuwait achieved groundbreaking transformations on social and physical levels. In addition to International experts, Kuwaitis relied on the expertise of Levantine Arabs for school curricula, government, medicine and more that embodied modern values, a value system with which Kuwaitis themselves were not versed. Young Arab engineers, architects, and planners were entrusted with the task of building



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10 T. R. L. "The Meaning of the United Arab Republic." *The World Today* 14, no. 3 (1958): 93-101. Accessed December 29, 2020. <http://www.jstor.org/stable/40393828>.

11 See Sheikh Abdullah al-Salim al-Sabah biography at: <https://biography.yourdictionary.com/shaykh-abdullah-al-salim-al-sabah> (accessed 09/24/2020). Sheikh Abdullah al-Salim al-Sabah (1895–1965) was the eleventh ruler of Kuwait, the first Emir of the State of Kuwait, and Commander-in-chief of Kuwait Military Forces from 1950 until his death. He supported political reform before the interwar period. Prior to the advent of the oil boom, he challenged the autocratic rule of the Sabah family and demanded the establishment of a consultative council (*al-Majlis al-Istishari*) to distribute state authority evenly between the ruler and the merchants. Unlike his predecessors, Abdullah al-Salem was more pro-Arab than pro-British, and thus terminated the British "protectorate" status of Kuwait in June 1961. He was regarded as the founder of modern Kuwait through the development of programs in the fields of education, health, and other social services. The Kuwaiti government during his time replaced British commissioners, experts, and consultants with Arab intellectuals from Palestine and Egypt. He promulgated the constitution of Kuwait in 1961 and established the first elected Arab Parliament, shortly thereafter - in 1963. Abdulla al-Salim initiated tremendous social and political changes that transformed Kuwait from a benevolent, autocratic government to a representative one. Kuwait had therefore become a model for other Gulf States yet to embark on modernization.

12 See Farah al-Nakib, *Kuwait Transformed, A History of Oil and Urban Life* (California, USA: Stanford University Press, 2016), 10-11. The government's ambitious desire to remake the whole city all at once and immediately at the first decade of oil created an influx of skilled and unskilled workers initially from Arab countries and then increasingly from south and Southeast Asia. This problem was evident from the country's first census in 1957, which revealed that the number of foreign-born residents was rapidly growing, almost outnumbering the indigenous population. In 1959, a new nationality law was put in place to control the future population of the country but also monitors the influence of Arab nationalist movement, which threatened the existence of Arab monarchies.

13 Roberto Fabbri, Sara Saragoça and Ricardo Camacho, *Modern Architecture Kuwait: 1949-1989* (Zurich: Niggli, 2016), 168.

Fig. 5

Sheikh Abdullah III al-Salem al-Sabah (Emir of Kuwait 1950-65) in Cairo meeting with other Arab leaders including Nasser at the background. Source: Life International (Oct. 4th, 1965) courtesy to Shiber Archive, Washington, DC. © 2018.

Fig. 6

Letter from the public Works Department at the Kuwait Municipality to Saba Shiber about his new post (dated 06/11/1960). Source: Shiber Archive, Washington, DC. © 2018.



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the new Arab city [Fig. 7].¹⁴ Prior to its independence and amid the rise of pan-Arabism, Kuwait did not yet have a class of architects and engineers who could negotiate the terms of construction with foreign consultants appointed by Britain and the UN to supervise the development programs. Such a gap was filled with Levantine Arabs who were trained under the colonial programs in the *École des Beaux-Arts* in Cairo, and Alexandria, or the American University of Beirut (AUB), or else those who attended schools in France, England, Switzerland, and the United States prior to WWII.¹⁵ Only two universities in Egypt offered bachelor's degrees in architecture, Fuad I and Farouk I in Cairo and Alexandria respectively. As with AUB, these universities taught programs in civil engineering and other professions, such as electrical, mechanical, chemical, aeronautical, marine, and petroleum engineering.¹⁶ However, "none of the universities mentioned above offers a complete course in either city planning or landscape architecture except as auxiliaries or requisites to the architecture course."¹⁷ Arab students studying in nearby Arab universities who were interested in architecture or branches of engineering automatically ended up studying civil engineering, because it was the closest offering to those interests that was available.¹⁸ This shortcoming contributed to the idea of the Arab engineer as the master of the built environment: the lack of diversity among engineering and architecture programs in the region accurately reflected the local market's needs, which were the result of the construction boom in the Arab world, but it did not accurately reflect the interest in architecture among students. As a result, the Levantine architects, mainly

14 See Camacho, Saragoca and Fabbri, *Essays, Arguments &*, 93-96. In 1957, an internship program was established at the Public Works Department (PWD, now Ministry of Public Works) under the guidance of Ken Weidner, Dean of AUB's School of Engineering. AUB graduates were offered higher salaries upon graduation, and professors like Assem Salam and Raymond Ghosn worked on numerous influential buildings in Kuwait from 1957 onwards. Among the Arab names and practices who were actively involved in the construction boom in Kuwait are Saba Shiber, Sayd Karim, Dar al-Handasah, and many others.

15 See Saba Shiber, "A School of Design and Engineering for the Proposed 'Jerusalem University'" (Master's thesis, Massachusetts Institute of Technology, 1947). By 1948, only two universities in Egypt offered bachelor's degrees in architecture, Fuad I and Farouk I in Cairo and Alexandria respectively. As with AUB, these universities taught programs in civil engineering and other professions, such as electrical, mechanical, chemical, aeronautical, marine, and petroleum engineering. In 1959, the school of Architecture was established at Baghdad University.

16 Shiber, "A School of Design", 17-18.

17 Shiber, "A School of Design", 17.

18 Shiber, "A School of Design", 6-17.

Fig. 7

Picture from the Kuwait Engineering Society in the 1960s where young Kuwaiti engineers are attending a discussion session organized by Levantine Arab Engineers. Source: Shiber Archive, Washington, DC. © 2018.

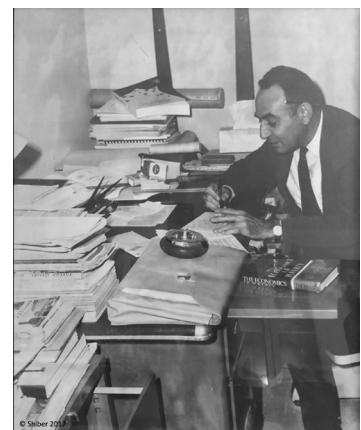
from Palestine, Iraq, and Lebanon, who were the translators and mediators of the modern discourse on architecture and urbanism, mastered the language, culture, religion, and politics of Kuwait and other Gulf states and promoted the concept of engineering-architecture, a by-product of the establishment of *al-Muhandis al-Araby*.

Saba George Shiber, the New Man on the Horizon

In May 1960, like other Arab talents, Saba George Shiber received an invitation to participate in the construction boom in Kuwait given his expertise in the fields of architecture and city and regional planning [Fig. 8].¹⁹ The Palestinian-born American Planner-Architect accepted the job offer for an Assistant Chief Engineer at the Public Work Department (June 1960), and he was animated by the unique opportunity that would allow for building an entire city in Kuwait.²⁰ Shiber noted that Kuwait was “unlike most other old Arab cities, such as Cairo, Damascus, Baghdad, Jerusalem, Tunis and others in the sense that the old city contained few large religious, historic, or architectural structures to act as starting points or *foci* to planning.”²¹ The urban fabric of the old seaport town was still preserved and fortified by a mud wall with five gates controlling accessibility to the city; on the other side of the wall, superhighways, modern residential suburbia with concrete villas had just been completed.²² Oil wealth had brought to Kuwaitis a new era with a new city and urban life that was fabricated from scratch on the empty desert land.²³ In his book, *The Kuwait Urbanization* (1964), Shiber declared:

The hardest thing, I have found out, is to plan a city from scratch. It is popularly believed that, when a city is planned from scratch —meaning that there are no difficulties such as an existing urban matrix, complicated mosaics of property ownerships and so on —the planning is easy.²⁴

Relying on his credentials, professional connections, and heritage, Shiber was confident that he could seize the moment to build an Arab Renaissance City. His use of the term “renaissance” to describe a modern Arab city in the making compels modern architects and planners to locate the new beginning for oil Gulf cities. In addition to “rebirth”, “renaissance” for Shiber also referred to an exchange and interaction between different cultures and contexts—the Arabic



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19 Saba George Shiber (1923-68) was the son of George Saba Shiber the head of the Arab Engineers in Jerusalem and the founder of Jerusalem University Association 1946. Shiber Jr. obtained a bachelor in Civil Engineering from AUB in 1944, and Bachelor in Architecture from Cairo University (then called Fuad I University) in 1946. He obtained two masters degrees from MIT, the first in Architecture and the second in City Planning where he worked closely with Dean Fredrick Adams who shaped his planning methodology. After eight years of work experience in the USA as an instructor of architecture, a planner, and architects in several American universities, design firms, and municipal councils, Shiber Jr. obtained a PhD in City and Regional Planning with minor in Business Administration from Cornell University in 1956.

