RESEARCH IN LANDSCAPE AND ENVIRONMENTAL DESIGN

CONTEMPORARY URBAN LANDSCAPES OF THE MIDDLE EAST

EDITED BY
MOHAMMAD GHARIPOUR

ROUTLEDGE

Contemporary Urban Landscapes of the Middle East

The role of urban landscape projects in the cities of the Middle East has grown in prominence since the mid-twentieth century, with a gradual shift in emphasis from the private sphere to projects with an increasingly more public function. The contemporary landscape projects, either designed as public plazas or public parks, have played a significant role in transferring the modern Middle Eastern cities to a new era and also in transforming to a newly shaped social culture in which the public has a voice. This book considers what ties these projects to their cultural and political context and what regional and local design elements and concepts have been used in their development.

Mohammad Gharipour is Associate Professor at the School of Architecture and Planning at Morgan State University in Baltimore, USA. He obtained his master's in architecture from the University of Tehran and his Ph.D. in architecture and landscape history at Georgia Institute of Technology, USA. He has received several fellowships and awards and published six books including *Persian Gardens and Pavilions: Reflections in History, Poetry and the Arts*. He is the founding editor of the *International Journal of Islamic Architecture*.

Routledge Research in Landscape and Environmental Design
Series Editor:
Terry Clements
Associate Professor, Virginia Tech

Routledge Research in Landscape and Environmental Design is series of academic monographs for scholars working in these disciplines and the overlaps between them. Building on Routledge's history of academic rigour and cutting-edge research, the series contributes to the rapidly expanding literature in all areas of landscape and environmental design.

Regions and Designed Landscapes in Georgian England
Sarah Spooner

Immigrant Pastoral
Midwestern Landscapes and Mexican-American Neighborhoods
Susan L. Dieterlen

Landscape and Branding
The Promotion and Production of Place
Nicole Porter

Contemporary Urban Landscapes of the Middle East
Edited by Mohammad Gharipour

Contemporary Urban Landscapes of the Middle East

Edited by Mohammad Gharipour

Routledge
Taylor & Francis Group
LONDON AND NEW YORK

First published 2016
by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

and by Routledge
711 Third Avenue, New York, NY 10017

Routledge is an imprint of the Taylor & Francis Group, an informa business

British Library Cataloguing-in-Publication Data
A catalogue record for this book is available from the British Library

Library of Congress Cataloging-in-Publication Data
A catalog record has been applied for

ISBN: 978-1-138-84959-4 (hbk)
ISBN: 978-1-315-72546-8 (ebk)

Typeset in Sabon
by Apex CoVantage, LLC

To Douglas C. Allen (1947–2014):
A devoted teacher, landscape designer, and mentor

This page intentionally left blank

Contents

1 **Urban landscape: public space and environment in cities of the contemporary Middle East** 1
MOHAMMAD GHARIPOUR

2 **Between garden and geography: landscape as an emergent concept in the wider Middle East** 22
JAMES L. WESCOAT JR.

3 **In pursuit of a European city: competing landscapes of Eskişehir's riverfront** 45
KIVANÇ KILINÇ AND DUYGU KAÇAR

4 **Inventing the seashore: the Tel Aviv-Jaffa promenade** 67
ELISSA ROSENBERG

5 **Sculpted landscape: the unbuilt public square of Islamabad** 90
FARHAN KARIM

6 **Paradise reconsidered: the early design history of Pardisan Park in Tehran** 120
KATHLEEN JOHN-ALDER

7 **Aspiring masonry: design thinking and experimental vernacularism in Ferdowsi Garden** 149
HOOMAN KOLIJI

8 **Cairo's urban parks: space, place, and meaning** 171
AKEL ISMAIL KAHERA

9 Beyond greening: approaches to the contemporary landscape in the United Arab Emirates 190
KEVIN MITCHELL

10 Contemporary landscape as urbanism: emergent ecologies of the Doha Corniche 207
ANNA GRICHTING

11 The sovereign global city: Omani post-traditional landscape urbanism 231
HALA F. NASSAR AND ROBERT HEWITT

12 Epilogue: urban landscapes and future sustainable urban qualities in Middle Eastern cities 257
ASHRAF M. SALAMA

Bibliography 269
Biographies 288
Index 293

1 Urban landscape

Public space and environment in cities of the contemporary Middle East

Mohammad Gharipour

The term "landscape" at once refers to scenery, a specific place, and a holistic entity.[1] Landscape, as a way of seeing, is based on the historical appropriation of land by select social groups as a means of identifying themselves and their relationship with the locality and other human groups.[2] The meaning of landscape as a specific place, which has its roots in the German school of geography beginning in the early 19th century, has changed toward a holistic entity, an indivisible dynamic whole, or a symbolic one, of which the parts can best be understood in terms of processes, both natural and cultural, that incorporate and regulate the whole.[3] The aesthetic of landscape design embraces both nature and culture while embodying function, sensory perception, and symbolic meaning.[4] Therefore, one's ability to understand a landscape requires intertwined processes – a complex order of aesthetic and perceptual values that holds across vast scales of time and space.[5]

The professions of city planning and landscape architecture emerged from common origins, sharing in the 19th-century reformist ideology that embraced a "general optimism and faith in the potential of technology to improve social and environmental conditions, and at the same time, a belief in the essential interrelatedness of the problems of the city."[6] This optimism was reflected in urban design movements, such as the Garden City movement, which endeavored to integrate landscape into urban design and planning.[7] Twentieth-century planners attempted to create urban zones of lower density that would be energy efficient while also providing a level of mobility and flexibility. Encouraged by economic incentives to promote a mix of housing, shopping, and open spaces, they developed alternative centers to the historic cores that combined leisure and retail opportunities closer to where people lived.[8] The transformation of the preindustrial city into a complex center of marketing, finance, and industry resulted in a need for urban landscape – both as a space for the city to breathe and where inhabitants could relax and entertain.[9] While urban planners had consistently advocated for a separation between the city and landscape to preserve the natural environment, urban landscapes were utilized to bridge this division.[10]

What, then, constitutes an "urban landscape"? In contrast to a Western park, which is normally characterized by large expanses of lawn, scattered

trees, ornamental shrubbery, and one or more water elements,[11] the urban landscape encompasses a broader meaning. For this collection of chapters, we refer to urban landscape as any landscape project that is designed with or without vegetation, is perceived in relation to the urban context, and is defined for the public in general or for particular segments of society.[12] As such, an urban landscape can be a public space, an urban park, or a municipal garden in any scale that offers recreation to residents and visitors. Typically, however, an urban park will feature open spaces intended for multiple uses, such as solitary contemplation, entertainment, social interactions, and public gatherings of all types. Such parks are likely to include public buildings, playgrounds, fountains, sports fields, picnic facilities, and green areas. Maintained and operated by the local government or private sector at the local and regional levels, the main purpose of an urban landscape is to create a space for the city's residents to pursue leisure activities, while at the same time promoting environmental benefits and creating a more organic relationship between the city's urban fabric and green spaces.

As an evolving entity shaped by both natural and cultural processes, the urban landscape establishes a constant dialogue between people and the physical space it occupies. These dynamic processes relate the physical form to its public and cultural uses over time.[13] It recasts the city's spatial order by filling urban gaps – for example, places that have been left empty by disappearing industries.[14] An urban landscape contributes to environmental sustainability by creating links, restoring biodiversity, reinforcing relationships between different habitats, generating new leisure areas, and enhancing accessibility within cities.[15]

The concept of an urban landscape as a functioning system helps to break down the false dichotomy between city and nature that was deeply embedded in 19th-century thought and gave rise to the American park movement.[16] The most obvious features of an urban landscape are its buildings, structures, and landscape elements, which are organized according to certain rules, so the question is how these rubrics influence the experience and use of different spaces.[17] An efficient urban landscape creates a sense of place[18] by considering five essential elements: identity, infrastructure, ecology, public space, and private development.[19] It serves as a setting for the overlay and interaction of natural and cultural processes that can consciously be employed in landscape or urban design to fuse meaning, utility, and feeling.[20] Consequently, it is crucial for planners and designers to root design in the essential qualities of place and locale (the *genius loci*), while simultaneously addressing contemporary concerns and forces. Among all considerations, geography plays the most critical role, with the immutable basics of climate, vegetation, geology, and soil setting the frame within which a cultural landscape can be created.[21]

The contemporary activist David Engwicht explains that cities developed to facilitate the exchange of information, friendship, material goods, culture, knowledge, insight, and skills, as well as the cultivation of emotional,

psychological, and spiritual support.[22] The urban landscapes, as part of this complex, are the result of multifaceted, interwoven, and overlapping narratives.[23] Despite their envisioned usage patterns, spaces in contemporary urban landscapes often change based on the needs and cultural behavior of the inhabitants – not to mention in response to urban development plans implemented by governmental agencies.[24] Thus, the predictable and unpredictable evolutions of urban landscapes, featuring both stable and dynamic forms and elements, reflect the dynamic nature of urban forms.[25]

The design of the urban park or landscape, as both a functioning system and a poetic idea, provides an opportunity to apply an integrated strategy and to play with topography, water systems, and landscape elements. Landscape architect Anne Whiston Spirn emphasizes the poetic aspect of the urban landscape:

> The urban landscape is more than a symphony, a poem, sculpture, a dance, or a scientific experiment. It is the setting in which people dwell, living every day. This aesthetic, as applied to the urban landscape, must provide satisfaction on multiple levels: on the level of the senses aroused, the functions served, the opportunities for "doing" provided, and the symbolic associations engendered. These multiple layers of meaning, when congruent, will resonate, combining complexity and coherence, amplifying the aesthetic experience of the city.[26]

As a public place, each urban landscape features an objective identity, but a subjective image. The objective elements include physical components such as streets or plants, whereas the subjective aspects refer to human perception.[27] The relationship between visitors and the urban landscape is tied to their perceptions of the space. Both nature (in its inherent or planned forms) and culture function as interacting processes that render a place distinct and encourage visitors to connect to the landscape. This connection is not limited to seeing, but also includes experiences of caring, thinking, dwelling, and making.[28] Giving people an opportunity to shape the space, to manipulate their environment, and consequently to dwell there[29] creates a sense of identity for both landscape and people, as well as a sense of unity between these two.[30] The interaction of people and place should be considered in the creation of space, both as a physical and as a social construct – both of which are full of meaning and implication, and are of equal importance in the man-made landscape.[31]

The American philanthropist David Gobel writes, "The city cannot derive its meaning from the infrastructure – the water supply, sewers, bridges, or even the information networks."[32] In short, the city and its physical components are much more than forms and spaces. The urban landscape is a dynamic setting for culture, as it creates a sense of identity for the individual, community, and the whole society.[33] Early pioneers of landscape design, such as Frederick Law Olmsted, realized the essential compatibility of a

successful landscape with social life, where functional systems and recreation were viewed as complementary. This type of hybrid urban landscape reflected a new attitude toward recreation and to the meaning of public life in the city by providing an opportunity for a more diverse and enriching experience.[34] This newer approach also enhanced urban life through architectural form, scale, landmarks, vistas, meeting places, open space, recreational opportunities, and green areas – all of which contributed to public health and life quality. These landscapes also enabled people to encounter nature, while enhancing the urban microclimate by improving air quality and lowering noise levels.[35] The end result of this strategy aided in the formation of mental maps that made one feel safe and comfortable.[36] The goal of urban landscape was to achieve urbanity, diversity, and activity – all of which depended on creating a mixture of building types, primary use, intensity, and permeability of the urban form.[37]

The historical context

As a region, the Middle East stretches east to west from Afghanistan to Egypt, and north to south from Turkey to Yemen and Oman. The term *Middle East*[38] emerged in the 1850s as part of an orientalist geopolitical construct promulgated by the British India Office.[39] Such terminology tends to homogenize a region with numerous local subcultures, thus neglecting diversities within the region. Therefore, any effort to study the architecture and landscape of the Middle East needs to reflect these nuances, complexities, and diversities. Conversely, what unites the countries of this region are a shared history, cultural parallels, and historical overlaps that have led to similar developments in terms of architecture and landscape.

In particular, the Middle East is recognized for its historic gardens that have been shaped over the course of two millennia. While there are numerous studies of garden traditions in the Islamic world, from North Africa and Spain to the Indian subcontinent, modern urban landscapes deserve to be studied further to clarify their revolutionary impact on the contemporary history of the Middle East.[40] As Jim Wescoat explains, the word *landscape* is problematic.[41] Although the general concept exists in the Middle East, there are no specific words that neatly match landscape in Arabic, Persian, or Turkish. This interesting theoretical gap contributes to ambiguity as to the meaning of this concept in design professions.[42] Moreover, it necessitates using a contextualized and authentic definition that is sufficiently flexible to include vernacular sites and projects that are normally ignored in Western conceptual frameworks for landscape design.

The first "parks" in Europe were designed as hunting grounds for the medieval aristocracy. These hunting sites gradually evolved into landscaped parks situated around country estates. After the 17th century, gardens steadily merged with cities and began to serve as semipublic sites for public gatherings, recreation, or memorials – especially in the Islamic world. In the

Middle East, historical accounts indicate that early modern urban gardens and parks in Isfahan and Istanbul were open to the public during times of ceremonies and celebrations. The urbanization of gardens continued into the 18th century in the Islamic world and elsewhere as cities became more crowded. With a need for public recreation areas, gardens gradually started to function as public settings, and as a result were intentionally incorporated as a part of urban design.[43] The decline of local governments in the 19th century – in tandem with rising colonialism across the region – resulted in a hiatus in this development trend. Colonialism and the process of nation building that followed the collapse of the Ottoman Empire after the First World War created a historical gap in the development of gardens and cities in the Middle East. The rulers of early 20th-century Persia and Turkey, Reza Shah and Atatürk, implemented numerous urban modernization projects by adding modern buildings, wide avenues, and public squares.[44] In the mid-20th century, newly established countries such as Iraq and Pakistan provided an opportunity for governments to work with international agencies (e.g., the United Nations and the World Bank) and with Western architects and planners to define a new national identity through the design of cities and their buildings, and by instituting the urban landscape as a public realm. The creation of urban parks also contributed to the preservation of natural resources and helped to reduce pollution in the midst of urban developments.

The creation of urban landscapes in the Middle East, which was highly influenced by the 19th-century park movement in the United States,[45] was the result of the ongoing and complex process of modernity in various countries in the region.[46] Compare, for instance, the public open spaces in modern Iran and Turkey, espoused for their formal and spatial qualities, with Israeli landscapes that became a tool in the hands of the Zionists who idealized farming and physical work. Farming and gardening not only allowed the new occupants to physically engage with the land, but also fostered an emotional and cultural connection with their biblical roots.[47] In this sense, gardening not only served as a manifestation of progress and Western superiority, but also represented a powerful educational tool for spreading Zionist ideology and enabling people to establish greater connection to the land.[48] In this context, the production of landscape was used as a political agent and space to implement official strategies, ideologies, and values in order to integrate new immigrants and solidify a national community.[49] Landscape historian Kenneth Helphand explains how landscapes in Israel, which were used by both orthodox and secular communities, were constantly changing because of the dynamic relation between physical planning – especially in new communities – and the land itself.[50]

Various stimuli spurred the expanded use of urban spaces for public recreation in the cities of the Middle East: economic modernization; further industrialization; increasing migration from rural to urban areas; the encroachment of urban growth into rural areas and the resulting

environmental consequences; and the construction of low-income housing projects. Modernism as an ongoing process has established vibrant social relations and cultural identities for modern capital cities through the design of urban parks and landscapes. Redesigned or new landscapes signified prestige, especially in the midst of the oil boom.[51] For instance, economic development encouraged the government of Saudi Arabia to implement major planning projects in Riyadh. In the 1990s, planners attempted to formulate concepts of cultural identity, public space, and national ceremony through the creation of urban parks. These parks in essence replaced the landscaped palm gardens eliminated during the city's rapid expansion in the 1970s, when planners struggled to provide residences and public buildings to accommodate the growing urban population.