20 Correspondent letters at Shiber Archive in Washington, DC.

21 Saba Shiber, *The Kuwait Urbanization* (Kuwait: Government Printing Press, 1964), 5.

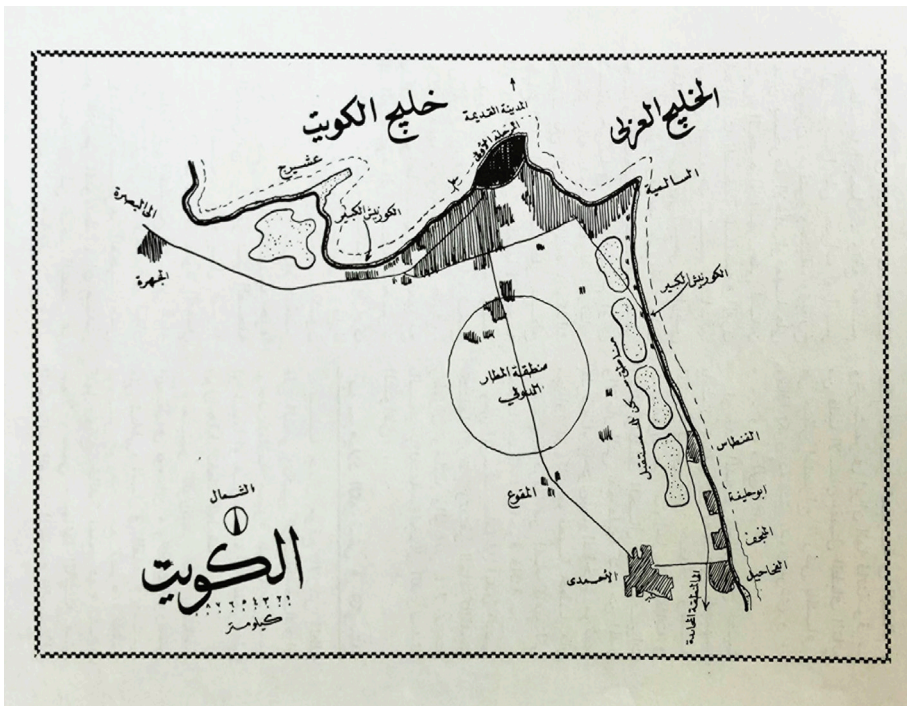
22 Shiber, *The Kuwait Urbanization*, 2.

23 Stephen Gardiner and Ian Cook, *Kuwait, The Making of a City* (Harlow, Essex: Longman, 1983), 14-21.

24 Gardiner and Cook, *Kuwait, The Making of a City*, 5.

Fig. 8

photo for Saba George Shiber in his office at the Public Work Department at the Kuwait Municipality in the 1960s. Courtesy to Ramesy Shiber (Shiber's youngest son), New York City. © 2018.



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and the American, the local and the international, the traditional and the modern [Fig. 9]. The scale and speed of urbanization given rise by the new oil wealth created an opportunity for an Arab renaissance city through the innovations that this metropolis was bringing to the fields of arts, science, planning architecture, and city planning in the Arab world and the Gulf in particular.²⁵

Planning-Architecture in the United States

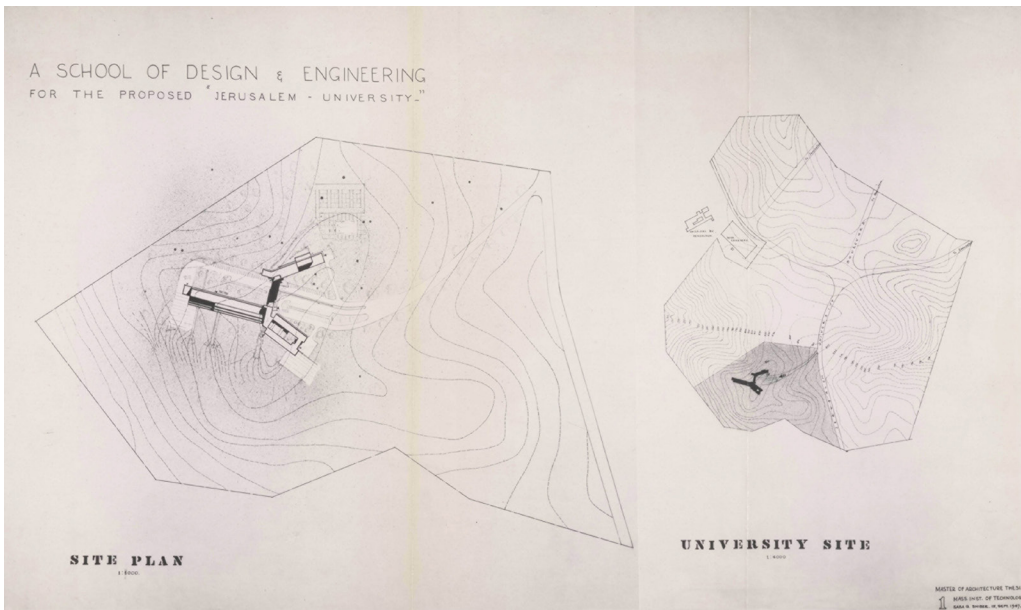
Shiber's journey to the USA (1946-56), was meant to be brief: his father, the director of the Association of Arab Engineers and founder of the Jerusalem University Association who had purchased and set aside land in Jerusalem on which to build the first Arabic School of Architecture, sent his son to MIT to network and to learn from the masters in the fields of architecture and city planning.²⁶ Post-World War I, Cambridge, New York, and Chicago were urban and architectural labs where American and European immigrants were experimenting with new design paradigms, combining the Bauhaus and *Beaux-Arts*

25 Gardiner and Cook, *Kuwait, The Making of a City*, 5-11.

26 See Saba Shiber, "A School of Design and Engineering for the Proposed 'Jerusalem University'" (Master Thesis, Massachusetts Institute of Technology, 1947), 9-10, 23-4. for details about the founding and objectives of Jerusalem University Association, and the selected site and the purchased land in the southern suburb if Jerusalem located on the biblical Mount of Olives. See Saba Shiber, "A University City for the Proposed Jerusalem University", (Master Thesis, Massachusetts Institute of Technology, 1948) for details about the attempts of Shiber's father to materialize his son plan for the school of Design and Engineering on the site partially purchased by the JUA. There are correspondent letters between Shiber father the founder of the JUA, and British mandate documenting the political struggle with the British mandate to get more details information and maps for the site of the university city. See also an interview with Charles Haddad, a Palestinian architect who graduated from AUB in 1956 published in Camacho, Saragoça, and Fabbri. *Essays, Arguments &*, 106-115. Haddad who was Victor's classmate at AUB (Shiber's younger brother), confirmed seeing maps of Shiber's plan for the architecture school at the proposed Jerusalem University on the land purchased by the father on Mount Olives in 1955. Haddad also noted that the Shiber's family were proud of Saba's venture in the United States, they spoke highly of Saba's achievements, work, and participations; they even published about them.

Fig. 9

Shiber Plan for Kuwaitapolis explaining the concept of fortification as an urban landscaping of the new residential suburbia along the coastline south. Source: Saba Shiber, *The Kuwait Urbanization* (Kuwait: Kuwait Government Printing Press, 1964)



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methods.²⁷ Those experiments resulted in new design pedagogy that promoted the concept of “planning architecture” among a range of important schools, including the new Graduate School of Design at Harvard, City and Regional Planning at MIT, the short-lived New Bauhaus in Chicago (which later became known as the Institute of Design), and Cornell University, which was among the first to offer a Ph.D. program in City and Regional Planning. Shiber participated in this venture at MIT and Cornell as a representative of the Arab region and mapped out and designed the first Arabic School of Architecture at the proposed Jerusalem University.