Whereas in the mid-20th century railways and highways were symbols of a progressive society, in the late 20th century public spaces were celebrated as symbols of democracy, progress, and openness in Middle Eastern societies. In an "efficient" city, which is a balance of visible and invisible elements, the public realm should provide opportunities for people to carry out their chosen roles.[52] Despite the spread of urban landscapes as signifiers of modernity and development, their public use seems to be contrary to the totalitarian mission of some governments – even though their leaders extol public space as a symbol of public voice and democracy. The idea of a democratic space seeks to maximize the number of people who can enjoy a certain space or place, whether it is designed or organic. Public space is universally utilized as the setting of social and political representation, as the locus of political mobilization, and of democratization.[53] In an age of secularization, public squares and urban parks have become important arenas for staging independence protests – and later for commemorating them. Urban public spaces create opportunities for social interactions, community gatherings, meetings, and political actions.[54] This social function explains why urban geographers such as Ed Soja[55] consider public space as an opportunity for architects to contribute to spatial justice, simply by making the larger public aware of its significance.[56]

The French author Erik Orsenna wrote a story of an island city where a dictator prohibited his people from climbing the surrounding hills, fearing that once the inhabitants could view the world beyond they would begin to question his absolute rule, thereby jeopardizing his power over them.[57] This story reveals the power of open space to represent democracy, especially in the context of the Middle East, where over the last three decades such spaces have been widely used as settings for protests and demonstrations. As a cultural infrastructure, the urban landscape can serve as an "enabling platform for public participation because it broadens the debate on public right to embrace intangible social and cultural values associated with nature and landscape scenery."[58]

Although the concept of the urban garden seems to attract politicians – at least initially – its actual public use often becomes a source of angst, or

worse. The occupation of parks and squares in Tunisia and Egypt during the Arab Spring highlights the potential for urban landscapes to facilitate gatherings, political demonstrations, and protests against ruling monarchies, governments, or dictatorships. Conversely, government supporters have also utilized these public spaces as sites to advocate for war, conflict, and political supremacy. The 2014 protests in Gezi Park in Istanbul, which began as a popular response to plans calling for the destruction of this urban park, developed into nationwide protests against the ruling government. Similarly, the Azadi Square (literally, "Freedom" Square) in Tehran served as the starting point for the public demonstrations of the Green Movement following the Iranian elections in 2009.[59] These instances highlight the role of public spaces in social activism in contemporary societies in the Middle East.

Contemporary landscape projects

Urban landscapes in the Middle East are expressed in different forms and have various functions. The most common form is the urban park, which has received so much attention from municipalities and local governments. Urban parks, which have been used as public recreational areas and as tools to combat air pollution, have also served as important tourist destinations. Two notable examples of these successful urban parks are those along the seaside in Doha and the Zayanderud River in Isfahan, both of which have functioned as lively cultural zones. Other landscape types that have been increasingly incorporated into urban settings over the last two decades include zoos, bird parks, beach landscapes, flower parks, sculpture parks, water parks, memorial parks, and even cemeteries. Many of these sites have served as recreational locales for urban residents. Their proximity to urban monuments and other public sites contributes to their functionality in the urban context, whether they are used as social spaces for the elderly or skateboarding for youths. Although deemed "public," some of these landscape projects across the Middle East have remained open only to selected groups of people. One such example is the Baha'i Gardens in Haifa, which is open only to pilgrims and tourists at certain times of the week. Although this garden is not fully engaged in daily urban culture, its presence is clearly felt in Haifa's urban design because it creates visual and spatial continuity on the macro scale.

The financial and professional support of international organizations such as UNESCO, the World Monuments Fund, and the Aga Khan Foundation has enabled the construction of new landscapes and the preservation of older forms. The Al-Azhar Park in Cairo is an example of a successful international initiative that received popular interest and support. This public park, which was created and funded by the Aga Khan Trust for Culture, has played a significant role in improving urban life in the city. Importantly, national and international initiatives have supported the preservation of historic gardens to make them open museums and recreational sites for

the public. The Gardens of Babur in Kabul, which was fully rehabilitated between 2002 and 2004 with the support of the Aga Khan Historic Cities Programme, is an urban project aimed at reviving a cultural identity amid the development of postwar Kabul.[60] The success of these two projects extends beyond their impact on the lives of the residents as recreational sites; they have also provided employment opportunities for local workers, craftsmen, and architects.

The study of contemporary landscapes in the Middle East requires an understanding of the cultural and political time lines of the various countries. However, the area's heterogeneous climate and physical geography (i.e., mountain ranges, seas, rivers, and deserts) also play a critical role. Such rich cultural and geographic diversity accounts for the range of ideas explored in the design and construction of landscape projects throughout this region. Designing large-scale landscapes near water sources and in mountainous areas typically involves the manipulation of terrain (e.g., controlling streams) and significant natural recultivation schemes.[61]

Increasing environmental problems threatening urban areas – due to the lack of policy planning or to the unsuccessful implementation of well-intentioned schemes – indicate a need for more ecologically efficient projects. Air pollution, desertification, land degradation, and drought have also necessitated establishing more aggressive environmental policies, including the expansion of parks and forests both inside and outside cities.[62] The need for sustainable architecture and urbanism has motivated decision-makers to consider natural resources in their development plans. Conversely, the major shift in regional urban design from city centers to their marginal areas with informal development has resulted in using landscape as a means to stress the importance of ecology over morphology, network surface over urban form, and as a tool to create sociocultural networks in marginal spaces.[63] Indeed, social equity, energy conservation, and environmental concerns have driven a number of planning, landscape, and architecture projects. One important example is the planned city of Masdar in Abu Dhabi in the UAE, which was intentionally designed to promote environmental sustainability.[64] Urban ecology stresses the interconnectedness of the urban environment.[65] Therefore, contemporary projects should combat drought, waste, pollution, and even the greenhouse effect. They should facilitate the equitable distribution of clean water and energy, and actively promote social equity in the traditionally class-segregated societies of the Middle East. As the barriers between cities and landscapes fade, environmental sensitivity is growing – resulting in policies based on concerns for sustainability, cleaner air and water, and efficient public transportation systems.[66]

To conceive new forms that capture the knowledge, beliefs, and values of contemporary society demands a return to the original source of inspiration: the context.[67] Such an approach requires that many agencies analyze a variety of issues, including environmental impact and efficiency, water resources, recreation, transportation, and design/planning processes. Another factor to

consider in the design of the contemporary urban landscape is local history and tradition. Local professionals and academics are now reexamining ideas coming from the West – which were formerly praised and copied – through a much more critical lens. The growing interest in the region's diverse cultural heritage, among both ordinary people and nongovernmental organizations (NGOs), has increased public awareness of the environmental and cultural benefits of urban projects. The contemporary landscape architect Michael Schmandt indicates that the concepts of historicism and geographic contextualization must be taken seriously by contemporary landscape architects. He defines historicism "as an attempt to connect people to place by weaving historic detail and design into the urban fabric," and geographic contextualization "as a trend that seizes on features of the surrounding existing landscape and incorporates them into new forms."[68]

The urban landscapes of the Middle East are being transformed from passive settings for recreation to dynamic theaters for civic engagement. Resonating with the real rhythms of daily life, these new spaces are used as a medium to connect and support a great variety of places, people, and activities across multiple scales or levels of influence.[69] They can potentially integrate isolated zones or enclaves within the city through a wide range of connections and transportation infrastructures working across various scales.[70] As landscape historian Elissa Rosenberg writes, approaching landscape as an integrated system stresses its urbanistic role, defined by its potential to organize urban forms.[71] This philosophy explains why the urban landscape should be designed and evaluated as an essential component of the urban infrastructure, rather than a superfluous ornament. It is, first and foremost, a necessity.

The increasing density within large cities now calls for the repurposing of discarded or outdated infrastructures or abandoned sites, such as former military installations.[72] The Al-Azhar Park, built on a wasteland, is a successful example of this trend, and currently makes a difference in the lives of Cairo residents. This park, located near a historic district, brought life back to low-income neighborhoods while also supporting tourism and the local economy. Whereas some tourism-oriented projects promote an orientalist nostalgia that depicts the old neighborhoods as fossilized and immortal artifacts, others acknowledge evolving aspects of the city, culture, and residents. For instance, in Al-Salt's historic urban landscape in Amman, developers paid particular attention to its long-term potential as a new tourist destination, and purposefully marketed the area's tourism infrastructure and services. In this case, urban rehabilitation policies were designed to promote tourism and the historic urban fabric simultaneously. Indeed, tourism has been the source of spontaneous social activities that were not necessarily inherent to the nature of this area's urban structure and its fragmentary growth.[73]

The discourse on urban landscape in the Middle East seems to be highly influenced by 20th-century Western constructs of landscape architecture.

Contemporary landscape projects, either designed as public plazas or parks in urban or marginal areas, have played a vital role in ushering in a new era in modern Middle Eastern cities, specifically in shaping social culture in such a way that the public has a voice. With roots in early modern urban gardens of this region, the phenomenon of the urban landscape has improved the quality of life in cities, by providing social space for the public and through its ecological benefits. A series of regional and local elements and concepts used in their design will continue to tie these projects to their historical context.[74]

Forthcoming trends and challenges

The development of contemporary landscapes in the Middle East has responded to both local/regional challenges and wider global issues. The role of landscape has grown in prominence over the last three centuries, with a shift in emphasis from gardens for the private sphere to increasing access for all levels of society. As a natural consequence of this shift, contemporary landscapes have become the integral core of recent urban developments. This phenomenon has not only established a new relationship between the landscape and city, but has also promoted the public park/landscape as the focal point in Middle Eastern cities undergoing modernization. Moreover, the gradual shift from generic municipal parks toward natural and cultural landscape features has emphasized the role of unstructured landscapes at the edges of the city, held in reserve for future urbanization.[75] While neoliberal politics have been transforming the public domain in capital cities into exclusive commercially driven landscapes,[76] the radical and rapid evolution of large cities and their territories has spurred efforts to provide recreational public space and green retreats to counterbalance the concrete modern metropolis.[77]

It is important to note, however, that the absence of a clear and comprehensive vision for the future of urbanism has led to disjointed choices about the location, dimensions, and aesthetics of new landscape projects in the Middle East. Hence, before any new project is initiated it should consider (1) to whom the landscape belongs; (2) for whom it has been produced; (3) how it has been produced and for what purpose; and (4) how it is going to change over time. Specific interests of involved parties and the negotiation between public and private values normally dictate the responses to these questions.[78] However, making effective decisions requires public participation. As urban planner Thomas Sieverts explains, cultural awareness is a minimum requisite for aesthetic awareness, so current urban design should incorporate techniques and procedures to encourage this awareness.[79] Because such "learning environments" are to be perceived aesthetically, urban landscapes should emphasize involvement, experience, and a personal relation to the space, which range from contemplation to appropriation.[80] These spaces should also support cohabitation, blending

different urban environments at the appropriate scale, and include zones of negotiation.[81] Urban landscapes should maintain a high level of accessibility for all income groups and be open to changing individual and collective rhythms.[82] Moreover, reducing barriers in urban landscapes and improving their permeability promotes the unhindered flow of pedestrians and cyclists, while also accommodating different activities and user groups in relatively restricted domains.[83]

The economically and socially aggressive contemporary life in urban areas requires revisiting certain concepts of urbanity and their traditional interpretations.[84] For instance, there is a growing demand for a sense of expansiveness and openness, which is becoming increasingly rare in the modern Middle Eastern cities due to the rapid increase in population and housing.[85] The expansion of cities, which is a potential threat to ecology and nature, requires alternative green mobility networks, green areas along the rivers, and ecology-supporting activities. Public space should be devised, seen, and considered within the appropriate contexts (cultural, economic, and environmental), while also supporting adaptations between different functions that can enhance the diversity of urban life.[86] Due to its environmental, ecological, and aesthetic aspects, the landscape should be treated by decision-makers both as a physical entity and as a cultural construct, while responding to basic problems such as air and water pollution, and even waste management.[87] In short, the quality of urban landscapes can be improved by integrating natural and urban systems.[88]

Any new landscape project should not only enhance people's lives; it should also celebrate the history of the city and region by communicating tradition and memory through design.[89] Urban historian Elizabeth Blackmar stresses the significance of involving urban and environmental historians in the planning and realization of projects. She argues that the value of urban history in understating contemporary urban landscape is in its potential to remind planners and architects of the complex variables and pressures involved in changing the man-made environment, and in stretching their imagination as to the range of possibilities and alternatives in the use of space.[90] With a broad range of discourse and social data, historians and urban theorists can assess the efficiency of the urban landscape in terms of formal and spatial qualities, as well as the quality of public activities.[91] Such an analysis of geopolitical and social trends can then provide a critical framework for environmental historians to predict changes that will influence urban landscape design.[92]

One concern is that agencies in charge of forming urban neighborhoods or public spaces in the Middle East do not often incorporate aesthetic or ethical issues in public decision-making[93] involving the planning, design, and management of landscapes.[94] A comprehensive understanding of urban landscapes requires an in-depth analysis of their impact on the formation and development of neighborhoods, open spaces, and urban parks – and their collective social purposes. As such, any evaluation of urban landscapes

should target not only their design, but also their intent, control, use, and impact. Such a comprehensive assessment necessitates a broader view of their impact on urban life – one that shifts away from strictly quantitative measures (e.g., economic, social, environmental) and instead assesses qualitative indices that are aligned with the benefits of green areas such as livability and public health.[95] A constant feedback system would enable planners and designers to be innovative and experimental while also encouraging them to weigh the impact of their projects on several essential variables.[96] Such an evaluation should be based on a systematic qualitative analysis of public preferences, the needs of stakeholders, the human actors, efficient design procedures, and the appropriateness of public preferences. The public's interests with respect to optimal visual characteristics should also be considered, regardless of policy or bureaucratic procedures.[97]

Fortunately, local initiatives across the countries of the Middle East over the last two decades have actively sought to move away from copying Western ideas to incorporating a far more regional approach. The momentum for this shift has to do with the establishment of landscape as an emerging profession and the expansion of academic education in this field, which has also contributed to the popularity of regional landscape projects. An increasing number of landscape design programs and other relevant programs that encourage interdisciplinary collaboration with landscape students has established landscape architecture as a viable and important academic discipline. Moreover, a wide range of publications has contributed to the growth of this field, including studio projects by design schools, brochures by design firms, and a substantial growth in the scholarly literature emerging from colleges and universities around the globe.[98] Additionally, an increasing number of study abroad programs and projects have expanded the dialogue between American/European and Middle Eastern universities. The global acceptance of landscape design as a viable educational endeavor has exposed students and professionals in the Middle East to new ideas, enabling them to contribute to academic debates and international competitions, and thereby broadening the profession beyond current formalistic restrictions. In short, instead of merely importing ideas from the West, the participation of local architects and designers has facilitated the application of the local, indigenous landscape as potential models or sources of inspiration.[99] However, as architects, landscape architects, and urban designers have progressively become more compartmentalized in their approaches, there is a pressing need for transdisciplinary collaboration in both the physical and cultural landscapes.[100]

As Middle Eastern cities grow, the new pressures on space are met with ad hoc reorganization, resulting in continuous efforts to plan and control the process of change. Therefore, it is important to understand how a city is planned, constructed, and utilized over time – and these three factors are equally important.[101] Future urban design and planning efforts should prioritize nature and green areas in the city by utilizing ecologically informed,

environmentally sustainable, and community-inclusive urban greening initiatives.[102] A holistic approach to planning, design, development, and management of urban landscapes is not limited to a picturesque framework. The urban landscape should generate and protect a sense of place by enhancing the notion of community. The success of a landscape project[103] depends on strategies used by officials to make cities more livable.[104] Creating mixed-use buildings, malls, and dynamic urban quarters close to urban landscapes could also better integrate them into urban life. In order to enable urban dwellers to identify with the landscape and increase their sense of "moral ownership," urban landscapes need to be open to a certain degree of self-determination in how the space is utilized.

In summary, the urban landscape in the Middle East has emerged as an alternative for "conventional" public space in a region that has largely excluded all levels of society from actively participating in the decision-making process. The increasing popularity of these spaces reinforces their political and cultural impact and the role that they are likely to play in the future of urbanism in the Middle East. The history of public space in the Middle East has to a significant extent been a response to historical imperatives. The past shapes the future, but new questions and demands will inexorably emerge. As such, the urban landscape must be asked to contribute to improvements in cities and urban life.[105] The importance of urban landscape is that it has the potential to represent a great variety of lifestyles, cultures, activities, and interests that characterize democratic societies.[106] The reification of the urban landscape is part of an inevitable rationalization process that will usher in new mental templates for experiencing and imagining the city in the contemporary Middle East.

The content and structure of this volume

This volume explores the context, processes, and design of contemporary landscape projects in the Middle East. These chapters explain how landscape projects emerged as part of urban design in contemporary cities of this region, and how static and dynamic elements were used to create vibrant open spaces that serve multiple functions. To varying degrees, they also examine (1) the crucial role that politics have played in shaping the contemporary landscape of the Middle East; (2) the potential impacts of governmental and economic patronage on the design of landscape projects; (3) the ways landscape projects are perceived and utilized by citizens and visitors; (4) how these projects contributed to enhancing life quality in urban and rural communities; and (5) their impact on cultural and social affairs in Middle Eastern cities.

The studies included herein address the development of urban landscape after the 1950s by considering architecture, landscape, and urban design simultaneously. The chronological arrangement of these book chapters (with some temporal overlap) reflects the diverse time lines of modernism across

this region, as well as variations in terms of cultural and political time lines. This interdisciplinary volume also offers an in-depth investigation of selected urban parks and landscape projects that suggest exemplary physical and urban manifestations in the region. Historical investigations, coupled with design and spatial analysis, provide an expanded understanding of the formation and evolution of the parks, and design elements grounding them in their larger social, cultural, political, and economical contexts. By emphasizing the practice of landscape architecture and its varied impacts, we hope to contribute to a more design-oriented view of the concept of landscape and its development in this region.

In Chapter Two, James Wescoat provides a foundation for the volume by studying the historical and geographic underpinnings of landscape inquiry in the context of the Middle East. In surveying the current use of the term "landscape" in historical research on the built environment in the wider Middle East, he traces its international scholarship and practice, which is growing – notwithstanding theoretical controversies in Euro-American research. Wescoat argues that the word *landscape*, which is a relatively recent addition to the languages of the Middle East, is neither rooted in gardens nor in geography, but rather straddles them both. In the modern Middle East, Wescoat underscores the relevance of garden history and historical geography in the strategic development of landscape research and practice.

The majority of early modern landscape projects in the Middle East were facilitated by economic patronage and the support of local or central governments. In Chapter Three, Kıvanç Kılınç and Duygu Kaçar discuss the impact of local municipal politics on the design of urban parks in Eskişehir, a city close to Ankara, Turkey. They explain that the image of Ankara as a green city stems from not only its purposeful planning as a garden city by the Austrian urban planner Hermann Jansen in the late 1920s, but also from persistent efforts to maintain that legacy. This model – a brand-new Turkish capital, but an inherently European one – was then carried to other cities and towns in Turkey such as Eskişehir. Kılınç and Kaçar explain how their parks were constructed as a Republican agenda to modernize life in Turkey and bring entertainment to the culture. Landscape projects on a macro scale worked as a tool to stitch together cultures and create spatial and cultural uniformity in urban contexts. The next chapter by Elissa Rosenberg explains the evolution of the Tel Aviv-Jaffa promenade, the vital public space located between the newly founded Hebrew city and the sea. This promenade was conceived in the 1960s as a means of revitalizing the waterfront, developing tourism, and unifying the urban fabric of the formerly separate cities of Tel Aviv and Jaffa; it was completed in 1982 and linked a variety of new parks and public spaces. Rosenberg examines the performance of the contemporary promenade as a complex public space that operates as a coherent linear system while negotiating diverse subspaces that engage a heterogeneous mix of users and subcultures. Through an analysis of selected spaces along the promenade, Rosenberg identifies the spatial mechanisms that promote

continuity as well as differences, and considers the ways in which the evolution of the promenade reflects changing conceptions of public life.

The majority of urban landscape projects in the Middle East such as parks, public gardens, and public spaces were either influenced by movements in the West (principally the United States and Europe) or were directly executed by American or European firms. In Chapter Five, Farhan Karim studies the involvement of foreign firms in the urban design of Islamabad, the new capital of Pakistan founded in 1959. In order to use open space of varied scale and significance to create an integrated system of landscape settings for the new city, the Greek firm Doxiadis Associates laid out the spatial, infrastructural, and ecological or landscape grid of the city and specified a cluster of micro-scale urban squares in the residential fabric. However, when a government organization that oversaw and managed the Islamabad project invited the leading US architect, Louis I. Kahn, to design the Presidential Complex, Kahn's primary concern was to integrate the square with the network of proximal open spaces. Karim's chapter indicates how landscape in Islamabad has served as an intertwined metaphor to display and exercise the new Pakistani government's authoritative power – symbolizing the aspiration of postcolonial identity – and how Kahn used architecture and landscape as a symbolic validation of the new nation-state within this context.

Several chapters address how landscape projects in the Middle East have served as a modernization tool wielded by the government. Kathleen John-Alder details the global debate on ecological issues as a determining factor in the design of Pardisan Park in Tehran in the 1970s, which although meticulously designed was never actually built. This park, intended to be the largest and most comprehensive center for environmental research in the world, was designed to present the story of "man and nature" as the ultimate synthesis of Eastern and Western traditions. Pardisan Park was also envisioned as a showcase for the natural wonders and rich cultural history of Iran and the progressive vision of the Shah and his Imperial Government, while at the same time creating a precedent for integrating ecology into Iran's modernization schemes. In a related study, Hooman Koliji examines the genesis of Ferdowsi Park in 1970s Tehran in order to delve into the underpinnings of design thinking and subsequent creative processes through sociocultural, environmental, and material lenses. Discussing landscape as an element of modernity, Koliji explores the design of Ferdowsi Garden, which stretches along the northern mountains of Tehran. Initially conceived as a strategy for limiting the unchecked urban sprawl that once led to the destruction of many private and public gardens, the design and craft of Ferdowsi Garden exceeded that goal on many levels. This park poses an alternative design-thinking avenue during a time of homogeneous urban forms in terms of site-context and site-object contingencies. Koliji explains how playful and imaginative use of the material culture – coupled with environmental, cultural, and site-specific responses – are combined in this unique addition to the megalopolis of Tehran.

The notion of urban landscape or a park as a dynamic public space requires an understanding of its public functions. Using a theoretical framework, Akel Ismail Kahera studies the triangular relationship between space, place, and meaning in two urban parks in Cairo: Al-Azhar Park and the Children's Park. Explaining urban and spatial elements defining the phenomenon of space, place, and meaning, Kahera examines parks as public spaces in the city. In citing the two case studies, Kahera reexamines Foucault's heterotopias, which has opened up a radical new possibility for the reading of urban spaces. Kahera explains how the Al-Azhar Park and the Children's Park provide a setting for the primordial understanding of space and meaning.

The next three chapters address the development of contemporary landscape in countries of the Persian Gulf: the United Arab Emirates (UAE), Qatar, and Oman. Kevin Mitchell studies contemporary approaches to the landscape in the UAE. Like other countries in the Gulf region, the extraordinary expansion of the built environment in the UAE during the latter part of the 20th century has resulted in a number of challenges that include considerations of appropriate approaches to landscapes within urban environments. Mitchell examines these tensions through contemporary landscape designs for public spaces within urban areas. Analyzing several cases, Mitchell explains how these projects can be understood in relation to the country's past relationship with the natural landscape, contemporary approaches to landscape design, and future aspirations of the cities of the UAE to be considered as global destinations.

The majority of landscape projects emerged as part of urban development in contemporary cities of the Middle East. Exploring contemporary landscape design in Doha, Qatar, Anna Grichting discusses the merger of landscape and urbanism in the city by studying the Doha Corniche. This seven-kilometer public landscape that encircles and defines Doha Bay serves as an interface between the city and the sea. The new maritime edge of Doha was one of the most significant initiatives undertaken by the Qatari State in the 1970s, introducing the concept of recreational and formal space for use by both the State and the public, and marking a new era of urban development in the city of Doha. Grichting explains how the Corniche (also conceived as a linkage to public buildings, reflecting the emerging importance of the country) seeks to create a new ecological landscape that ties together the esplanades, public spaces, and parks in order to create new sustainable urban qualities, as well as to accommodate an increasing number of events and diversity of users. Conversely, rapid urbanization and the effects of globalization – including the loss of cultural identity, the increase in multinational corporate urbanism, significant transnational immigration, and social exclusion – has resulted in changing the form of Middle Eastern cities over the last twenty years. Urban landscape projects, with an inherent flexibility of the landscape as an urban and ecological concept, have been applied as an agent in response to these changes and as catalysts for globalization.

The concluding chapter by Hala Nassar and Robert Hewitt explores the processes of globalization and deglobalization in contemporary landscape projects through an examination of significant landscape interventions in the city of Muscat, Oman.

The goal of this volume, which is built on a rich body of scholarship on urbanism and the increasing role of urban landscapes in this paradigm, is to shed light on a topic that has been heretofore marginalized in contemporary scholarship on the Middle East. It aims to fill the scholarly gap by providing a holistic view of modern and contemporary projects through case study analyses in selected locales, with the goal of illustrating the complex facets of the urban landscape in this region. This book should not be considered a comprehensive analysis of a rapidly expanding discipline. Nor is it envisioned as a landscape history volume, as the majority of contributors are academics with professional experience who attempt to stress design processes and outcomes in their chapters. Nonetheless, we anticipate that the broad emphasis of this volume will make it accessible and useful for the professional audience.

The editor takes responsibility for errors and thanks all authors for their continuous cooperation during the preparation of this volume.

Notes

1 Jala M. Makhzoumi and Gloria Pungetti, *Ecological Landscape Design and Planning, the Mediterranean Context* (London: Taylor & Francis Press, 1999).
2 Jala M. Makhzoumi, "Landscape in the Middle East: An Inquiry," *Landscape Research* 27, no. 3 (August 2010): 214.
3 Almo Farina, *Principles and Methods in Landscape Ecology* (London: Chapman and Hall, 1998).
4 The ancient Greek term *aesthesis* referred not to abstract theories of beauty but to sensory perceptions. Thomas Juel Clemmensen, Tom Nielsen, and Morten Daugaard, "Qualifying Urban Landscapes," *Journal of Landscape Architecture* 5, no. 2 (2010): 24.
5 Anne Whiston Spirn, "The Poetics of City and Nature: Towards a New Aesthetic for Urban Design," *Landscape Journal* (Fall 1988): 108.
6 Elissa Rosenberg, "Public Works and Public Space: Rethinking the Urban Park," *Journal of Architectural Education* 50, no. 2 (November 1996): 91.
7 The garden city movement in urban planning was initiated by Sir Ebenezer Howard in the UK in 1898. The green cities were supposed to be self-contained communities surrounded by greenbelts. Brian Goodall, *Dictionary of Human Geography* (London: Penguin, 1987).
8 Clemmensen et al., "Qualifying Urban Landscapes," 27.
9 Elizabeth Blackmar, "The Urban Landscape," *Journal of Architectural Education* 30, no. 1 (September 1976): 13.
10 Clemmensen et al., "Qualifying Urban Landscapes," 30.
11 Jala Makhzoumi, "The Greening Discourse: Ecological Landscape Design and City Regions in the Mashreq," in *Urban Design in the Arab World: Reconceptualizing Boundaries*, ed. Robert Saliba (London: Ashgate, 2015), 66.
12 Scholars Ziva Kolodney and Rachel Kallus referred to two concepts of "transcape" and "erascape" to explain the process of landscape production. They defined transcape as the transfer of landscaping ideas and practices from one

terrain to another, and erascape as a process of eradicating one landscape and replacing it with another. Ziva Kolodney and Rachel Kallus, "The Politics of Landscape (Re)Production: Haifa between Colonialism and Nation Building," *Landscape Journal* 27, no. 2–8 (2008): 177.

13 Spirn, "The Poetics of City and Nature," 108.
14 Zeynep Kezer, "Contesting Urban Space in Early Republican Ankara," *Journal of Architectural Education* 52, no. 1 (September 1998): 13.
15 Clemmensen et al., "Qualifying Urban Landscapes," 28.
16 Rosenberg, "Public Works and Public Space," 89.
17 Clemmensen et al., "Qualifying Urban Landscapes," 24.
18 Components of sense of place include activity (i.e., land uses, pedestrian flow, behavior, patterns, noise and smell, vehicle flow), meaning (i.e., legibility, cultural associations, perceived functions, attractions, qualitative assessments), and physical setting (i.e., townscape, built form, permeability, landscape, and furniture). John V. Punter, "Participation in the Design of Urban Space," *Landscape Design*, no. 200 (1991): 24–27.
19 Robert Saliba, "Framing Urban Design on the Margins: Global Paradigms and Regional Implications," in *Urban Design in the Arab World: Reconceptualizing Boundaries*, ed. Robert Saliba (London: Ashgate, 2015), 4.
20 Spirn, "The Poetics of City and Nature," 119.
21 Kenneth Helphand, "Dreaming Gardens: Landscape Architecture and the Making of Modern Israel," *Landscape Journal* 22, no. 2 (January 2003): 74.
22 David Engwicht, *Towards an Eco-city: Calming the Traffic* (Sydney: Envirobook, 1992).
23 Spirn, "The Poetics of City and Nature," 124.
24 This gradual appropriation after design, which seems exciting for the users, may generate an uncritical and euphoric attitude toward everything new, modern, generic, and even uncontrolled among planners. Clemmensen et al., "Qualifying Urban Landscapes," 26.
25 Rosenberg, "Public Works and Public Space," 92.
26 Spirn, "The Poetics of City and Nature," 125.
27 General paradigms of landscape perception include the psychological, cognitive, and experiential. Erwin H. Zube, James L. Sell, and Jonathan G. Taylor, "Landscape Perception: Research, Application, and Theory," *Landscape Planning* 9, no. 1 (1982): 1–33.
28 Spirn, "The Poetics of City and Nature," 114.
29 Ibid., 115.
30 The development of community gardens in the United States and Europe represents landscape projects that have enabled people to become more involved in their community, while improving neighborhoods and personal health outcomes.
31 John Brinckerhoff Jackson, "The Almost Perfect Town," *Discovering the Vernacular Landscape*, ed. J.B. Jackson (New Haven: Yale University Press, 1984), 162–169.
32 David Gobel, "Introduction," *Modulus* 17, no. 1 (1984): 11.
33 Spirn, "The Poetics of City and Nature," 109.
34 Rosenberg, "Public Works and Public Space," 102.
35 Makhzoumi, "The Greening Discourse," 65.
36 John Montgomery, "Making a City: Urbanity, Vitality, and Urban Design," *Journal of Urban Design* (April 2007): 95.
37 Ibid., 96.
38 The term became more widely known after the American naval strategist Alfred Mahan used it in 1902 to designate the area between India and Arabia. Bernard Lewis, *The Middle East and the West* (Bloomington: Indiana University Press, 1964), 9.