At MIT, under the supervision of Deans William Wurster and Fredrick Adams, Shiber delivered a proposal for a School of Design and Engineering (1947-8) at which the four fields of architecture, planning, landscape architecture, and civil engineering would share the same classes in the first year [Fig. 10]. This special curriculum aimed to balance the art and science of planning by focusing on the humanities and philosophy courses that were minimized in the traditional school of architecture in the region.²⁸ His proposed curriculum was in fact based on a combination of MIT, Rhode Island School of Design (RISD), and GSD-Harvard with some modification in the subjects dealing with materials, horticulture, and social sciences in order to address the specific context and culture of Palestine and the Arab region.²⁹

It is interesting that Shiber selected both Lowthorpe School of Landscape Architecture at RISD and the Landscape Architecture program at GSD-Harvard as a model for his proposed Landscape Architecture program. While he did not

Fig. 10

Shiber's design drawings including micro site plan of the architecture building and macro plan of the university site for the School of Design and Engineering for a proposed "Jerusalem University". Source: Saba Shiber "A School of Design and Engineering for the Proposed 'Jerusalem University'." Master's thesis, MIT, (1947).

27 See Lewis Mumford, *The Culture of Cities* (New York: Harcourt, Brace & World Inc., 1938); Siegfried Giedion, *Space Time, and Architecture* (Cambridge Mass: Harvard University Press, 1954). The massive immigration of European intellectuals fleeing fascist regime including the former Bauhaus masters such as Walter Gropius, Mies van der Rohe, Ludwig Hilberseimer, and Laőszlő Moholy-Nagy had contributed to the evolution of new methods of construction and process of design that integrates the different fields of design including architecture, landscape architecture, and Planning.

28 Giedion, *Space Time, and Architecture*, 30.

29 Giedion, *Space Time, and Architecture*, 30

make direct references to Walter Gropius in his thesis project, the proposed curriculum for the school of design and engineering had some resemblance with the collaborative design studios promoted by Joseph Hudnut and Gropius at GSD-Harvard. In addition to appointing Gropius, Hudnut, the first dean of GSD (1936-1945), influenced the school's fundamental transformation from the Beaux-Arts School to what could be identified as the New Bauhaus design pedagogy through the merger of the three formerly separate schools of architecture, landscape architecture, and planning.³⁰ The new system of education modified American architectural practice based on "development of process of thought and vision."³¹ According to the American historian Eric Mumford, Hudnut began teaching the history of what is called "civic design," which highlighted the value of traditional urban streets.³² Hudnut's attention to pedestrian scale matched well with Gropius' attentiveness to urbanism and the design of new, mixed-income, decentralized settlements situated in greenery. Another fundamental contribution of the GSD was the placement of landscape architecture on an equivalent collaborative footing with architecture and planning.³³ In fact, the students who arrived in the mid-1930s were much more absorbed in Gropius' ideas. This, in turn, influenced an entire generation of architects and educators, such as Ian McHarg (Scottish landscape architect regional planner), I. M. Pei (Chinese-American architect), the partners of Gropius' firm The Architects' Collaborative (TAC., 1945–95),³⁴ and many others.³⁵ It was around the same time that Shiber came to study at MIT and became fascinated with the concept of collaborative design and the integrated discipline of design combining architecture, landscape architecture, planning, and city planning. With the intention of capturing the radical design pedagogy he was representing, Shiber seemed to be entertained by the concepts of civic design promoted by integrated design curricula and later developed by Gropius' practice TAC. Such an association would manifest itself in Shiber's work in the Arab region, when he co-founded the Associated Consulting Engineers (ACE) in Beirut and throughout his later career in Kuwait as Chief Engineer. He declared:

30 Eric Mumford, *Defining Urban Design: CIAM Architects and the Formation of a Discipline, 1937-69* (New Haven: Yale University Press, 2009), 28-9.

31 Mumford, *Defining Urban Design*, 30.

32 Mumford, *Defining Urban Design*, 30-31.

33 Mumford, *Defining Urban Design*, 32; Saba Shiber, "Urban Formation and Reformation: A Descriptive and Critical Analysis" (Ph.D. Diss., Cornell University, 1956), 3. Shiber declared "although trans-urban land is not directly involved in this study, its condition, especially in proximity to urban areas, cannot be ignored. Not only is it often a prelude to the visual conditions within the city, but forming the approaches or gateways to the city, it must be considered an integral part of the form of the city. Many elements responsible for "unifying the landscape" wherein the city is set, are to be found in the land embraced by the urban zone of influence." He had referenced Eiel Saarienen, *The City, Its Growth, Its Decay, Its Future* (Cambridge: MIT Press, 1943). Among the projects presented in the form of freehand sketches are those of Eero Saarinen, Louis Kahn, Walter Gropius including some of their winning design studios at GSD-Harvard. The three architects were active members of the American Society of Planner Architects (ASPA) and they were invested in the urban built environment and landscape architecture. A Sketch of the winning team for the St. Louis Jefferson National Expansion Memorial Competition by Saarinen's students (1943) is included (Saarinen was a professor for landscape architecture at GSD). In addition to the Saarinen's MIT Chapel, Shiber included a sketch of Kahn's proposal for Penn Center transportation building. Another project was redevelopment project for the Central South Side, Chicago, a problem thesis at Harvard University under the supervision of Gropius.)

34 The Architects Collaborative (TAC) was formed by eight architects; it operated between 1945-1995 in Cambridge, Massachusetts. The founding members were Norman C. Fletcher (1917–2007), Jean B. Fletcher (1915–1965), John C. Harkness (1916–2016), Sarah P. Harkness (1914–2013), Robert S. McMillan (1916–2001), Louis A. McMillen (1916–1998), Benjamin C. Thompson (1918-2002), and Walter Gropius (1883-1969).

35 Mumford, *Defining Urban Design*, 48.

"A city must be made up of spaces delicately graduated in accordance with the various requirements of society. If buildings and building-groups are too far apart, the elements of civic design deriving from scale, spatial relationship and townscape are lost and no worthy sculptural urban features ensue. This is, perhaps, from a civic designer's viewpoint, one of the unfortunate results in the over-distension of Kuwait, especially when it started, ab initio, from practically nothing to take pride in a fantastic plant of buildings."³⁶

During the time, when Shiber was in the US, he became part of the genesis of the new field of study called "planning-architecture"—a contemporary discourse on city planning combining the art and science of architecture. Similar to discourse on architecture, planning-architecture reviewed the city in its complete sense, as defined by Lewis Mumford: "the city in its complete sense... is a geographic plexus, an economic organization, an institutional process, a theatre of social action, and an aesthetic symbol of collective unity."³⁷ The arrival of the former Bauhaus masters *en masse* guided the ethos of American architectural practices after the closure of the Bauhaus by the Nazi government in 1933. Since university posts in the US guaranteed permanent residence, German immigrants shared their artistic, scientific, and technological skills with American institutions and in so doing revolutionized their urban design pedagogy. Among those architects were László Moholy-Nagy (1937), Walter Gropius (1937), Marcel Breuer (1937), Josef Luís Sert (1939), and Ludwig Mies van der Rohe (1940). Architecture schools, therefore, exhibited a great curiosity for taking the field of city planning as a three-dimensional design process that combined art and science. While MIT was also invested in the interdisciplinary and collaborative design methods under the guidance of Wurster, the then recently established Department of City and Regional Planning had an additional political design agenda. Under the leadership of Adams (1947-57),³⁸ the planning program focused on preparing a global professional body of "planner-architects" to assume leadership roles in the development and urbanization of their own countries [Fig. 11].³⁹

Interestingly, the concepts of planning-architecture were also promoted by a group of pioneering modernist architects, planners, artists, and historians mainly from MIT, Harvard, and Yale who were recognized by the American Society of Planner-Architects (ASPA 1942-8).⁴⁰ The group was founded in New York in December 1943 by Breuer, Serge Chermayeff, Vernon DeMars, and others in

36 Shiber, *The Kuwait Urbanization*, 120.

37 Mumford, *The Culture of Cities*, 480. Cited in Shiber, "Urban Formation and," 1.

38 A brief history of the Urban Planning Department at MIT is displayed on their website, <https://dusp.mit.edu/departments/about> (accessed Dec. 16th, 2019).