39 Peter Beaumont, Gerald H. Blake, Gerald H. Wagstaff, and J. Malcolm, *The Middle East: A Geographical Study* (New York: Wiley, 1988), 16.
40 The development of the "Islamic garden" has not been limited to the boundaries of the Middle East. Over the last two decades several Islamic-inspired gardens have been designed outside the Middle East. This phenomenon, which I call "Islamic gardens in diaspora," serves as a representative of this region in other parts of the world.
41 Jim Wescoat, "The Islamic Garden: Issues for Landscape Research," in *Environmental Design: Journal of the Islamic Environmental Design Research Centre*, vol. 1, ed. Attilo Petruccioli (1986), 1–19.
42 Makhzoumi, "Landscape in the Middle East," 213.
43 The concept of park or urban landscape is often seen as a Western phenomenon, while recent historical research indicates its roots in the Middle East, especially after the 17th century.
44 Zeynep Çelik, *Empire, Architecture, and the City: French-Ottoman Encounters, 1830–1914* (Seattle: University of Washington Press, 2008).
45 Two of the early urban parks that influenced Frederick Law Olmsted's projects, especially Central Park (New York City, 1857), include Paxton's ornamental grounds, structured around an informal lake in the UK, and the Peel Park (Salford, 1846).
46 Sandy Isenstadt and Kishwar Rizvi, *Modernism and the Middle East: Architecture and Politics in the Twentieth Century* (Seattle: University of Washington Press, 2008).
47 Tal Alon-Mozes and Shaul Amir, "Landscape and Ideology: The Emergence of Vernacular Gardening Culture in Pre-state Israel," *Landscape Journal* 21, no. 2 (2002): 41.
48 Ibid., 43.
49 Kolodney and Kallus, "The Politics of Landscape (Re)Production," 173.
50 Helphand, "Dreaming Gardens," 78.
51 Farshid Emami, "Urbanism of Grandiosity: Planning a New Urban Centre for Tehran (1973–76)," *International Journal of Islamic Architecture* 3, no. 1 (March 2014): 69.
52 Montgomery, "Making a City," 100.
53 İpek Türeli, " 'Small' Architectures, Walking and Camping in Middle Eastern Cities," *International Journal of Islamic Architecture* 2, no. 1 (January 2013): 10.
54 Ibid., 15.
55 Edward W. Soja, *Seeking Spatial Justice* (Minneapolis: University of Minnesota Press, 2010), 13–30.
56 Türeli, " 'Small' Architectures," 27.
57 Erik Orsenna, *Les Chevaliers du Subjonctif* (Paris: Stock, 2004). Quoted in Bernardo Secchi, "Wasted and Reclaimed Landscapes – Rethinking and Redesigning the Urban Landscape," *Places* 19, no. 1 (2007): 6.
58 Makhzoumi, "The Greening Discourse," 80.
59 The Laleh Park in central Tehran also served as the setting for the congregation of "mourning mothers" whose children were imprisoned or killed during the movement.
60 Zahra Breshna, an architect with the Department for Preservation and Rehabilitation of Afghanistan's Urban Heritage, argues:

> Emphasis should be on developing and strengthening the partially forgotten local and traditional aspects, whilst placing them in a contemporary global context. The goal is to preserve the tradition without hindering the development of a modern social, ecological and economical institution.
>
> Zahra Breshna, "A Program for the Rehabilitation and Development of Kabul's Historic Center," in *Development of Kabul: Reconstruction and*

Planning Issues, ed. Babar Mumtaz and Kaj Noschis (Lausanne: Comportements, 2004), 25.

61 Rosenberg, "Public Works and Public Space," 215.
62 Recent academic literature confirms that recent desertification is the result of human activities and climate change.
63 Saliba, "Framing Urban Design on the Margins," 8.
64 For more information, refer to Federico Cugurullo, "How to Build a Sandcastle: An Analysis of the Genesis and Development of Masdar City," *Journal of Urban Technology* 20, no. 1 (2013): 23–37.
65 Rosenberg, "Public Works and Public Space," 89.
66 Secchi, "Wasted and Reclaimed Landscapes," 10.
67 Spirn, "The Poetics of City and Nature," 124.
68 Michael J. Schmandt, "The Importance of History and Context in the Postmodern Urban Landscape," *Landscape Journal* 18, no. 2 (Fall 1999): 157.
69 Clemmensen et al., "Qualifying Urban Landscapes," 32.
70 Ibid., 45.
71 Rosenberg, "Public Works and Public Space," 89.
72 Secchi, "Wasted and Reclaimed Landscapes," 6.
73 Luna Khirfan, "Ornamented Facades and Panoramic Views: The Impact of Tourism Development on al-Salt's Historic Urban Landscape," *International Journal of Islamic Architecture* 2, no. 2 (July 2013): 317.
74 For instance, urban landscape projects, which are often seen as secular entities, might still be acknowledged by local residents due to the metaphoric (or sacred) aspects of landscape elements (e.g., trees, water) in Abrahamic religions such as Islam and Judaism. For information on religious aspects of plants and trees in Judaism, please see Achva Benzinberg Stein, "Landscape Elements of the Makam: Sacred Places in Israel," *Landscape Journal* 6, no. 2 (Fall 1987): 123–131.
75 Makhzoumi, "The Greening Discourse," 67.
76 Ibid., 56.
77 Secchi, "Wasted and Reclaimed Landscapes," 9.
78 Ibid., 8.
79 Thomas Sieverts, "Where We Live Now," in *Where We Live Now: An Annotated Reader*, ed. Matthew Stadler (Portland, OR: Suddenly Publishing, 2008), 21–81.
80 Clemmensen et al., "Qualifying Urban Landscapes," 29.
81 Ibid., 28.
82 Paola Vigano, "On Porosity," in *Permacity*, ed. J. Rosemann (Barcelona: International Forum on Urbanism, 2007).
83 Clemmensen et al., "Qualifying Urban Landscapes," 29.
84 Secchi, "Wasted and Reclaimed Landscapes," 11.
85 Kenneth I. Helphand, "Halprin in Israel," *Landscape Journal* 31, no. 1–2 (January 2012): 215.
86 Montgomery, "Making a City," 114.
87 Makhzoumi, "Landscape in the Middle East," 219.
88 Clemmensen et al., "Qualifying Urban Landscapes," 32.
89 It is called by Pierce Lewis "the spirit of place." Pierce F. Lewis, "To Revive Urban Downtowns, Show Respect for the Spirit of Place," *Smithsonian* 6 (September 1975): 32–41.
90 Blackmar, "The Urban Landscape," 13.
91 Ibid., 14.
92 Ibid., 12.

93 Fahriye Hazer Sancar, "Towards Theory Generation in Landscape Aesthetics," *Landscape Journal* 4, no. 2 (Fall 1985): 116.
94 Ibid., 117.
95 Makhzoumi, "The Greening Discourse," 70.
96 Blackmar, "The Urban Landscape," 13.
97 Sancar, "Towards Theory Generation in Landscape Aesthetics," 118.
98 Robert Hewitt and Hala F. Nassar, "Assessing International Education in Contemporary Landscape Architecture," *Landscape Journal* 24, no. 2 (January 2005): 188.
99 Helphand, "Dreaming Gardens," 75.
100 Spirn, "The Poetics of City and Nature," 122.
101 Blackmar, "The Urban Landscape," 14.
102 Makhzoumi, "The Greening Discourse," 70.
103 The qualities of good urban landscape include the complexity of the patterns of movement, especially for pedestrians, diversity of primary uses, a fine-grained economy, a dynamic social life, variety in opening hours, the presence of people attractors, legibility, imageability, and knowledgeability. Montgomery, "Making a City," 103.
104 These strategies include discouraging automobile traffic; eliminating unnecessary setbacks; manipulating the sidewalk space; improving safety, comfort, and attractiveness; creating a sense of belonging and familiarity; providing opportunities for experimentation and informal interactions; providing food and drink; creating a sense of privacy while preventing loneliness; and reflecting the change of seasons. Schmandt, "The Importance of History and Context in the Postmodern Urban Landscape," 163.
105 There is a major ongoing shift from building the country and landscape to preserving the landscape. Helphand, "Dreaming Gardens," 85.
106 Clemmensen et al., "Qualifying Urban Landscapes," 28.

2 Between garden and geography

Landscape as an emergent concept in the wider Middle East

James L. Wescoat Jr.

The late 20th century witnessed modest growth in research and design of urban landscapes in the modern Middle East. The benchmark in the mid-20th century was low, both in terms of landscape architectural practice and research on historical landscapes. Landscape architecture is in many universities of the region a postgraduate degree for architects, situated in schools of engineering. It has developed more slowly than either architecture in the Middle East or landscape architecture in Europe, North America, and East Asia.[1] It has drawn in limited ways upon natural and cultural landscape research in the region. Research on historical urban landscapes has likewise been limited. It is distributed across fields ranging from archaeology to history, geography, architectural history, and conservation – but it is central to none of them.

It is interesting to consider why these fields have been historically small in the Middle East in light of the region's dramatic landscapes and cities, and to ask why these fields are growing now. These questions are complicated by critical landscape research in Europe and North America, which casts landscape arts as woefully inattentive to the unequal and oppressive power relations among peoples and environments in which they participate.[2] Some of these critical studies question whether it is possible for landscape to become a truly progressive line of inquiry and practice.

Similarly, the concept of the Middle East is undergoing critical scrutiny. It is generally regarded as a term that emerged from 20th century security studies. As a region, it has profoundly diverse, conflicting, and arguably incoherent ethnic, linguistic, religious, and political economic patterns. Forty years ago, Nikki Keddie wrote an influential paper asking, "Is There a Middle East"?[3] That paper underscored the deep divisions among Persian, Ottoman, and Arab realms, both in the past and in their successor polities. It noted enduring tendencies toward linguistic nationalism, notwithstanding wider processes of globalization. And it questioned the purportedly unifying role of Islam when for over a millennium its politico-religious divisions have arguably been greater than its unity. Concepts of the Islamic city, popular in the third quarter of the 20th century, have been widely challenged. And,

indeed, cities and landscapes are not as closely associated with one another as architecture and urban design.

In historical terms, Keddie underscored the point that the term *Middle East* is an early 20th-century geographic term emanating from the security studies of Admiral Mahan and others, which expanded in usage in US strategic studies after the Second World War. It displaced the earlier orientalist term of *Near East*, except in fields of pre-Islamic languages and archaeology. She noted that at best it might be correlated in historical terms with the early wave of Islamic conquests in regions where semi-arid nomadism mixed with irrigation agriculture and urbanizing trade networks.

Questioning the Middle East as a meaningful geographic construct has been further advanced by an edited volume entitled, *Is There a Middle East? The Evolution of a Geopolitical Concept*.[4] Its chapters problematize the historical, cultural, spatial, and geographical bases of the Middle East concept. For example, Michael Bonine examines the wide-ranging definitions of the Middle East in geography maps and texts.[5] Definitions of the region that are based on one or two variables of language, religion, environment, or former imperial domains (e.g., Ottoman) fail to hold up, as do those based on climate or physical features (e.g., the region between the Oxus and Nile Rivers). Definitions based on current nation-states are most common. They have a core area bounded by Egypt, Turkey, and Iran. Many definitions extend further to include Maghreb countries to Morocco in the west, the Caucasus and central Asian nations to the north and northeast, and Afghanistan and Pakistan to the east. The borderlands of this "wider Middle East" are the Sahel desert margins, Russia, and India (Figure 2.1). Thus, the initial problem faced in this chapter, and volume, is that the concepts of landscape and Middle East are individually and jointly problematic, in both descriptive and deeper cultural ways.

At the same time, contemporary urban landscape planning and design practices are expanding in important ways across the region(s) variously known as the Middle East. Architecture and civil engineering journals in the region cover an increasing number of urban landscape projects as multidisciplinary firms compete for larger scale projects. New landscape journals have been launched from Dubai (*Landscape Middle East*) and Tehran (*Manzar*), along with blogs in other countries. The Aga Khan Award for Architecture has awarded prizes to projects from the site design scale, such as the Samir Kassir Public Garden Beirut, to large-scale urban infrastructure like the Wadi Hanifa project in Riyadh.[6] Chapters in this volume provide fresh evidence of that work. The subtitle of this paper therefore treats landscape as an emergent concept in the modern Middle East. It argues that landscape emerges between the concepts of garden and geography, which bound it at smaller and larger scales, and that also contain cities in between. When preparing the chapter, I initially considered revisiting the question of whether there is any such thing as an Islamic landscape. That approach would reflect back critically on an earlier article titled, "The Islamic Garden: Issues for

Figure 2.1 Map of the wider Middle East. (Drawn by Emily Williamson.)

Landscape Research,"[7] in which I defined landscape inquiry in three main ways: (1) landscape as valued scenery; (2) landscape as functional process; and (3) landscape as social communication.

I believe these three approaches still have relevance for thinking about the broader field of gardens, landscapes, and cities. But they do not sufficiently address critiques of landscape research in the late 20th century or the promise of deeper historical and contemporary cultural landscape research. Several published works have raised questions about the limited vocabulary of landscapes in Middle Eastern languages, compared with gardens, cities, and geography. One important study is Jala Makhzoumi's 2002 article, "Landscape in the Middle East: An Inquiry." It discusses the absence of close synonyms for landscape in Arabic (and Persian and Turkish) and suggests some ways forward.[8] The question she raises about the linguistic basis for landscape has wider implications for contemporary design. Recent linguistic studies by Lamia Otthoffer-Latiri explore these issues in classical Arabic culture in the 8th to 10th centuries, as discussed in a later section.[9]

This chapter thus shifts away from Islamic landscapes as a focal topic to treating them as illustrative of broader issues faced in Middle Eastern environmental design. Landscape inquiry in the wider Middle East has emerged from, and in part sought to fill, spatial gaps between more deeply rooted concepts of gardens, cities, and geography. At the smaller scale of

gardens, their rich and diverse history is founded upon substantial linguistic and spatial phenomena. They range from the gardens of the creation at the beginning of time (*Eden*) to paradise gardens of the Qur'an (*djannah*) at the end of time. In between lie flower gardens, courtyard gardens, villa gardens, women's gardens, fortress gardens, tomb-gardens, and more. Tomb-gardens (*rawda*) evoke paradise ideals while lush orchards (*bustan*), meadows (*chaman*), and flower gardens (*bagh*, *baghicha*) convey the beauty and pathos of earthly experience.[10] They may be built within cities but are regarded as much as or more of a complement than as a core component of urban design. Some historical garden terms imply a spatial form such as the *chahar bagh* (fourfold) and *hasht bihisht* (eight paradises) gardens, which carry forward in contemporary practice, sometimes in oversimplified ways. Grouped together, they have been called Islamic gardens by some and Middle Eastern gardens by others, although neither term is satisfactory, as suggested earlier. Emanating from the discipline of art and architectural history, renewed waves of garden history have argued for approaches that move beyond monuments and sites to address wider cultural and historical geographic aspects of design (i.e., landscapes).[11]

Geography lies at the larger scale end of this spatial spectrum. The word derives from the Greek *geographia*, transliterated as *djughrafiya* in Arabic. It has diverse historical branches in subregions of the wider Middle East. The most widespread geographic system was associated with latitudinal belts or climates (Greek *klima*; Arabic *iqlim*).[12] Geographic writing in this school often began with a statement that a particular place lay in the third climate or the fourth climate, followed by a description of its airs, waters, mountains, occupations, and settlements. Persian geographers, by comparison, wrote of cultural regions (*kishwar*) surrounding their own.[13] Geography had close affinities with astronomy and maritime navigation, as well as cosmographical, military, trade, and urban branches of cartography.[14] It has fostered rich travel literatures from antiquity to the present.[15] In contrast with landscape architecture, which has academic departments in a small proportion of universities, every Middle Eastern country has universities with departments of geography, and most countries have published geography journals.[16] As in countries of other regions, urban geography in the Middle East only became a prominent subfield in the mid-20th century, and as in other countries its association with urban design has been limited compared with its emphasis on social and political economic issues. Thus, in geography as well as gardens, the core concepts were initially borrowed from other regions that became well-grounded as sciences in the Middle East over time.

Gardens were often enclosed sites, while geography surveyed expansive regions. What are the spaces in between that link gardens and geographies? Cities, routes, regions, and territories all fill those spaces in various ways. So too do the concepts of landscape and *paysage*. To develop this proposition, the first section of the chapter surveys the increasing references to landscape

in research on gardens of various Middle Eastern countries. It describes how international use of the word landscape is growing in scholarship and practice, notwithstanding concerns about the structural inequities and orientalism that have been revealed in Euro-American landscape art and inquiry. The second section takes a closer look at the historical words and phrases associated with landscape in the wider Middle East to more fully document the nature, scope, and depth of the contemporary challenge. The final section then re-presents landscape as an emergent concept in the modern Middle East, with strategic opportunities for closer links with research on both gardens and geography.

Emergence of modern Middle Eastern and Islamic landscape research

Interestingly, the first uses of landscape and Middle East together in English-language publications may only have occurred in the mid-20th century (Figure 2.2).[17] Usage appears to spike in the 1960s followed by a drop around 1980 and then steady growth from 1990 onwards. However, most of these references are figurative in nature (e.g., general references to a situation or setting, such as to the "political landscape" of the Middle East). Most refer to landscape as an expression in ordinary language and not as a research topic.

The example of Islamic landscape research

To delve more deeply into modern landscape thought related to the Middle East, this section traces references to the more limited topic of "Islamic landscape" research as it has developed in books, chapters, and journal articles of the late 20th century (Figure 2.2). Three methods were used to

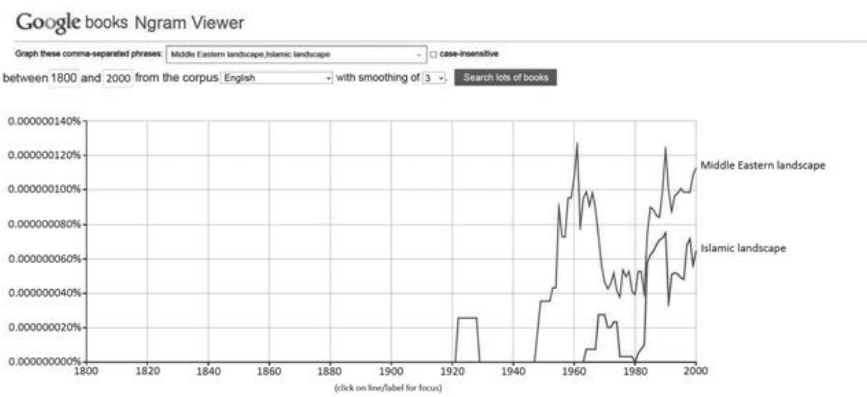


Figure 2.2 Google Books Ngram Viewer results for Middle Eastern and Islamic landscapes (March 8, 2015).

compile this information. First, the phrase *Islamic landscapes* in books was entered into the Google Ngram Viewer, which provides a large (but not fully representative) sample of books digitized by Google up to 2008. A systematic bibliographic search was then conducted in major digital indexes. These search results are described and then situated within the author's investigation in the field of historical landscape research.

References to Islamic landscapes in digitized books begin around 1960, grow episodically for three decades, and then increase dramatically after 2000 (Figure 2.2). Again, many of the references are figurative or passing comments on the context of a particular Muslim society. However, some trends in scholarly landscape research are starting to emerge. For example, references begin as early as the 1930s to Islamic landscape painting,[18] which is something of a misnomer applied from Western art history, as few paintings produced for Muslim patrons depict landscapes per se, but focus instead on scenes in which landscape is a prominent but not primary subject of allegorical, historical, or portrait painting. Museum catalogues sometimes give landscape titles to paintings for purposes of exhibitions or auctions in the West, such as "female figure in a garden landscape."

For references to Islamic landscapes in scholarly publications, a search for those keywords was conducted in the following leading digital library indexes:[19]

- Archnet digital library
- WorldCat
- Avery Art and Architecture Index
- Scopus
- Web of Science
- Index Islamicus
- Ei Compendex
- ProQuest theses and dissertations

The results are displayed in Table 2.1 below. The table presents the gross number of hits and notes that highlight the most significant results. In cases where the number of hits was large (i.e., greater than 100), the number of irrelevant hits was reduced by limiting the search terms to title words – but then in some cases the hits drop close to zero. A hundred or fewer hits per source proved easy to screen for potential relevance.

These search results have mixed significance. In terms of quality, they reflect two broad patterns that are not relevant to this study. In some hits, Islamic landscapes is included as a minor topic within a global survey of landscape architecture and garden research. In a second pattern, landscape is picked up as a keyword associated with a text but not as a major research topic within it. These are again figurative or descriptive uses of the term landscape that are used to describe a general situation rather than a subject for research.

Table 2.1 Search Results for Islamic Landscape Research in Major Indexes

Source	*Search term*	*Search term*	*Search term*	*Gross hits*	*Significant hits (n) and notes*
WorldCat	Islamic (keyword)	Landscap* (keyword)	Landscap* (subject)	96	(74) Most refer to "gardens"; historical places – not current day; many concern royal palace gardens; water and architecture; archeology; conservation
Index Islamicus		Landscap* (no spec.)		503	(46) Much on Palestine's landscapes; "military landscapes"; media landscape; UAE landscapes; archaeological landscapes; nostalgia for; border landscapes; peacekeeping landscapes; landscapes of fear; political landscapes; commodification of landscapes
Avery Index	Islamic (subject)	Landscap* (subject)		13	(7) Middle East garden traditions project; Dubai; much more on cultural landscapes than physical landscapes
Web of Science	Islamic (topic)	Landscap* (topic)		100	(25) Search results more associated with "Islamic" search term than landscape; Malaysia garden identity; sacred landscapes; Persian gardens and landscapes;

Source	*Search term*	*Search term*	*Search term*	*Gross hits*	*Significant hits (n) and notes*
					religious landscapes; Islamic gardens; gardens of magic; rural landscapes; tourism; Islamic landscape – place and memory; landscapes of Istanbul; archaeology; landscapes and nostalgia; Islamic Spain; Doha, Qatar
Ei Compendex	Islamic (subject)	Landscap* (subject)		48	(6) Most of these sources did not concern "landscape"; some traditional, environmental landscapes; microclimates; landscape preferences; use of water; vegetation change
Scopus	Islamic (keyword)	Landscap* (keyword)		174	(20) Sacred places; contemporary Syria; sustainability; Deccani landscapes; Islam and the rural landscape; Islamic modernism; Indo-Islamic gardens; Egypt; water management; microclimate; political landscapes; landscape architecture in Saudi Arabia

(*Continued*)

Source	*Search term*	*Search term*	*Search term*	*Gross hits*	*Significant hits (n) and notes*
Proquest Diss.	Islamic (abstract)	Landscap* (abstract)		118	(13) Arab geographies; land use; modernity, space, and identity; India; the landscape of Islam in America; the image of Islamic urban landscapes; Islamic identity through landscape architecture; environment, ethics, and design; Karachi, Pakistan
Archnet	Islamic (keyword)	Landscap* (keyword)		27	(3) Most results concern monuments and not landscapes

(Search conducted by Emily Williamson, June 2014.)

Four substantive results stand out, each of them relevant for this volume in different ways. First, a large number of relevant research works on Islamic landscapes are associated with research on historical gardens. A second large group of studies is associated with large-scale archaeological research projects in the wider Middle East.[20] A smaller but still significant number of works explores cultural geographic topics.[21] A fourth, small group of hits significant for this volume deals with contemporary urban landscape planning and design. These four types of research are woven into the following literature review.

Historical development of Islamic landscape research in the wider Middle East

Aside from several references to landscape or *paysage* in miniature painting in the early 20th century, few scholarly works employed the phrases "Islamic landscapes" or "Middle Eastern landscapes" through the middle of the century. For example, in 1973 Professor Oleg Grabar provided an expansive perspective on the field in *The Formation of Islamic Art* with a chapter titled, "The Symbolic Appropriation of the Land."[22] His choice of the word *land* rather than *landscape*, which is not mentioned in the book, is significant for its broad geographic scope and deep linguistic roots.

At about the same time, rising oil prices brought an unprecedented increase in modern landscape architectural practice in oil-producing nations of the Middle East.[23] I was engaged in those landscape architectural projects in the 1970s, and I recall the searching, yet inadequate, efforts to envision what the landscape had been or could be in the future. The Aga Khan Program for Islamic Architecture at Harvard and MIT was created in 1979 to support such efforts, and to do so on the foundations of basic historical research and critical design inquiry.[24]

A volume on *Architecture of the Islamic World: Its History and Social Meaning* offered sustained engagement with the social history and interpretation of Islamic architecture, broadly defined.[25] That volume referred to landscape several times, albeit briefly. Debates about the very idea of Islamic architecture intensified, in the best sense of critically questioning its history, theory, and contemporary practice.[26] Pressure increased to situate Islamic art, architecture, and gardens within broader environmental and cultural contexts, which included historical and modern urban landscapes of the Middle East.

The field was initially not well prepared to meet these needs. Historical scholarship on gardens and landscapes of the wider Middle East extends back only a century.[27] Early works concentrated on the margins of what is now regarded as the core area of the Middle East (i.e., Spain, Iran, and India). Early authors wrote on a number of common themes for a broad public readership. One was the paradise garden theme, followed by the environmental theme of oasis gardens in arid climates, and the beauty of garden architecture and waterworks (as plantings had in every instance not survived). Gradually, research expanded on gardens nearer the center of the Middle East, such as the Seljuk and Ottoman gardens. These progressions in Middle Eastern garden history have been reviewed elsewhere.[28] The question here is how they have – and have not yet – been linked with modern landscape research.

In small fields the works of individual scholars figure prominently. Professor Attilio Petruccioli opened up spaces for engagements among gardens, landscapes, cities, and territories. Trained as an architect, Petruccioli set the stage for research on Islamic landscapes in at least three important ways: first, in his own research; second, in his journal titled *Environmental Design: Journal of the Islamic Environmental Design Research Centre*; and third, in edited volumes such as *Gardens in the Time of the Great Muslim Empires*.

Petruccioli's research situated Islamic architecture in relationship to garden and territory, the latter term being closely related to concepts of political geographic regions. His first major book, *Dar al Islam: Architetture del Territorio nei Paesi Islamici*, published in 1985, began with a chapter on landscape and nature in the Islamic world and contained sections on the agrarian landscape heritage of Islamic environmental design.[29] His case studies ranged in scale from the micro-landscapes of rock weathering to field patterns and macro-regional mapping. Petruccioli's next major

work on *Fathpur Sikri: Città del Sole e delle Acque* in 1988 did not use the language of landscape per se, although it did engage the full spectrum of design from buildings to gardens, cities, and regions.[30] It also introduced graphically powerful methods of exploded axonometric drawings, original field survey maps, and landscape models to communicate intensive methods of field research at sites in the Mediterranean, South Asia, and Central Asia. Petruccioli focused on related subjects of gardens, cities, nature, and territory, along with his enduring commitment to typological analysis of buildings.[31]

Petruccioli was the founding editor of the journal *Environmental Design: Journal of the Islamic Environmental Design Research Centre*, which included articles on landscape, cities, and related topics.[32] It produced special issues on the Garden as City, and the City as Garden, and other themes that linked architecture, gardens, urbanism, and geographic regions in creative ways. My article "The Islamic Garden: Issues for Landscape Research" was published in *Environmental Design* in 1986, and it presented a range of scales for landscape interpretation – from the site to the Islamic cultural realm – arguing that garden complexes may be better understood through landscape research (Figure 2.3).[33] Perhaps less well recognized are the affinities between *Environmental Design* and geographer J.B. Jackson's *Landscape* magazine, a publication that was characterized by exploratory humanistic articles. Petruccioli admired Jackson's work and sought to have selected articles translated into Italian.

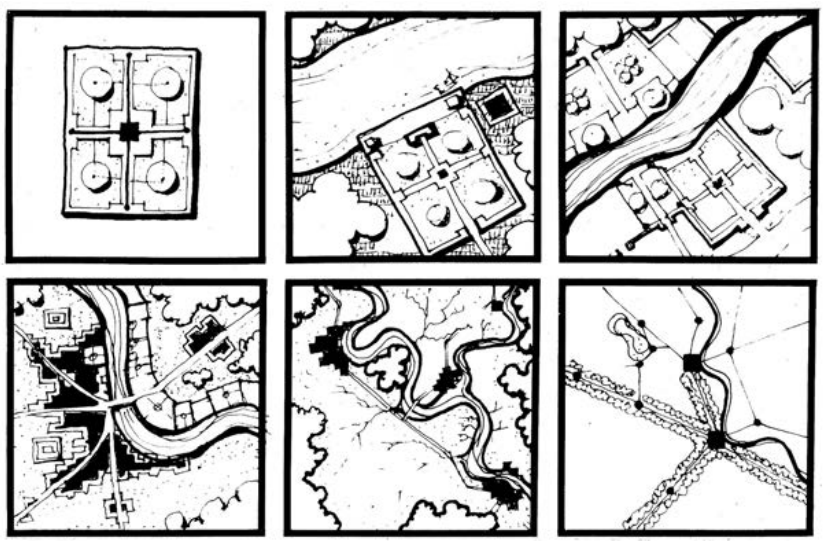


Figure 2.3 Geographical scales of water resources investigation (Wescoat, 1985, 52).

Finally, Petruccioli's edited volumes contain important chapters linking gardens, landscapes, cities, and geography. Several edited volumes explore transcultural landscapes of the Mediterranean and Middle Eastern regions.[34] His edited volume on *Il Giardino Islamico: Architettura, Natura, Paesaggio* includes the word landscape in its title, and its chapters have rich affinities with (although not detailed analyses of) that topic.[35] A 1997 conference volume titled *Gardens in the Time of the Great Muslim Empires* includes a number of chapters on landscapes, including those by Mirka Benes on landscapes of Baroque Italy, Gülru Necipoğlu on Ottoman landscapes, and James Wescoat on Mughal gardens and geographic sciences.[36] Especially significant was a line of research developed here and elsewhere by Maria Eva Subtelny on a distinguished family of Timurid landscape architects whose work stretched from Herat to Bukhara and Delhi.[37]

Another pioneer focusing on linkages among historic gardens, landscapes, cities, and geographies is D. Fairchild Ruggles, whose doctoral dissertation led to the groundbreaking monograph *Gardens, Landscape, and Vision in the Palaces of Islamic Spain* in 2000.[38] She interpreted landscape in four distinct ways: as scenic power (*manzar*; *mirador*); as the spatial context of gardens and their architecture; as agronomic and agro-ecological sciences of agriculture, horticulture, and gardening; and finally, as a form of territoriality.[39]

Although Ruggles uses the term landscape in her volume *Islamic Gardens and Landscapes*, she does not develop it as explicitly as in her earlier book.[40] The word landscape is used more in the ordinary language sense in Chapter 1, "The Islamic Landscape: Place and Memory," which treats landscape as a palimpsest of memory. The volume underscores the "elusive" quality of gardens and landscapes that range across varied climatic, historical, and cultural conditions. In a recent volume on *Persian Gardens and Pavilions*, Mohammad Gharipour gives an extensive treatment of the architecture of gardens, including their siting and situation in relationship to surrounding landscapes discerned though painting, poetry, and historical texts.[41]

Middle East Garden Traditions, edited by Michel Conan in 2007, is the most extensive volume to date on the subject.[42] Its spatial extent spans from Morocco to India, which encompasses the wider Middle East as defined here, but for the reasons already mentioned the book struggles to address pre-20th century gardens within the modern geographic context of the Middle East. Most of its explicit landscape references dealt with the spatial and social contexts of gardens, from their archaeological settings to their political and cultural character. Conan argued for greater attention to the economic as well as political aspects of gardens, including their relations to larger maritime and ocean trade and cultural flows that would further extend the boundaries of the Middle East.[43] He also argued that it is necessary to link the *longue durée* of Middle Eastern history with the environmental history of gardens and landscapes. This Dumbarton Oaks project is also unique in its development of a Middle East Garden Traditions website

to expand and continue the work of the conference.[44] The website gives special attention to the language of gardens, which will be discussed later in this chapter.