39 Frederick J. Adams, *Urban Planning Education in the United States* (Cincinnati, Ohio: the Alfred Bettman Foundation, 1954), 8.

40 See Mumford, *Defining Urban Design*, 54. They were initially identified as ASAP (American Society for Architect Planners), but it was decided in 1944 to reverse the words "architects" and "planners" in the name so that the initial would be ASPA instead of ASAP.

order to link politics and modern architecture in the US.⁴¹ The members of the group included Gropius, Wurster, Adams, Wallace Harrison, George Howe, Richard Neutra, Erich Mendelsohn, Louis Kahn, Eero Saarinen, Hudnut, Henry-Russell Hitchcock, Siegfried Giedion, Robert Woods Kennedy, Joseph Sert, Oscar Stonorov, and Lawrence Perkin, among others. Despite the lack of research into the exact role of the ASPA, Mumford claims that the group forged a shared commitment to



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CIAM-based urbanism amid the changing conditions of wartime America. Given the increasing importance of education in urbanism, a new kind of professional arose during WWII in the U.S.—the “planner-architect in the urban biological sense,” remarked Chermayeff.⁴²

While Shiber was not a member of ASPA, his mentors were. After 1945, MIT recognized the interdisciplinary curriculum of planning-architecture along the modernist lines, which replaced the closed *Beaux-Arts* jury system. Dean Wurster favored open discussion about the design with the students and ASPA members, including DeMars, Hitchcock, and Kennedy, joined the students-faculty conversations.⁴³ Both models of the planning-architecture and the open jury system at MIT emphasized the notion of collaborative design in order to organize the physical environment as a whole. These notions, I argue, were fundamental to Shiber’s theory and practice of planning-architecture, which aimed to counterbalance mechanized society and to emphasize human associations with the built environment. He was without a doubt aware of ASPA’s design agenda, methods, and activities; in fact, Shiber’s published work, plans, and architecture projects reciprocate the values of Gropius, Mumford, Kahn, and Giedion, among others who founded the group [Fig. 12].

Planning-Engineering in Lebanon

The combination between the two notions of collaborative design and the national technocrat produced the concept of the “planner-architect”, which largely shaped Shiber’s career both in the US and the Arab region. His larger vision for the Arab region, reflected in his plan of *Kuwaitopolis*, intertwined the two

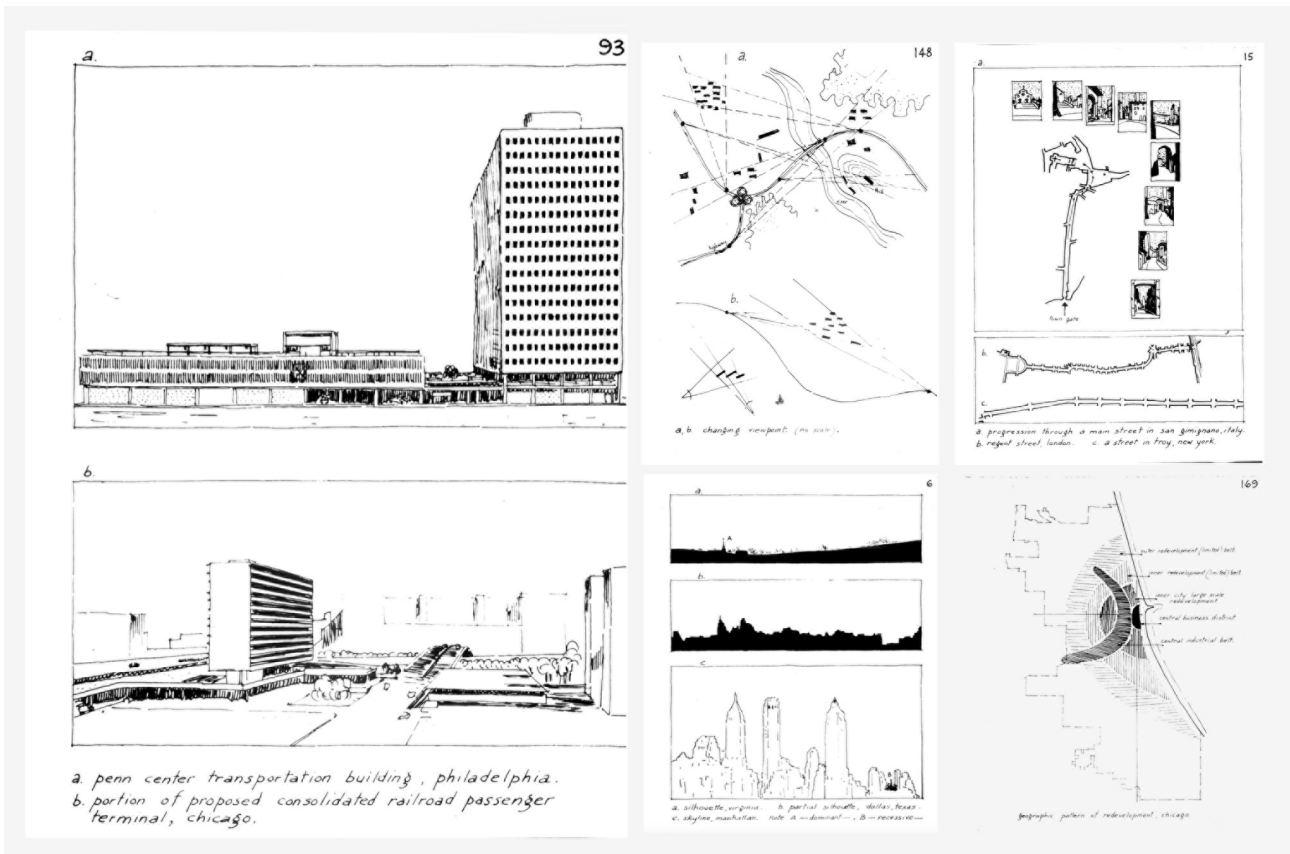
41 Mumford, *Defining Urban Design*, 65.

42 Serge Chermayeff, “Urs or Urbanism,” *New Pencil Points* 24 (February 1943): 72-6. Cited in Mumford, *Defining Urban Design*, 56.

43 See Endnote number 174 in Mumford, *Defining Urban Design*, 225; See also the acknowledgement in Shiber, “A School of Design,” and “A University City.” Dean William Wurster and Professor Robert Kennedy in addition to Frederik Adams were among the teachers whom Shiber thanked for their influence on his work.

Fig. 11

Physical model of the proposed site for “Jerusalem University” indicating all programs on campus programs and spaces in connection to the urban fabric of the city. Source: Saba Shiber, “A University City for the Proposed Jerusalem University,” Master’s thesis, MIT, (1948).



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concepts of planner-architect on the nationalist technocratic level and the collaborative designer on the microcosmic scale in the practice of planning-architecture [Fig. 13]. Through promoting the combined field of Design and Engineering, Shiber recognized the “Arab urban architectural-engineering body politic”⁴⁴ that is still shaping the urban built environment in the Arab world today.⁴⁵ These combined fields are often abstracted through the use of the Arabic term *al-Muhandis*, which can be loosely translated to the English term “engineer”, which falls short of the Arabic term’s inclusivity regarding all scientific and technical fields

PLANIFICATION

Sept 15, 1962

Scale In City Planning: Important Considerations for Arab Planners

Kinetic-kinesthetic influences enter the process of urban formation as design determinants; the hierarchies of urban scale enter the process of design as regulators of the spatial-visual relationships governing area location and the dispositional employment of emergents therein. Since location and disposition are governed by multitudinous determinants, the mutual interdependence of the forces and factors which enter the process of urban formation result in a cycle, the precision of whose configuration rests on the involvements of relationships, namely, on scale hierarchy.

Since urban formation is a de facto consequence of settlement and since, moreover, a de facto format of the settlement is governed by physical and socio-functional determinants, therefore spatial-visual results can be realized, variously, by the degree of spatial conceptualization entering the process of formation positively. Furthermore, spatial co-creative activity of the mind, finds tangible expression in form, which is visually judged, by the sense of proportion, indicating that the integration of finished urban form must derive from the simultaneous action of spatial conceptualization and the visual ability to perceive the controlled urban emergents into proportional forms and organizations of forms. The ability must rest in the esthetic-perceptual sense by which beauty or ugliness, in all states of existence, are judged. The precise validity of scale judgment is then contingent on subjective esthetic evaluation, and discussion about urban scale as an abstract instrument or deter-

Urban Determinants

As a measure of ratios and proportions, scale is well-known in architecture. Applied to the city, its instrumentality as a measure of gradation and contrast is more complex and far vaster in scope. Because of its inherent compositional elements, the city offers many quantitative and qualitative differentials which, compared, might be graduated along continuous and measured by scale. Each continuum is a hierarchy the parts of which (or values) contrasted to each other or to the whole, are a scale hierarchy. Scale may, thus, refer to urban social relationships.