Prospects for linking landscape research and design in the wider Middle East

This review concludes with the current situation in landscape research on the Middle East, and its relevance for urban design. On the one hand, landscape research has grown significantly in recent decades. A range of emerging lines of landscape inquiry responds to the gap between gardens and geography in the modern Middle East, and they are available to serve contemporary urban design practice. On the other hand, these advances must remain in perspective. A recent special issue on Islamic art in the *Journal of Art Historiography* includes twenty articles, none of which mentions landscape in a detailed way.[45] Thus, one has to search for historical landscape research relevant to contemporary urban design. The challenges of using historical research in contemporary design have likewise been examined in depth in recent decades (e.g., by the Aga Khan Award for Architecture triennial volumes). It is not clear whether those insights are exceptional or are being mainstreamed in urban design practice.

Interestingly, almost all of the aforementioned historiography articles discuss geographic aspects of Islamic art and architecture. On the larger geographic scale, landscape archaeology of the Near East is thriving in theory, method, and empirical findings.[46] On the site scale, Kathryn Gleason has forged new linkages between landscape archaeology, conservation, and design.[47] Historically informed landscape architectural practice in the Middle East has grown substantially from early gestures in the 1970s to the present.[48] The question is how contemporary urban landscape design might draw even more deeply upon fields of landscape history and theory.

Emerging languages of landscape in the Middle East

Language complicates the situation, as even the denotation of landscape concepts can be blurry. For example, *bustan* is often deemed to denote an orchard. However, its etymology and definitions in various dictionaries refer to "fragrant gardens" (*bu* + *stan*) or "flower gardens."[49] A *bagh* today is often associated with an enclosed cross-axial fourfold garden misinterpreted as a *chahar bagh* form, but historically it could be a garden of diverse uses and almost any layout and prospect.[50] However, there are also linguistic concerns regarding the limited use of the word *landscape* in Arabic, Persian, Turkish, Urdu, and other languages of the wider Middle East, to which we now turn.

As Jala Makhzoumi has noted, there is a lack of precisely equivalent words in Arabic for landscape as it is used in the West, and in Persian and

Turkish as well.[51] This section begins with a discussion of basic dictionary definitions. The most common words for landscape in Arabic are *manzar* (root *nzr*), or *machhad*, which refer to a view, scene, spectacle, sight, perspective, or scenery.[52] These words approximate the concept of landscape as valued scenery in Western traditions. It is a meaning that has been criticized in the West as having an uncritical sense of picturesque beauty, and an inattention to power relations in visual representation and design.[53]

Likewise in Persian, *manzar* is a verbal noun that often refers to a landscape scene, and other types of scenes or views as well (e.g., of a face, a theater scene, or any object of sight).[54] A second major Persian word associated with landscape is *sair*, which can refer to walking or strolling in a place.[55] This too has European equivalents.[56] Other Persian words associated with landscapes include *chesm andaz* and *door-nama*.[57] Interestingly, the Middle East Garden Traditions glossary does not yet include any of these terms.[58]

Ottoman Turkish uses the related term *manzara*. In addition, it has many variants of *bache* (garden) and *bag* (*bagh*). Turkish also uses *tabiat* for nature, derived from Arabic, in association with landscape. In modern times a key term is *peyzaj*, derived from the French, but again not with the same critical literature on the history and theory of *paysage* in French geographic thought.

Similar patterns are found in Urdu, with *manzar* and *sair* being prominent.[59] However, there are additional words such as *bahar*, again for a fine view or a flourishing state, especially in springtime. A *baharistan* is a place with such qualities. *Sama* can indicate a scene associated with a good harvest or season.[60] Kashmiri[61] uses the Persian word *bache*, which in that garden region can be associated with twigs, branches, and bundles of vegetation as well. However, other regional languages on the eastern margins of the Middle East lack specific words for landscape.[62] From these initial notes, the vocabulary of landscape in the wider Middle East would appear to be limited. The homepage for the Middle East Garden Traditions website, hosted by Dumbarton Oaks, which has a multilingual glossary (including an enormous Turkish garden vocabulary), does not include the English word landscape. Finally, Professor M.R. Ghanoonparvar's probing volume on *Translating the Garden* does not use the word landscape in its deep reflections on the language of contemporary Persian garden experience and meaning.[63]

On the other hand, since 2009 the Iranian organization NAZAR Research Center for Art, Architecture & Urbanism has published the journal *Manzar: The Iranian Scientific Journal of Landscape*, which builds explicitly upon the word for *view*, but it has a broader scope that links historical reflection and contemporary practice.[64] Another new journal, *Landscape Middle East*, published in Dubai, is profiling the emerging language of landscape design practice and related industries in the region, which may transform the situation in years to come.[65] With such developments, it seems important to dig deeper into the past and present languages of landscape in the region.

Digging deeper into the historical sources of landscape inquiry and design

The first point to emphasize is that simple dictionary definitions do not capture the rich usage of landscape vocabulary in their respective languages.[66] Notwithstanding the many differences among Middle Eastern lands and peoples, the Arabic word *manzar*, which refers on its face to scenery, is shared across major languages of the region. The language of looking at and seeing a person, thing, or place has enormous linguistic depth.[67] Lamia Latiri has retraced the development of these uses in classical Arabic literature from the 8th to 11th centuries.[68] She draws explicit connections among landscape expressions (*paysage*, *manzar*, and *machhad*), geography, and culture.

Following the cultural geographer Augustin Berque's theory of *paysage*, Latiri examines Arabic conceptions of landscape in relation to four criteria: (1) one or several words for landscape; (2) a literature describing landscape; (3) pleasure gardens; and (4) pictorial representations of landscape. After a review of language, literature, and theories of perception and cognition associated with Arabic "landscapes," she concludes that the major differences with Western conceptions of landscape lies in their respective emphasis on poetic vis-à-vis pictorial representation. Such comparisons remain at a modest level of development, although they bring to mind Gharipour's different sources of garden insight (poetry, painting, and historical texts). In addition to the ideal gardens of paradise, Latiri briefly describes five types of earthly gardens in Arabic literature, which include utilitarian landscapes, garden landscapes, bucolic and picturesque landscapes, panoramic landscapes, and fantastic landscapes. She stresses the need for further research and comparison of Arabic landscapes with those of other regions and cultures.[69] A second article delves more deeply into the relationships between landscape and geography. It underscores the importance of seeing (*nzr*) in relation to transmitted knowledge. "Seeing" in this sense is not limited to perception, but is also the application of reason that leads toward intelligent speculation and judgment about what one sees. To support this point, she reviews the development of these ideas in the history of Arab geographic thought from regional theories to travel writing and genres of landscape inquiry about mountains, deserts, and countryside.[70]

It should be mentioned that D. Fairchild Ruggles has also explored the relationships among sight, optics, and landscape in the Andalusian context of the Madinat al-Zahra palace garden complex west of Córdoba.[71] She has made connections between gardens and the larger landscapes of horticultural and agronomic sciences.[72] Likewise, geographer Karl Butzer has surveyed the rich medieval and early modern sources of agro-ecological science in Andalusia.[73] These insights into landscape science, in the modern sense of the term, lead toward wider comparative discourse about land, agriculture, nature, and environment.[74] As a next step in this process, Ruggles has drawn research on vision, territory, and agronomic science in Andalusia into dialogue with critical literature on landscape in Western social thought.[75]

The potential for further development along these lines is enormous. An edited volume from 1999 on the cultural landscape of Palestine seeks to bridge historical and geographical inquiry on that region, and it is an important example of the large body of critical landscape research that is relevant for scholars and designers working in the Middle East.[76] There is also a growing body of cultural and environmental landscape research in cities of the Arabian Peninsula and Gulf.[77]

There is scope for reexamining Persian historical sources as well. For example, the Timurid *Irshad al zira'a* manuscript has been studied often for its eighth chapter on the layout of a *chahar bagh* garden. Less attention has been given to the preceding seven chapters on major divisions of horticultural science (soils, plants, water).[78] Number symbolism in gardens and landscapes is largely unexplored. The theme of eight paradises (*hasht bihisht*) has been widely important in literary and garden thought, from Amir Khusrau's *Hasht bihisht* to Sadi's *Gulistan* and *Bustan*, which are often mentioned but deserve additional study for their structure and philosophy.[79] Regarding the *Irshad al zira'a*, Maria Subtelny mentions a treatise on irrigation in Herat by the same author that could expand the historical linkages between gardens and environmental geography.[80] In terms of pictorial imagery, representations of landscape in Persianate, Timurid, and Ottoman painting are a long-standing and still beckoning field of inquiry.[81] They have multifocal structures that have been barely discerned.

As with so many topics, Ottoman sources may have the greatest archival resources to be tapped in the future. In terms of vocabulary, Ottoman Turkish has a vast array of garden-related terms.[82] Gülru Necipoğlu's essay on suburban landscapes provides a valuable entrée to the topic, as does Deniz Calis's essay on the *barzakh* in a volume on *Middle East Garden Traditions*.[83] Modern Turkish history is especially important for linking historical inquiry with contemporary landscape design. Turkish universities have the largest number of landscape architecture and related degree programs in the Middle East, with a significant number of programs in Iran as well. The Middle East Technical University won an Aga Khan Award for Architecture in 1995 for its massive campus forestry program.[84] Interestingly, in modern usage, one of the key words for landscape in modern Turkish is *peyzaj*, derived from French, which invites critical inquiry into the long-term transformation of loan words, analogous to that of *djughrafiya* a millennium ago.[85]

Cross-culturally and comparatively, historical landscape research can be regarded as having broad prospects, but at the same time it has a long way to go toward contributing to modern landscape planning and design practice in the wider Middle East. As noted earlier, the recent special issue of the *Journal of Art Historiography* that contained little discussion of landscape did emphasize the geographic context of Islamic art and architecture. It may thus be fruitful at the present moment for designers to draw rigorously upon the history of geographic thought, including current debates, as an avenue for advancing urban landscape architecture in the Middle East.

Implications for urban landscape architecture in the wider Middle East

As this volume and related literature show, contemporary practices of urban landscape architecture are growing in scope and breadth. Landscape architectural projects are winning prestigious prizes such as the Aga Khan Award for Architecture.[86] New departments of landscape architecture are being created and sustained in several (but by no means all) countries of the region. Journals include large-circulation trade magazines such as *Landscape Middle East*, which originated in 2007 and has published 84 issues at the time of this writing; issues include feature articles as well as technical and project profiles.[87] The *LA! Journal of Landscape Architecture in India* has broken new ground in linking research and practice in the region, as has a new text on *Landscape Architecture in India: A Reader*.[88] Journals such as *Manzar* in Iran include articles linking historical and contemporary inquiry. Still, many of the issues and opportunities raised here have yet to be embraced in contemporary landscape research and design practice. Archaeological and historical research are rarely put to work in landscape architectural practice.[89] Early journal articles such as "The Islamic Garden: Issues for Landscape Research" just brushed the surface of what is needed and what is possible.[90]

Some of the potential implications of this chapter are to take the languages of landscape seriously, not just as loan words or as ordinary language, but also as deep sources of linguistic inspiration for landscape inquiry and design, that is, the poetics and politics of design.[91] When loan words such as landscape are adapted, they should be subjected to rigorous historical criticism and creative imagination, as the related concepts of geography and gardens have been in the past. Landscape research and practice should be brought into creative dialogue with its full range of affinities, from the garden to the metropolitan, regional, and global geographic scales. The rich precedents in medieval and early modern gardens, geography, and cartography beckon. This type of engagement across temporal, spatial, and cultural scales has rarely been pursued and sustained in any region of the world. It has enormous resources and prospects in and for the wider Middle East.

Acknowledgments

I am grateful to Mohammad Gharipour for inviting and encouraging the writing of this chapter, and to research assistant Emily Williamson for help with the literature search. The Aga Khan Program for Islamic Architecture at MIT has provided generous support. I dedicate this article to the memory of the landscape architect-scholar, Professor Muhammad Shaheer.

Notes

1 India is said to have some 700 architecture departments and only a handful of landscape architecture departments in higher education. Personal communication, Muhammad Shaheer, July 26, 2014.

2 Don Mitchell, "New Axioms for Reading the Landscape," in *Political Economies of Landscape Change: Places of Integrative Power*, ed. J.L. Wescoat, Jr. and D.M. Johnston (Dordrecht: Springer), 29–50; W.J.T. Mitchell, *Landscape and Power* (Chicago: University of Chicago Press, 2002); and Kenneth R. Olwig, *Landscape, Nature, and the Body Politic: From Britain's Renaissance to America's New World* (Madison: University of Wisconsin Press, 2002).
3 Nikki Keddie, "Is There a Middle East?," *International Journal of Middle East Studies* 4 (1973): 255–271.
4 Michael Bonine, Michael Gasper, and Abbas Amanat, eds., *Is There a Middle East? The Evolution of a Geopolitical Concept* (Palo Alto: Stanford University Press, 2011).
5 Michael Bonine, "Of Maps and Regions, Where Is the Geographer's Middle East?," in Bonine et al., *Is There a Middle East?*, 55–99.
6 Aga Khan Award for Architecture website at http://www.akdn.org/architecture/, along with project documents on the Archnet website at http://www.archnet.org.
7 James L. Wescoat Jr., "The Islamic Garden: Issues for Landscape Research," in *Environmental Design: Journal of the Islamic Environmental Design Research Centre*, ed. Attilo Petruccioli (1986), 10–19.
8 Jala M. Makhzoumi, "Landscape in the Middle East: An Inquiry," *Landscape Research* 27 (2002): 213–228.
9 Lamia Latiri, "The Meaning of Landscape in Classical Arabo-Muslim Culture," *Cybergeo: European Journal of Geography* 196 (October 16, 2001), http://cybergeo.revues.org/4042?file=1; and Lamia Otthoffer-Latiri, "Les représentations paysagères dans la géographie arabe classique des VIIIe–XIe siècles. Méthodes et modèles paysagers," *L'Espace Géographique* 34 (2005): 176–191.
10 James L. Wescoat Jr., "From the Gardens of the Qur'an to the Gardens of Lahore," *Landscape Research* 20 (1995): 19–29.
11 D. Fairchild Ruggles, *Islamic Gardens and Landscapes* (Philadelphia: University of Pennsylvania Press, 2008).
12 S. Maqbul Ahmad, "Djughrafiya," in *Encyclopedia of Islam (Rev)*, vol. II (1965): 575–587, ed. B. Lewis, Ch. Pellat, and J. Schacht (Leiden: E.J. Brill, 1991). Maqbul Ahmad refers to this as the Iraki School.
13 Ibid.; and C. Pellat, "Ottoman Geography," in *Encyclopedia of Islam (Rev)*, vol. II (1965): 587–592, ed. by B. Lewis, Ch. Pellat, and J. Schacht. (Leiden: E.J. Brill, 1991).
14 Brian Harley and David Woodward, eds., "Part 1: Islamic Cartography," in *The History of Cartography*, Volume II, Book 1 (Chicago: University of Chicago Press, 1992).
15 Dale Eickelmann and James Piscatori, *Muslim Travelers: Pilgrimage, Migration, and the Religious Imagination* (Berkeley: University of California Press, 1990); and a large modern literature on travel, e.g., Lara Eggleton, "'A Living Ruin': Palace, City, and Landscape in Nineteenth-Century Travel Descriptions of Granada," *Architectural Theory Review* 18 (2013): 372–387.
16 Chauncy D. Harris and Jerome Fellman, *International List of Geographical Serials*, 2nd ed. Research paper no. 138 (Chicago: University of Chicago, Department of Geography, 1971).
17 Google Books Ngram Viewer (https://books.google.com/ngrams/info) is an intriguing source of data. It searches books digitized by Google. It is thus not a representative sample of books in English. However, it is a very large sample, beyond the size of conventional literature review methods.
18 Mehmet Aga-Oglu, "The Landscape Miniatures of an Anthology Manuscript of the Year 1398 A.D.; tr. by H.B. Hall," *Ars Islamica* 3 (1936): 76–98.
19 For elaboration of these bibliographic search methods, see James L. Wescoat Jr., "Searching for Comparative International Water Research: Urban and Rural Water Conservation Research in India and the United States," *Water*

Alternatives 7 (2014): 199–219; and Collaboration for Environmental Evidence (CEE), *Guidelines for Systematic Review and Evidence Synthesis in Environmental Management. Version 4.2. Environmental Evidence*, http://www.environmentalevidence.org/Documents/Guidelines/Guidelines4.2.pdf.