By Saba George Shiber, Ph.D., A.I.P.

INDICANT in urban formation is subject to a discussion of scale in art and, perhaps, even in engineering, since the concept of scale, namely to judge proportionately, is universal. Even in engineering-derived architecture, de facto scale relationships transpire, notwithstanding the possible absence of a conscious striving for them.

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MID-EAST COMMERCE - 33

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Fig. 12

Shiber’s visual studies based on continuing the work of Hilberseimer, Gropius, and Moholy-Nagy on urbanism and the evolution of the built environment. Source: Saba Shiber, “Urban Formation and Reformation,” Ph.D. dissertation, Cornell University (1956).

Fig. 13

Shiber’s article, “Scale in City Planning: Important Considerations for Arab Planner” published in Mid-East Commerce (1962). The article was part of a series articles in the 1960s under the title Planifications where he discussed theories, methods, and examples of modern city planning. Source: Mid-East Commerce (09/15, 1962), courtesy to Shiber Archive, Washington, DC. © 2018.

related to the built environment, including civil, structural, chemical, agricultural, architectural, and even city engineering. In order to promote the concept of the “architect-planner in the urban biological sense”⁴⁶, as promoted by ASPA, Shiber had first to appeal to the composite Arab body politic dominated by engineers and advocate for a new shared language of communication for all practitioners—architects, engineers and planners. His collaborative approach therefore differed from the ones promoted by Harvard and MIT in that civil engineers, architects, landscape architects, and city planners work in close proximity.

Unable to separate design from engineering but also realizing that engineers dominated the field, Shiber consciously unified the fields of design alongside civil engineering in hopes of establishing common ground and developing these new processes into a three-dimensional planning supported by *al-Muhandis*'s rationale. In doing so, he hoped to eventually reclaim the role of the planner-architect as the head of the team of experts on both academic and professional levels. In addition to the fundamental impact of the AUB and Baghdad University in promoting *al-Muhandis*'s rationale and the emergence of the discipline of “engineering-architecture”, I focus on Shiber's attempts to reclaim the role of the planner-architect through his practice of the Associated Consulting Engineers (ACE) [Fig. 14].

Dar al-Handasah

Within six months from his return from the US as a planning consultant, Shiber joined the first ever Arab interdisciplinary design and engineering firm *Dar al-Handasah li-l Tasmim wa-l Istesharat al-Handasiyah*, popularly known as *Dar al-Handasah*.⁴⁷ Driven by a strong ambition to venture into the internationally competitive market of design, construction, and contracting in the oil rich Arab states of the Gulf, five AUB engineering professors founded *Dar al-Handasah* on November 19th, 1956. The founding team of engineers included Khalil Malouf (Ph.D., Hydraulic Engineering, Imperial College in London), Victor Andraos (Dip. d'Ing., Chemical Engineer, Director of the Institute of Industrial research in Lebanon), Samir Thabit (Ph.D., Chemical Engineering, the Imperial college, London), Nazih Taleb (Ph.D., Structural Engineer, Princeton University), and Kamal Shair (Chemical Engineer, Yale University).⁴⁸ The company was registered by two different names, one in Arabic and one in English. In Arabic, its name was *Dar*



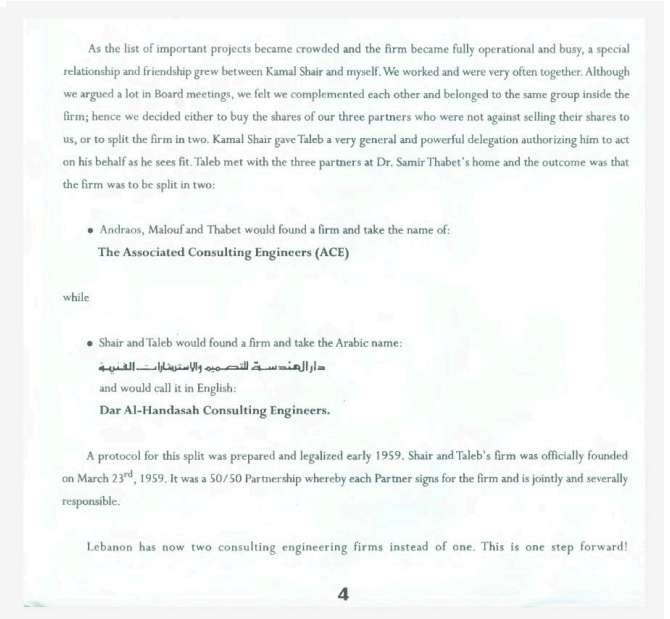
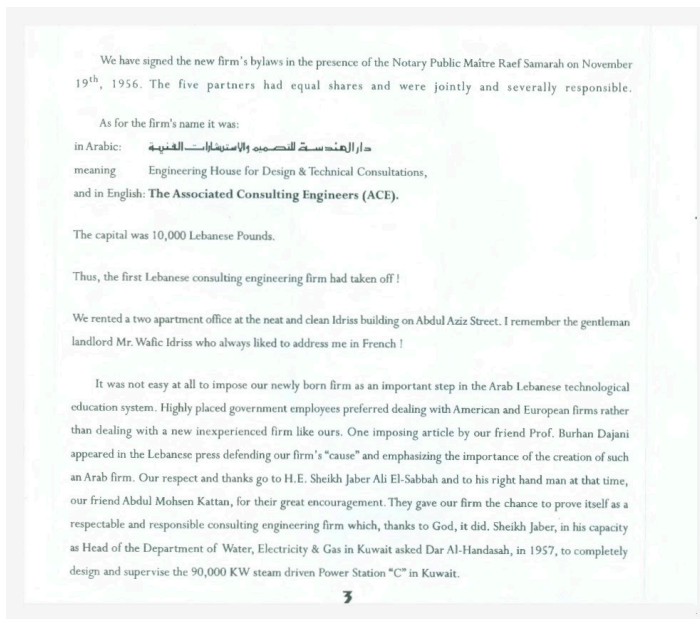
Fig. 14

One of many newspaper articles Shiber wrote in local and regional newspaper about the training of Arab engineers. Source The Daily News, March 9th, 1964, courtesy to Shiber Archive, Washington, DC. © 2018.

46 Serge Chermayeff, *New Pencil Points* (1943) cited in Mumford, *Defining Urban Design*, 56.

47 Shiber Resume, dated June 1961 at Shiber Archive, Washington, DC.

48 Kamal Shair and Peter Bartram, *Out of the Middle East: The Emergence of an Arab Global Business* (London: I.B. Tauris, 2014); See also Nazeh Taleb, *Remembers*, a pamphlet distributed among the five cofounders in the occasion of the 40th anniversary of *Dar al-Handasah* (Nov 19th, 1959) at Shiber Archive, Washington, DC. Five pages brochure produced in 1996 and sent to Dr. Kamal Shair, Mrs. Victor Andraos, Dr. Khalil Malouf, and Dr. Samir Thabet.



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al-Handasah li-I Tasmeeem w-al Istesharat al-Handasiyah, meaning the Engineering House for Design & Technical Consultations. The English name was Associated Consulting Engineers, translating to *al-Maktab al-Handasi al-Esteshary* in Arabic [Fig. 15].⁴⁹ The separate and perhaps ambiguous branding reflects the bifurcation of the Arabian modernity project that blends elements of the universal and cosmopolitan culture of mass production with Arab nationalism. Shair justified the double branding by citing its appeal to a broader clientele: the Arabic *Dar al-Handasah* would attract Arab clients and governments as an extension of the social services and development projects provided by AUB;⁵⁰ the English title, they thought, would reflect the cosmopolitan nature of the firm, thus the name Associated Consulting Engineers.⁵¹ In his documentation of the development and evolution of *Dar al-Handasah Out of the Middle East: The Emergence of an Arab Global Business* (2014), Shair stated:

“We called ourselves *Dar Al-Handasah* in Arabic, Associated Consulting Engineers in English. As *Dar al-Handasah* was written in Arabic script, there was little chance of the non-Arabic reader realizing that the two names were not the same. Those who did realize, we figured, would probably admire our innovative spirit. And that proved the case.”⁵²

As soon as the company was officially registered, it gained academic, professional, and economic support from other AUB alumni, sister companies such

Fig. 15

Nazih Taleb document about the founding of *Dar al-Handasah* (1956), and the three titles for the same firm. Source: Nazih Jamil Taleb, “Nazih Taleb Remembers”, Pamphlet (1996) courtesy to Shiber Archive, Washington, DC. © 2018.