20 T. J. Wilkinson, *Archaeological Landscapes of the Middle East* (Tucson: University of Arizona Press, 2003); Andrew Blair, Derek Kennet, and Sultan al-Duwish, "Investigating an Early Islamic Landscape on Kuwait Bay: The Archaeology of Historical Kadhima," *Proceedings of the Seminar for Arabian Studies* 42 (2012): 13–26; Paul Breeze, Richard Cuttler, and Paul Collins, "Archaeological Landscape Characterisation in Qatar through Satellite and Aerial Photographic Analysis, 2009 to 2010," *Proceedings of the Seminar for Arabian Studies* 41 (2011): 13–26; Steven E. Falconer and Charles L. Redman, *Polities and Power: Archaeological Perspectives on the Landscapes of Early States* (Tucson: University of Arizona Press, 2009); Marcus Milwright, *An Introduction to Islamic Archaeology (The New Edinburgh Islamic Surveys)* (Edinburgh: Edinburgh University Press, 2010); Stephan Vernoit, "The Rise of Islamic Archaeology," *Muqarnas* 14 (1997): 1–10; and much more.

21 E.g., Ibrahim Abu-Lughod, Roger Heacock, and Khaled Nashef, eds., *The Landscape of Palestine: Equivocal Poetry* (Birzeit: Birzeit University Publications, 1999).

22 Oleg Grabar, "The Symbolic Appropriation of the Land," in *The Formation of Islamic Art*, ch. 3 (New Haven: Yale University Press, 1987), 43–71.

23 E.g., Timothy Cochrane and Jane Brown, eds., *Landscape Design for the Middle East* (London: RIBA Publications, 1979); and Kathleen Kelly and Terry Schnadelbach, *Landscaping the Saudi Arabian Desert* (Philadelphia: Delancey, 1976).

24 Aga Khan Trust for Culture, *Sustainable Landscape Design in Arid Climates* (Geneva: AKTC and Dumbarton Oaks, 1996); Philip Jodidio, *Historic Cities Programme: Strategies for Urban Regeneration* (Geneva: AKTC, 2011); and Philip Jodidio, *Under the Eaves of Architecture: The Aga Khan: Builder and Patron* (Munich: Prestel, 2007).

25 G. Michell, ed., *Architecture of the Islamic World: Its History and Social Meaning* (New York: Thames and Hudson, 1978) was an early volume that stood out for its emphasis on social aspects of architecture.

26 Nasser Rabbat, "What Is Islamic Architecture Anyway?" *Journal of Art Historiography* 6 (2012), http://arthistoriography.files.wordpress.com/2012/05/rabbat1.pdf; Gülru Necipoğlu, "The Concept of Islamic Art: Inherited Discourses and New Approaches," originally published in Benoît Junod, Georges Khalil, Stefan Weber, and Gerhard Wolf, eds., *Islamic Art and the Museum* (London: Saqi Books, 2012).

27 Ruggles, *Islamic Gardens and Landscapes*; and James L. Wescoat and Wolschke-Bulmahn, *Mughal Gardens: History, Sources, Representations, Prospects* (Washington, DC: Dumbarton Oaks, 1996).

28 Michel Conan, *Middle East Garden Traditions: Unity and Diversity* (Cambridge: Harvard University and Dumbarton Oaks, 2008).

29 Attilio Petruccioli, *Dar al Islam: Architetture del Territorio nei Paesi Islamici* (Rome: Carucci Editore, 1985).

30 Attilio Petruccioli, *Fathpur Sikri: Città del Sole e delle Acque* (Rome: Carucci Editore, 1988).

31 E.g., Attilio Petruccioli, "Gardens and Religious Topography in Kashmir," *Environmental Design: Journal of the Islamic Environmental Design Research Centre* 1–2 (1991): 64–73. Exceptions include his "Nature in Islamic Urbanism: The Garden in Practice and in Metaphor," in *Islam and Ecology*, ed. R. Foltz, F. M. Denny, and A. Baharuddin (Cambridge: Harvard University Press, 2003),

499–510. For a major elaboration of his typological research, see Attilio Petruccioli, *After Amnesia: Learning from the Islamic Mediterranean Urban Fabric* (Bari: ICAR, 2007).

32 E.g., Rossella Salerno, "Tradition Type Landscape," *Environmental Design: Journal of the Islamic Environmental Design Research Centre* 1–2 (1989): 94–97. This journal succeeded *AARP: Art and Archaeology Research Papers*, which ran from 1972 to 1980.

33 Wescoat, "The Islamic Garden," 10–19.

34 Attilio Petruccioli and Adreanna Sarro, eds., *Beyond the Wall: Notes on Multicultural Mediterranean Landscape* (Bari: Unione Tipografica Editrice, 2009); and Attilio Petruccioli, ed., "Multi-Cultural Mediterranean Landscapes." Special issue, *Environmental Design: Journal of the Islamic Environmental Design Research Centre*, 2002.

35 Attilio Petruccioli, ed., *Il Giardino Islamico: Architettura, Natura, Paesaggio* (Milan: Electa, 1994).

36 Articles that deal explicitly with landscape and geography in that volume include: Mirka Benes, "The Social Significance of Transforming the Landscape at the Villa Borghese, 1606–30: Territory, Trees, and Agriculture in the Design of the First Roman Baroque Park," in *Gardens in the Time of the Great Muslim Empires: Theory and Design*, ed. Attilio Petruccioli (Leiden: E.J. Brill, 1997), 1–31; Gülru Necipoğlu, "The Suburban Landscape of Sixteenth-Century Istanbul as a Mirror of Classical Ottoman Garden Culture," in Petruccioli, *Gardens in the Time of the Great Muslim Empires*, 32–71; and James L. Wescoat Jr., "Mughal Gardens and Geographic Sciences, Then and Now," in Petruccioli, *Gardens in the Time of the Great Muslim Empires*, 187–202.

37 Maria Eva Subtelny, "Agriculture and the Timurid Chaharbagh: The Evidence from a Medieval Persian Agricultural Manual," in Petruccioli, *Gardens in the Time of the Great Muslim Empires*, 110–128; and Maria Eva Subtelny, "Mirak-i Sayyid Ghiyas and the Timurid Tradition of Landscape Architecture," *Studia Iranica* 24 (1995), 19–60.

38 D. Fairchild Ruggles, *Gardens, Landscape, and Vision in the Palaces of Islamic Spain* (State College: Pennsylvania State University Press, 2000).

39 See also Elizabeth Dean Hermann, "Urban Formation and Landscape: Symbol and Agent of Social, Political, and Environmental Change in Fourteenth-Century Nasrid Granada," Ph.D. diss., Harvard University, Cambridge, 1996.

40 Ruggles, *Islamic Gardens and Landscapes*.

41 Mohammad Gharipour, *Persian Gardens and Pavilions: Reflections in History, Poetry and the Arts* (London: I.B. Tauris, 2013).

42 Conan, *Middle East Garden Traditions*.

43 Compare Irfan Habib, "Notes on the Economic and Social Aspects of Mughal Gardens," in Wescoat and Wolschke-Bulmahn, *Mughal Gardens*.

44 Conan, *Middle East Garden Traditions*, pp. 3–20.

45 Moya Carey and Margaret S. Graves, eds., "Islamic Art Historiography." Special issue, *Journal of Art Historiography* 6 (2012), https://arthistoriography.wordpress.com/number-6-june-2012-2/.

46 T.J. Wilkinson's *Archaeological Landscapes of the Near East* offers a sophisticated overview of "Approaches to Landscape Archaeology" in the Middle East that addresses the interpretation of political economic and cultural dynamics as well as more empirical environmental, spatial, and materials analysis.

47 Kathryn Gleason, 2010 ASLA Honor Award, "The Forensics of Ancient Landscape Architecture: Methods and Approaches to Excavating Relict Gardens and Designed Landscapes," http://www.asla.org/2010awards/383.html; and Amina-Aicha Malek, ed., *Sourcebook for Garden Archaeology: Methods, Techniques, Interpretations and Field Examples* (Bern: Peter Lang, 2013).

48 A small sample includes: Abdulkader Abdulrahman Al-Gilani, "Understanding the Image of the Islamic Urban Landscape," Ph.D. diss., University of Colorado at Denver, 2005; Timothy Power and Peter Sheehan, "The Origin and Development of the Oasis Landscape of al-'Ain (UAE)," *Proceedings of the Seminar for Arabian Studies* 42 (2012): 291–307; Shady Attia, *Landscape Architecture for Micro-Climate Improvement and Energy Conservation in Egypt: Design Principals and Guidelines Applied for the American University in Cairo* (Wageningen: Wageningen University, 2006); Julian Bolleter, "Para-Scape: Landscape Architecture in Dubai," *Journal of Landscape Architecture* (2009): 28–41; G.S.W. Filor, "Landscape Architecture in Saudi Arabia," *Landscape Research* 13 (1988): 23–28; G. Gillot, "From Paradise to Dream Park, Gardens in the Arab World: Damascus, Cairo, Rabat," *Annales de Geographie* 115 (2006): 409–433; Hala Nassar and Robert Hewitt, "Reshaping Cairo's Landscape," *Supercourse: Library of Alexandria, Egypt*, http://www.bibalex.org/Supercourse/; and the chapters in this volume.

49 G. Marcais, Bustan, "The Encyclopedia of Islam," new ed., vol. II (London: Luzac and Co., 1965), 1345–1348.

50 Ruggles, *Islamic Gardens and Landscapes*, 38–50.

51 Makhzoumi, "Landscape in the Middle East," 213–228.

52 Lamia Latiri, "The Meaning of Landscape in Classical Arabo-Muslim Culture," 1–3.

53 See entry for "*nzr*" in Edward William Lane, *Arabic-English Lexicon* (London: Williams & Norgate 1863): 2810–2813, esp. 2813 on scenery and viewing; and online dictionaries such as Almaany at http://www.almaany.com/home.php?language=arabic&lang_name=English&word=LANDSCAPE.

54 Francis J. Steingass, "*Manzar*," in *A Comprehensive Persian-English Dictionary, Including the Arabic Words and Phrases to Be Met With in Persian Literature* (London: Routledge & K. Paul, 1892). *Manzar* refers to a scene, view, or sight. NB: South Asian dictionaries used here are online at http://dsal.uchicago.edu/dictionaries/.

55 Francis J. Steingass, "*Sair*," in *A Comprehensive Persian-English Dictionary* (London: Routledge & Kegan Paul, 1892), 715, which can refer to walking or strolling in a landscape.

56 Cf. John Dixon Hunt, " 'Lordship of the Feet': Toward a Poetics of Movement in the Garden," in *Landscapes of Motion*, ed. Michel Conan (Washington, DC: Dumbarton Oaks, 2003), 187–213.

57 Sulayman Hayyim, *New Persian-English Dictionary, Complete and Modern, Designed to Give the English Meanings of over 50,000 Words, Terms, Idioms, and Proverbs in the Persian Language, as Well as the Transliteration of the Words in English Characters. Together with a Sufficient Treatment of All the Grammatical Features of the Persian Language* (Tehran: Librairie-imprimerie Broukhim, 1934–1936).

58 Middle East Gardens Traditions website, multilingual glossary, http://www.middleeastgarden.com/garden/english/?page=dtysearch&category=glossary&quandie=Comprehensive%20Presentation.

59 S. W. Fallon, *A New Hindustani-English Dictionary, with Illustrations from Hindustani Literature and Folk-Lore* (Banaras: Medical Hall Press, 1879).

60 John T. Platts, *A Dictionary of Urdu, Classical Hindi, and English* (London: W. H. Allen & Co., 1884).

61 George A. Grierson, *A Dictionary of the Kashmiri Language* (Calcutta: Asiatic Society of Bengal, 1932).

62 E.g., Baluch, Panjabi, Pashto, and Sindhi. See dictionaries at http://www.dsal.uchicago.edu/dictionaries.

63 M.R. Ghanoonparvar, *Translating the Garden* (Austin: University of Texas Press, 2001).
64 *Manzar*, http://www.manzar-sj.com/.
65 *Landscape Middle East*, http://www.landscape-me.com/.
66 For example, see the variants and usage of terms presented in tabular form in websites such as the Middle East Garden Traditions website, particularly for Ottoman Turkish words. See diverse Arabic uses at WordReference English-Arabic Dictionary, 2014, http://www.wordreference.com/enar/landscape=source; and Almaany dictionary at http://www.almaany.com/home.php?language=arabic&lang_name=English&word=LANDSCAPE.
67 Lane, *Arabic-English Lexicon*, 2810–2813, which indicates the depth and breadth of linguistic and cultural associations with sight and scene.
68 Lamia Latiri, "The Meaning of Landscape in Classical Arabo-Muslim Culture," 1–17; and Lamia Otthoffer-Latiri, "Les représentations paysagères dans la géographie arabe classique des VIIIe–XIe siècles," 176–191.
69 E.g., of the sort pursued in Dalu Jones, ed., *A Mirror of Princes: The Mughals and the Medici* (Bombay: Marg Publications, 1987).
70 Lamia Otthoffer-Latiri, "Les représentations paysagères dans la géographie arabe classique des VIIIe–XIe siècles," 176–191.
71 D. Fairchild Ruggles, "The Mirador in Abbasid and Hispano-Umayyad Garden Typology," *Muqarnas: An Annual on Islamic Art and Architecture* 7 (1990): 73–82.
72 Ruggles, *Gardens, Landscape, and Vision in the Palaces of Islamic Spain*, 15–33.
73 Karl W. Butzer, "The Islamic Traditions of Agroecology: Crosscultural Experience, Ideas and Innovations," *Ecumene* 1 (1994): 7–50.
74 See the article by Muhammad al Asad, "Landscape and Hardscape," in *Rivers of Paradise: Water in Islamic Culture*, ed. Sheila Blair and Jonathan Bloom (New Haven: Yale University Press, 2009), 315–335 for the type of venue where such engagement between historical and contemporary landscape inquiry has promise.
75 Dianne Harris and D. Fairchild Ruggles, *Sites Unseen: Landscape and Vision* (Pittsburgh: University of Pittsburgh Press, 2007).
76 Abu-Lughod et al., *The Landscape of Palestine*.
77 Stephen Caton and Nader Ardalan, *New Arab Urbanism: The Challenge to Sustainability and Culture in the Gulf* (Cambridge, MA: Harvard Kennedy School, 2010).
78 Subtelny, "Agriculture and the Timurid Chahar Bagh," 111.
79 E.g., Amir Khusrau, *In the Bazaar of Love: The Selected Poetry of Amir Khusrau*, trans. Paul Losensky and Sunil Sharma (New Delhi: Penguin, 2013); and Sa'di, *The Gulistan (Rose Garden) of Sa'di: Bilingual English and Persian Edition with Vocabulary* (Bethesda, MD: Ibex, 2008).
80 Subtelny, "Agriculture and the Timurid Chahar Bagh," 111.
81 Gregory Minissale, *Images of Thought, Visuality in Islamic India 1550–1750* (Newcastle: Cambridge Scholars Press, 2006); and James L. Wescoat Jr., "Picturing an Early Mughal Garden," *Asian Art* 11 (1989): 59–79.
82 *Middle East Garden Traditions*, The Historical Dictionary of Ottoman Turkish Terms for Gardens and Gardening, lists over 12,000 entries, http://www.middleeastgarden.com/garden/english/.
83 Necipoğlu, "The Suburban Landscape of Sixteenth-Century Istanbul as a Mirror of Classical Ottoman Garden Culture"; and B. Deniz Calis, "Gardens at the Kagithane during the Tulip Period, 1718–1730," in *Middle East Garden Traditions: Unity and Diversity,* ed. Michel Conan (Cambridge, MA: Harvard University Press, 2007), 239–268.