Fig. 16

The business split into two firms *Dar al-Handasah* and *The Associated Consultant Engineers*. Source: Nazih Jamil Taleb, “Nazih Taleb Remembers”, Pamphlet (1996) courtesy to Shiber Archive,

49 Taleb, Remembers, 2-4.

50 See Ricardo Camacho, “The Making of an Arab Architect”, in Fabbri, Saragoça and Camacho, *Modern Architecture Kuwait*, 84-105. For more on the role of AUB in promoting social solidarity through urban development projects in the College of Engineering.

51 Shair and Bartram, *Out of the Middle East*, 87-88.

52 Shair and Bartram, *Out of the Middle East*, 89.

as Bustani's Contracting and Trading company (CAT),⁵³ and Arab governments. The Beirut office for Aramco Oil Company hired *Dar al-Handasah* a year after its founding in 1957 to carry out four feasibility studies at their oil fields in Dhahran in the Eastern Province of KSA.⁵⁴ Shortly thereafter, Sheikh Jaber Ali Al-Sabah, the head of the Department of Water, Electricity, and Gas in Kuwait, commissioned *Dar* to design and supervise the 90-megawatt steam-driven power station "C", the biggest of its kind in the region. He preferred young Arab talent to British experts for this grand project in order to emphasize the state's support for Arab nationalism and its pursuit of independence.⁵⁵ While the British company Ewbank (which later became part of the Ewbank Preece Consulting Group) was the lead consultant on the 20-megawatt and 40-megawatt projects known as power station A and B, the Kuwaiti government supported the young Arab consultancy by granting them the lead role in the design and supervision of the new station. It was the largest, at 90 megawatts, and consisted of three 30-megawatt units.⁵⁶

From that point on, the young engineering firm was commissioned by Arab governments, transforming the small Arab consultancy into an internationally recognized competitor in the fields of design, city planning, and engineering. It might have been "a little too soon,"⁵⁷ as indicated by Shair, but the team of Lebanese practitioners was ready to venture into the oil construction boom and compete with international experts. The status and scale of the project required advanced technological skills, full dedication, and excellent networks to compete with the work of an expert company with a long track record such as Ewbank. The young Arab company sought assistance from Europe and elsewhere in the Middle East, and they were fortunate enough to receive technical and professional support from an English contractor named GEC and a Danish electrical engineering firm named Knud Hanson. The final crew for the Kuwaiti power station comprised 40 members.⁵⁸ Nazih Taleb, another co-founder of *Dar al-Handasah*, states in his memoir (1996) that launching the consultancy in 1956 was very challenging because of the intense competition from Anglo-Americans in the Arab region.⁵⁹ Despite the instrumental role of Kuwait and KSA governments in supporting the young Arab consultancy, he expressed a lack of confidence in the young Arab expertise:

"It was not easy at all to impose our newly born firm as an important

53 See Fabbri, Saragoça, and Camacho, *Modern Architecture Kuwait*, 385; Emile Bustani was as elected a Member of Parliament in Lebanon in 1951, an office he held until his death in 1963. Bustani had obtained two BS in Engineering from AUB in 1929 and another one from M.I.T in 1933. After his short commission for the Iraq Petroleum Company, he founded his own Contracting and Trading Company, CAT. One of the largest contracting companies in the Middle East involved in laying and constructing oil pipelines building roads, and constructing cities.

54 Shair and Bartram, *Out of the Middle East*, 91. Aramco, who was pumping crude oil through the 1060-mile Trans-Arabia Pipeline--the tapeline--that terminated in Lebanon, had an office in Beirut.

55 Shair and Bartram, *Out of the Middle East*, 92. In 1957, the *Dar* was introduced to Sheikh Jaber Al-Ali through another AUB alumni, Abdul Muhsin al-Qattan, Palestinian architect who was working in Kuwait at the time.

56 Shair and Bartram, *Out of the Middle East*, 92-94.

57 Shair and Bartram, *Out of the Middle East*, 93.

58 Shair and Bartram, *Out of the Middle East*, 96-99.

59 Taleb, *Remembers*, 1-4.

step in the Arab Lebanese technological education system. Highly placed government employees preferred dealing with American and European firms rather than dealing with a new inexperienced firm like ours.”⁶⁰

Believing in the role of young professionals, particularly Arab engineers, in leading the development of the urban scene in recently independent states, Dean Weidner promoted Dr. Shair to associate professor and offered to hold the position open for three years. Shair, however, politely declined, electing instead to leave academia and fully pursue the work of *Dar al-Handasah*, which was by then facing its own unique challenges with the onset of war on July 15th, 1958.⁶¹ Al-Ali offered to relocate the design staff assigned to the Kuwaiti power plant from Lebanon to a safe and stable environment to guarantee the completion of the project without political and technical difficulties. *Dar al-Handasah*'s employees and their families were provided housing accommodations and compensation for their travel and living expenses in Kuwait. The project progressed smoothly from that point on and was completed on time in early 1960. With the delivery of the project, Kuwait City was finally ready to be redeveloped as a commercial center and contemporary capital city, even air-conditioning its new concrete constructions, commercial towers, retail stores, and government buildings.⁶²

Within a year, the company was working on six national projects across the Arab region. Their progress was, however, interrupted by the sectarian revolts in Lebanon and Iraq, as well as by revolts spawning from the pan-Arab spirit led by Nasser. The Gulf States, particularly Kuwait and KSA, provided financial and professional support that reinforced the scientific and technical roots of Arab nationalism.⁶³ So stated Sahir:

“As engineers, we were all in the business of development, and in the decades ahead it was to be major advances in the areas of transportation, irrigation power supply, health and education that were to transform the lives of millions living in the Middle East more fundamentally than the speeches of any politicians. We were to participate in many of these exciting developments.”⁶⁴

Shair and his partners continued assembling their team of architects, engineers, contractors, and other technical experts based on the projects assigned. They attracted young talent from Lebanon, Egypt, Britain, and Denmark, and

60 Taleb, *Remembers*, 3.

61 See Shair and Bartram, *Out of the Middle East*, 92-99; For more details on the influence of the political riots in the Arab region under the leadership of Nasser in relation to the development of *Dar al-Handasah* and other regional consultancies. The political problems began in Lebanon within the first decade of its independence in 1947. The insurgent Arab nationalism led by Colonel Nasser in Egypt had a significant impact. Chamoun, the president, demonstrated his intention to extend his presidency for another cycle, which was against the Lebanese constitution. Inspired by the concept of the pan-Arab state initiated by the United Arab Republic unifying Syria and Egypt, political revolts in Iraq overturning the monarchy led to the overthrow of Chamoun. The United States sent armed forces to control what was classified as ‘international communism’ in July 1958.

62 Shair and Bartram, *Out of the Middle East*, 102-03.

63 Shair and Bartram, *Out of the Middle East*, 103-4.

64 Shair and Bartram, *Out of the Middle East*, 119.

demonstrated their quality by delivering complete projects on time.⁶⁵ Despite their passion and steadfast dedication to their work at *Dar al-Handasah*, the rapid growth of the company's activities across the Arab region caused conflicting visions among the five partners, confirmed Shair. Besides the Kuwaiti power and desalination plant, the firm was also supervising a pumping and pipeline system to bring potable water from underground springs near Riyadh, and the construction of a road connecting Jeddah (a city on the Red Sea) and the Taif airport in *Hawiyah*.⁶⁶ Projects of such scales in various destinations required a full-time commitment often requiring the three partners to suspend their academic obligations.⁶⁷ Three of the founding partners including Andraos, Malouf, and Thabit, were uncertain in their decision to leave academia for business and full-time corporate consultancies. They envisioned the consultancy as an extension of their teaching positions, combining design and research.⁶⁸

Three years after its establishment, the young Arab consultancy *Dar al-Handasah* split into two firms, each with its own vision and mission. One of the offshoots was established by Shair and Taleb who carried on with the original vision of *Dar al-Handasah* as an international multidisciplinary consultancy detached from AUB but highly invested in Arab talent, thus maintaining the same Arabic name *Dar al-Handasah* [Fig. 16].⁶⁹ Represented jointly by both partners, the new *Dar al-Handasah* was registered on March 23rd, 1959. Operating outside Lebanon and Kuwait, they billed as experts in infrastructural projects, including power plants, feasibility studies, superhighways, and electrical and water facilities.⁷⁰ With the launching of the larger construction boom in 1970, Shair and Taleb split, each partner founding a new firm registered in his individual name: *Dar al-Handasah* (Shair & Partners) and *Dar al-Handasah* (Nazih Taleb & Partners), each of which expanded its activities in the UAE, Qatar, KSA, and North Africa.⁷¹ In 1986, *Dar al-Handasah* (Shair and Partners) purchased Perkins and Will, a global design firm founded in Chicago, USA, in 1935 by Lawrence Perkins and Philip Will.⁷² Today *Dar al-Handasah* is an international consortium of professional service firms.⁷³

65 Shair and Bartram, *Out of the Middle East*, 91-3.

66 Long road with challenging mountain terrains, about 40 kilometers upward the top of at-Taif mountains. Bin Laden Construction was the construction company carrying out the work under the supervisor of Dar al-Handasah.

67 Shair and Bartram, *Out of the Middle East*, 102-3.

68 Given that they were the only group who combined between academia and practice and that they were joined by Saba G. Shiber who collaborated with them since the beginning as a consultant.

69 See Taleb, *Remembers*, 1-5; Shair and Bartram, *Out of the Middle East*, 115-21. With the expansion of the construction boom in the Arabian Desert, the two partners of Dar al-Handasah, Taleb and Shair, looked into further subdivisions of the company to facilitate development of projects abroad. They arrived at an agreement by which they would create another two separate sub-entities: Dar al-Handasah (Shair & Partners), and Dar al-Handasah (Taleb & partners) in January 1970. They would, however, both be represented equally by "the mother firm—The Dar" in their operations in KSA. This agreement ended with the beginning of the biggest construction boom in the Arabian Desert in 1973.

70 Fabbri, Saragoça and Camacho, *Modern Architecture Kuwait*, 386.

71 Taleb, *Remembers*, 5.

72 See Mumford, *Defining Urban Design*, 46-79. Perkin and Will were former ASPA members who met while studying at Cornell University in the 1930s.

73 About Dar al-Handasah in the Dar Website <https://www.dar.com/about/overview>, accessed 12/28/2020.



Associated Consulting Engineers (ACE)

The other offshoot was an independent firm that took the English name Associated Consulting Engineers (ACE) (known as *al-Maktab al-Handdasi al-Istishari* in Arabic) in 1959.⁷⁴ It included Andraos, Malouf, Thabit, and three additional partners, one of whom was Shiber, who rose to the occasion from his previous role as a *Dar al-Handasah* consultant, and the other two of whom were Dr. Khoury, Shiber’s colleague at the National Reconstruction Authority in Lebanon who also taught construction and sanitation engineering at Cairo University and Ain Shams, and Dr. Abdulaziz Kashif from AUB [Fig. 17]. The six partners who shared a common passion for combining their academic work with technical participation in the oil construction boom through consultation projects. ACE became therefore, a bridge linking the theoretical work of academia with the technical expertise of on-site practitioners.⁷⁵ The partners aspired to merge their professional experience and participation in the making of the Arab urban scene by training young professionals at AUB and other universities while still remaining actively involved in reviewing, revising, and supervising infrastructural and services projects across the region. ACE had, therefore, embarked on a collaborative design model based on the combination of teaching architecture, construction, structural, and civil engineering, among other services such as land valuation, agriculture, infrastructure, roads, and highways, or what could be identified as planning-engineering [Fig. 18].

Fig. 17

The six founding partners of the Associated Consulting Engineers ACE as an independent firm and their short biographies. Source: Arabic print of ACE’s pamphlet, (1959) courtesy to Shiber Archive, Washington, DC. © 2018.

74 Arabic pamphlet titled *يراشتس ال ايس دن هل ا بتكلمل* (the Associated Consulting Engineers), Beirut (1959). at Shiber Archive, Washington, DC., 2-4.

75 Arabic pamphlet titled *يراشتس ال ايس دن هل ا بتكلمل* (the Associated Consulting Engineers), Beirut (1959). at Shiber Archive, Washington, DC., 2-4, see services offered by the office.

Shiber, who had already served as a consultant for *Dar al-Handasah* (1956-9), preferred ACE maybe because of its resemblance to TAC's collaborative design methods.⁷⁶ The similarity between the two design agencies ACE and TAC highlights the sociocultural, technical, and regional agenda of both Gropius and Shiber. The word "collaborative" in TAC's title references the structure of the firm, based on weekly meetings where all partners critiqued each other's projects, Gropius among them. However, the expansion of the design activities, including community design and large-scale regional planning, required new means of collaboration. In order to merge the fields of architecture, planning, landscape architecture, and engineering into a new whole, a new mode of collaborative design was pursued—"total architecture." In his book *The Scope of Total Architecture* (1955), Gropius reiterated the urgent need for "a closely cooperating team together with the engineer, the scientist, and the builder," in which "design, construction, and economy may again become an entity—a fusion of art, science, and business."⁷⁷ Teaming with engineers, planners, landscape architects, and scientists, the team could then generate comprehensive solutions concerned with the whole physical environment and construction industry. At ACE, the phrase "Associated Consulting" implied the type of collaboration that was part of TAC's name. "Associated Consulting" highlighted the continuous process of critique, evaluation, and recommendations for a holistic design proposal while excluding the building process from the contract. The team of six architecture-engineers worked closely with investors and contractors, providing creative design solutions at the scale of both the city and the individual building.⁷⁸ The collaborative design process included at least three parties: the client, the consultant, and the contracting firm. "Associated" conceptualized the design process as a learning process between designers, engineers, and management, where each contributed to one or two stages of the project; in other words, ACE was the orchestrator of the design process, leading the team toward a comprehensive result, also known as total design. Shiber referenced Gropius, who observed "the term 'design' broadly embraces the whole orbit of man-made, visible surroundings, from every-day goods to the complex patterns of a whole town."⁷⁹ ACE assembled a team of qualified engineers, architects, and city and regional planners to overcome the lack of aesthetic training in design.⁸⁰



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76 Arabic pamphlet titled *يراشتس ال ايس دن هل ا بتكفلما* (the Associated Consulting Engineers), Beirut (1959). at Shiber Archive, Washington, DC., 2-4.

77 Walter Gropius, *Scope of Total Architecture* (Springfield: Collier Books, 1955) 80.

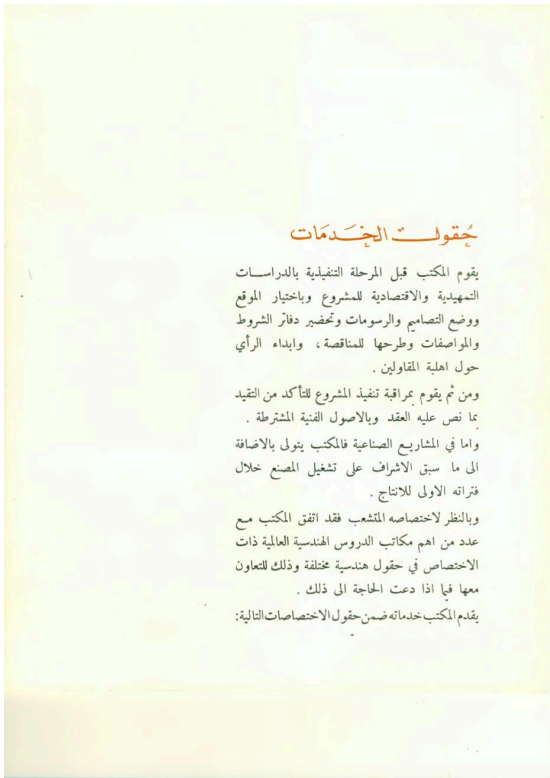
78 Arabic pamphlet titled *يراشتس ال ايس دن هل ا بتكفلما* (the Associated Consulting Engineers), 5.

79 Gropius, *Scope of Total*, 3 cited in Shiber, *The Kuwait Urbanization*, 183.

80 Arabic pamphlet titled *يراشتس ال ايس دن هل ا بتكفلما* (the Associated Consulting Engineers), 1-6.

Fig. 18

Sample of the first consultancy projects in Lebanon. Source: Arabic print of ACE's pamphlet, (1959) courtesy to Shiber Archive, Washington, DC. © 2018.



19

Similarly in *The Architects' Collaborative-TAC* (1966), Gropius summarizes the organization and specialties of the office as follows:

"TAC is not a partnership of specialists; they were interested in all aspects of architectural practice which their greatest source of mutual understanding and strength. i.e. business aspects, design and presentation, specifications, landscape architecture, city planning, building supervision, model making, and information-research."⁸¹

Comprised of eight equal partners—Norman Fletcher,

Jean Bodman Fletcher, Robert McMillan, Louis McMillan, Benjamin Thompson, John Harkness, Sarah Harkness, and Walter Gropius, who was the chair of the GSD at the time (1945)—, TAC launched its practice of architecture as a cultural product responding to the interchangeable variables of human society.⁸² Gropius described the role of the architect as expressed in the collaboration among the partners in the team:

"the conception of the architect as a self-sufficient operator who, with the help of a good staff and competent engineers, can solve any problem is isolationist in character and will be unable to stem the tide of uncontrolled disorder engulfing our living spaces. It runs counter to the concept of total architecture, which is concerned with the whole of our environmental development and demands collaboration on the broadest basis."⁸³

The team did not include structural and mechanical engineering departments, but they would contract them on a project basis. The group functioned as a cohesive unit, not as separate individuals alongside "inter-group criticism,"⁸⁴ which pushed them to arrive at optimal design solutions in response to the "whole physical environment."⁸⁵ The primary factor maintaining the cohesive design process was the partners' weekly meeting devoted to both design and business,

81 Walter Gropius, *The Architects Collaborative* (Teufen, Switzerland: Niggli, 1966), 14.

82 Michael Kubo, "Architectural Incorporated: Authorship, Anonymity, and Collaboration in Postwar Modernism" (Ph.D. diss., GSD-Harvard, 2018), 51.

83 Gropius, *The Architects Collaborative*, 24.

84 Gropius, *The Architects Collaborative*, 20.

85 Gropius, *The Architects Collaborative*, 20.

Fig. 19

The services offered by ACE. Source: Arabic print of ACE's pamphlet, (1959) courtesy to Shiber Archive, Washington, DC. © 2018.

in which participants on the team exchanged and critiqued their design concepts and forms.⁸⁶ Describing the creative design process, Harkness linked it to the education process which recognizes the individual differences among students and uses them to maximize the potential of each idea. Teaching, sketching, and exchanging ideas, he maintained, facilitated the growth and change of ideas for the more effective use of buildings, especially when teachers provide “maximum recognition of the importance of the individual student.”⁸⁷ ACE followed the same organization model. ACE’s decision to limit the services of the firm to providing business consultation, design and presentation, building specifications, landscape architecture, city planning, building supervision, model making, and information-research without actually delivering the built project was seemingly a product of how they perceived themselves as architects who helped clients understand the socio-cultural context in which the architecture of their building project existed.

On the title page of the first printed brochure for ACE, they wrote (translated from Arabic): “the work of this office is limited to the production of technical studies and design solutions without any association with business and manufacturing whatsoever.”⁸⁸ Based on the concept of a collaborative design team combining expertise in the fields of architecture, city planning, landscape design, agriculture, chemical, electrical, mechanical, and infrastructural services, the team offered technical reports, design proposals, and recommendations for contractors and construction companies. ACE partners were specialized in guiding clients through initial design studies and proposals, supervising the completion of projects on site, and monitoring the early stages of operation; in other words, they delivered what was identified as a “design build,” in which large teams of architects and engineers delivered complex projects from site planning and structural engineering to detailed design, facade systems, interiors, budgeting, and administration.⁸⁹ The team of architects and engineers at ACE delivered site survey documents, recommendations, architectural design drawings, and regulations for bidding documents [Fig. 19].⁹⁰

Since its establishment as a partnership firm in 1956, ACE expanded into a shareholding company with multi-disciplinary services in the fields of planning, architecture, engineering design, construction management, infrastructure, transportation, and supervision. In 1989, ACE acquired Sir Frederick Snow and Partners Ltd. (SFSP), a firm of consultancy engineers based in London,

86 Gropius, *The Architects Collaborative*, 12-6.

87 Gropius, *The Architects Collaborative*, 30.

88 Arabic pamphlet titled *يراشـتـسـالـا يـسـدـنـهـلـا بـتـكـفـمـلـا* (the Associated Consulting Engineers), 1.

89 See Kubo, “Architecture Incorporated: Authorship,” 47-52. He compares the practice of SOM and TAC. based on the services each provide to the client, which highlight the different form of the practice of architecture. TAC., design, and construct architecture as “masters of building industry,” their office included all teams of technicians, artists, designers, engineers, contractors, and business management experts. The architecture services begin at the initial design phases and continue until the complete delivery of the project on-site through their team of experts. SOM, on the other hand, provides a “package builder” that documents all details required to the completion of the project, but they do not necessarily participate in the construction of the project. They are also involved in recommending a contractor or a builder; See also William Hartmann, “S.O.M. Organization,” *Bauen + Wohnen* 11, no. 4 (April 1957): 116.

90 Arabic pamphlet titled *يراشـتـسـالـا يـسـدـنـهـلـا بـتـكـفـمـلـا* (the Associated Consulting Engineers), 1-6.

England.⁹¹ Today, the firm has three-headquarters, in Beirut, Athens, and Abu Dhabi, in addition to an extensive network of offices around the world in Africa and Europe.

Conclusion

The construction boom in the Arabian Peninsula and the Levant coupled with the uprise of Arab nationalism and the establishment of the Arab League in 1945 cultivated a hospitable environment for the emergence of an Arabic discipline of architecture and a discourse on urban design particular to the region. Influenced by the evolution of the modern discourse on post WWII architecture and urbanism, Arab architects, engineers, and planners proclaimed their own narrative benefiting from the oil construction boom in the Gulf, and the expertise of the Levantine pioneers. Arab architects, engineers, and planners who were immersed in the first oil construction boom had limited theoretical knowledge on the modern discourse of architecture. Despite the great ambition of the concept of *al-Muhandis al-Araby* as a technocratic expert combining the science and art of the built environment, engineering rationale dominated the Arab urban scene and new Arab cities for some time. The practice and writings on architecture and urbanism in the Arab region conflated the three disciplines of architecture, planning, and engineering, or what I have titled 'engineering-architecture'.

The re-contextualization of *al-Muhandis al-Araby* through the lens of the local engineering consultancies unfolds an important aspect in the shaping of the urban character of Gulf cities today with focus on commercial branding of their cities as the most up to date. Architecture as a profession in the Gulf remains rooted in the broad field of engineering, rather than in art, hence the use of the terms *muhandis* (engineer), and, in some cases, *muhandis mi'amari* (architecture engineer). The title *muhandis mi'amari* was informally used in the academic world of publications, conferences, and schools to distinguish architects from civil engineers, contractors, and builders. The career titles, job descriptions, and technical responsibilities were generally combined with those of the civil engineer and the contractor. As a result of the ambiguity of the term "engineer", the discourse of architecture and its ally disciplines--art, landscape architecture, and city planning--developed minimally in the Arab region. Engineers were perceived as the social and technical experts, and the national agents for Arab modernity; thus, most of the large architecture practices were embedded within Engineering and contracting consultancies such as Pan Arab Engineering Consults (PACE) by Hamid Shuaib and Sabah Al-Rayes, Consolidated Consultant by Jaafar Tuqan, The Iraqi Consultant by Rifaat Chadirji, SSH by Sabah Abi-Hanna and Fawaz al-Marzouq, just to mention a few. The founding architects performed the role of the architect and planner while under the umbrella of engineering. Such a merger had a direct impact on the urban structure and form of

91 ACE History in <https://www.ace-intl.com/history.php>, accessed 12/28/2020. See also www.fsnow.co.uk.

Gulf cities which is based on continuous cycles of urban renewal, urban sprawl, and the making of new cities in the vast desert land such as the case of Masdar City, UAE (2006), The Line in Neom, KSA (2030), or Silk City, Kuwait (unrealized).

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