84 Re-Forestation Programme of METU, http://www.akdn.org/architecture/project.asp?id=1364.
85 Isabelle L. Lalonde, "Le concept de 'paysage' au Maghreb: mythe ou réalité?" (Montreal: University of Montreal, 2004), http://www.unesco-paysage.umontreal.ca/uploads/documents/concept_isabelle.pdf, http://www.unesco-paysage.umontreal.ca/en/researches-and-projects/Workshop_atelierterrain-marrakech-2004.
86 Aga Khan Award for Architecture landscape projects include Wadi Hanifa in Riyadh, Saudi Arabia; the Middle East Technical University Reforestation Project in Ankara, Turkey; Kassem Square in Beirut, Lebanon, and components of many other projects. See http://www.akdn.org/architecture/.
87 The circulation of *Landscape Middle East* revolves around a core area of the Arabian Peninsula including the United Arab Emirates, the Kingdom of Saudi Arabia, Bahrain, Kuwait, Oman, Qatar, Jordan, and Egypt. A 2011 issue featured women in landscape: http://www.landscape-me.com/2011091269/september-2011-issue-articles/women-in-landscape-dr-hala-nassar.html.
88 Mohammad Shaheer, Geeta Wahi Dua, and Adit Pal, *Landscape Architecture in India: A Reader* (New Delhi: Landscape, 2013).
89 Exceptions in the Middle East include work in Naomi Miller and Kathryn Gleason, *Archaeology of Garden and Field* (Philadelphia: University of Pennsylvania Press, 1997); and Amina-Aicha Malek, ed., *Sourcebook for Garden Archaeology: Methods, Techniques, Interpretations and Field Examples* (Bern: Peter Lang, 2013).
90 Wescoat, "The Islamic Garden," 10–19.
91 As in Anne W. Spirn, *The Language of Landscape* (New Haven: Yale University Press, 2000); and Brian Larkin, "The Poetics and Politics of Infrastructure," *Current Anthropology* 43 (2013): 327–343.

3 In pursuit of a European city

Competing landscapes of Eskişehir's riverfront

Kıvanç Kılınç and Duygu Kaçar

Eskişehir, located in inland Asia Minor, is one of the few cities in Turkey where an urban river has defined a city's landscape to a considerable degree in both physical and political terms. Although the Porsuk River in Eskişehir had suffered from decades of pollution and neglect, recent efforts spearheaded by the current mayor have helped to transform the river into a trademark of the city. Emerging from the city center, a "green spine" has started to develop around which many small and large parks have grown. The main commonality between the new parks is their improved relationship with water – featuring activities and events such as sunbathing at an artificial beach, walking along the lakes, and watching water sports. The parks also offer activities for people of varying income levels, with the goal of providing affordable access to recreation, social services, and public spaces. The revival of the river and the surrounding area has been promoted by the municipality as a marker of Eskişehir's "European" identity, which has been embraced by the predominantly secular electorate.

Such developments have renewed an appreciation for the river among locals, which in turn has raised the value of other related commodities and attracted interest from the private sector. The municipality has used the rising popularity of the city to designate Eskişehir as a tourism destination;[1] in fact, the river is often pictured with its "Amsterdam-type boats and Venice-type gondolas."[2] This is not at all surprising, since contemporary parks all around the world have become increasingly marked by "the commodification of the landscape."[3] Recreational areas are under pressure from "corporate agendas and corporate visions," which "call for landscapes to aid in the consumption of goods and services, landscapes formed to enhance themed or trademarked realities," as well as to spark interest in public ownership.[4]

However, while the development of the Porsuk riverfront has triggered the construction of luxury housing alongside the river basin, the parks around the river are neither owned by private companies nor used to promote the consumption of any specific product. Each still strongly echoes the traditions of the early 20th century urban park. One could perhaps relate them to the Dutch tradition of landscapes that were "formed to enhance public life,"[5] where the aim was not merely to create an escape from the realities

of the city by offering a passively consumed "aesthetic ideal" based on individual contemplation.[6] According to Alan Balfour, such parks represented "a political expression of the need to give form to the idea of community and collective life."[7] Contemporary landscape projects in Eskişehir are driven by a similar political motivation in that "different cultural groups exist together, turning each other's presences into richness."[8] In Mayor Yılmaz Büyükerşen's words, building new parks in the city is the outcome of the municipal government's effort "to establish social peace by enabling different social groups to connect with each other and meet at the same place."[9]

By examining the ongoing Porsuk River rehabilitation project, as well as the largest city park built in its immediate environs, Kent Park (2007), this chapter maps out the changing landscapes of the Eskişehir riverfront from the early 2000s to the present. It locates the increasingly dynamic relationship between the river and the city against the backdrop of the mayor's arduous political challenge of reconciling two opposing currents in urban development – the freely accessed and publicly owned urban parks and the growing thermal and health as well as congress tourism industry based on the free market – both of which compete to define the city's future.

A "European city" in Turkey

Located on important trade routes in central Anatolia, Eskişehir connected the East to the West for centuries.[10] Today it is a modern city with two large public universities and a developed industry. Eskişehir lies at the nexus of the main roads between Ankara, Izmir, and Istanbul, the three largest cities of Turkey.[11] Although quite far away from the typical boundaries of continental Europe, national media and the municipality have increasingly branded Eskişehir as a European city.[12] Now in his fourth consecutive term, Mayor Yılmaz Büyükerşen exerts a type of "Republican populism" typical of 1930s Turkey, which he combines with a European type of social democracy that favors the use of public spaces by people from diverse social, family, and cultural backgrounds.[13]

The availability of public parks in city for use by a mixed-income and mixed-gender populace is a relatively new phenomenon – not only in Turkey, but also in Europe.[14] The popularization of urban parks in the large cities of Europe dates back to the 19th century, and to the Birkenhead Park in particular, where those with lower incomes could mingle with higher-income earners for the first time.[15] These parks were envisaged mostly for individual refinement, "serving as prophylaxis against the degradation of more 'unnatural' forms of environmental shaping."[16] In Ottoman Turkey, the idea of a city park open to public use was first encountered in Istanbul beginning in the 1860s, with Çamlıca Millet Bahçesi (The Millet Garden of Çamlıca, 1870) being one of the earliest examples.[17] Turkish architect and scholar Gönül Evyapan argues that the typical Turkish park, if accessible to the public, is an open space to be walked through and actively used by those

who frequent it, rather than an object of aesthetic appreciation intended primarily to be viewed. New urban parks in Istanbul that showed Western influence also began to take shape in the early 19th century.

These parks were hybrid forms, where the typical characteristics of the so-called French garden were only partially applied, resulting in a "modified and softened formalism" that enabled outdoor living. Thereafter, functionality and simplicity through design were accentuated as the main characteristics of urban parks throughout the late Ottoman Empire.[18] As well as public parks, parks for more commercial uses, such as Taksim and Tepebaşı, were created during the 19th century in Istanbul, the Empire's longtime capital city. According to Evyapan, these parks were modeled on the Vauxhall Gardens (1785) in London, England, where facilities such as cafes, casinos, and kiosks were predominantly frequented by the wealthy.[19] At the turn of the 20th century one could find within Istanbul an abundance of green areas, some in the form of *mesire yerleri* (picnic grounds), an enduring form of leisure in Ottoman and Turkish cities, as well as more Western-style "formal" and "natural garden" city parks.[20]

Following the demise of the Ottoman Empire in the early 1920s, major urban parks in Republican Turkey increasingly reflected the political agenda of the new nation-state, and by the 1930s parks began to reflect Western – more specifically European – civilization. Newly constructed landscapes were seen as representations of the civilized world and the tendencies of the period; they symbolized the adoption of Western types of leisure and sporting facilities, based on new gender relations. Because the new regime sought to transform everyday life via sweeping reforms, urban open spaces were among the new institutions and innovations representing a modern way of living.[21] Early Republican parks and designed landscapes, such as the Atatürk Forest Farm (AOÇ), Youth Park, and Güven Park, became sites where new middle-class living patterns were being enacted.[22]

In this sense, there is a strong historical precedent underlying the secular European image of Eskişehir today. In the early years of the Turkish Republic, Istanbul relinquished its long-standing political reign to the comparatively small town of Ankara, which was designated as Turkey's new capital. Having been the capital of the Ottoman Empire for centuries, Istanbul was not only a symbol of the political, cultural, and economic power of the Empire; it was also an important port and a cosmopolitan hub for international trade, where various ethnic and religious groups lived together. In an attempt to create a nation-state through legal, cultural, and social reforms, the government searched for a model based on Western lifestyles that would replace Istanbul's urban and ethnic heterogeneity with a more homogeneous urban environment.[23] In the 1920s and 1930s, Istanbul was reduced to a popular tourist attraction with scenic representations, while most of the government's energy was channeled toward Ankara. Thus, Ankara soon became the center of an extensive urban development program, featuring modern housing settlements, public buildings and urban parks.[24]

Although planned as a contemporary "Garden City," with large areas of land reserved for green spaces, the feeling persisted that the new capital was no match for the splendor of Istanbul.[25] Most importantly was the fact that Ankara is not located by the sea but in inland Anatolia, where weather conditions are comparatively uninviting. With the goal of compensating for the lack of a seaside in Ankara, water was used deliberately as a key element in each park's design. For example, the Çubuk Dam in Ankara, with its lake and artificial island, gives the impression of a Swiss lake in miniature (Figure 3.1) and became a favored recreational spot for the elites during the 1930s.[26] It eventually became known as the "Bosporus of Ankara" and fulfilled the longing for a seaside among elites who had moved from Istanbul to the new capital.[27] Similarly, the Karadeniz (Black Sea) and Marmara Pools of Gazi Forest were major attraction points for water sports and Western-style recreation. The importance of these pools can be found in their choice of names, with each representing one of the two seas of Turkey, namely Karadeniz and Marmara, an inland sea.[28]

Watercourses and pools had always been an integral part of the Ottoman garden design.[29] On the one hand, the desire to build parks with lakes and pools in Ankara can be linked specifically to the frame of mind in keeping with the Republican ideology of bringing "contemporary civilization" and "modern life" to the hitherto neglected and underdeveloped countryside in Turkey.[30] The longing for a seaside is also related to the obsession with the West, and in particular the Mediterranean identity and culture.[31] In other words, modern urban parks in Ankara were shaped both by an absence and an ideal: the lack of a seaside coupled with a longing for a warmer climate and the desire to encourage a Western type of entertainment. While there is

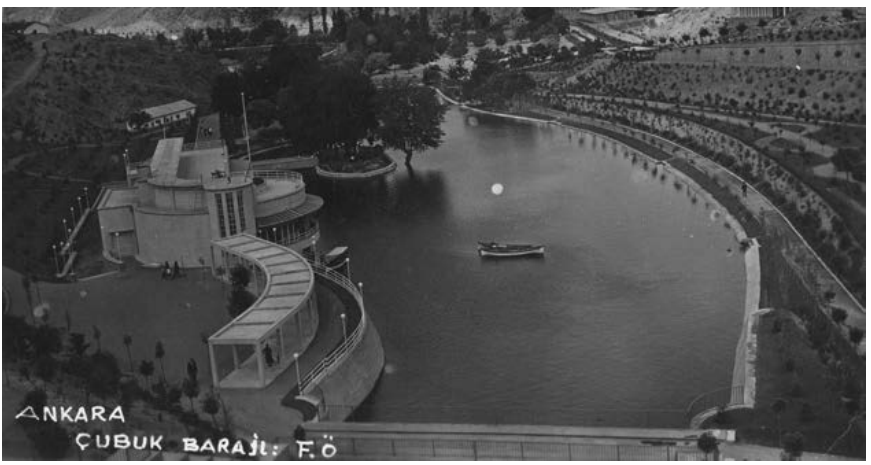


Figure 3.1 Çubuk Dam (1936), Theo Leveau, Ankara, 1930s. (Ankara Photographs and Postcards Archive and Ankara Documents Archive at the Vehbi Koç and Ankara Research Center, Ankara.)

no formal resemblance, contemporary landscape projects in Eskişehir can be situated within this intellectual tradition. Today it is one of the few bastions where the spirit of the secular Republican ideology still defines the political tendencies of its citizens in both local and general elections.[32] As the product of the current mayor's initiatives, the design of the parks in and around the Porsuk River, with its artificial seaside, lakes, swimming pools, and seasonally placed palm trees, is therefore ideologically charged.

The Porsuk River rehabilitation project

Throughout the 20th century, the Porsuk River (along with the railway) has been the basic determining factor in the development of the urban core in Eskişehir, dividing this riverside settlement along an east-west axis (Figure 3.2). Although the river is considered a prime marker of the city's new development, its noticeable effects have not always been positive. Up until the 1960s, the river was used for fishing and even swimming.[33] However, from the 1970s its water became "contaminated due to sewage of the city and waste materials of a textile factory."[34] The problem reached a critical level when the Porsuk River changed color according to the dye used at the textile factory. Further complicating the problem was the 1970s construction of high-rise apartment buildings near the river, which formed an additional barrier between the water and the inner parts of the city.[35]

After funds were secured in the early 2000s, an intensive, decade-long construction and rehabilitation project began, which reflected the mayor's campaign slogan: "Eskişehir, the European City" (Figure 3.3).[36] In addition to beautifying the immediate environment along the river, the project (currently underway outside of the city center) purified the water by cleaning the river basin and regulating water levels; the latter also provides a precautionary measure against natural disasters.[37] At its core, the project represented a larger rejuvenation effort, officially called an "urban development project," which included constructing a tram line (*EsTram*), building pedestrian roads, and erecting new bridges on the river (Figure 3.4).[38] The project also makes extensive use of urban furniture and public sculptures as well as "Venice-type gondolas."[39] *Bizim Şehir*, the newsletter of Eskişehir Metropolitan Municipality, declared that once completed "Porsuk will be very similar to European cities with new bridges, pedestrian paths and ferries."[40] The same issue of this newsletter featured European publications, such as *L'Expansion*, reporting that "the mayor Büyükerşen is dreaming of making Eskişehir Turkey's Strasbourg."[41]

Indeed, the design of architectural and urban elements, such as bridges and railings spread around "the Venice of Anatolia,"[42] borrows from various contemporary European cities. However, instead of a single-focus model, a generic "Western image" is promoted – the end result being an arbitrary patchwork with the utilization of the kitsch rather than a selective borrowing.[43] Most of the public art placed near the river and at various other locations throughout the city has little original value, but is intended to convey the importance of art to Eskişehir's Western-oriented culture

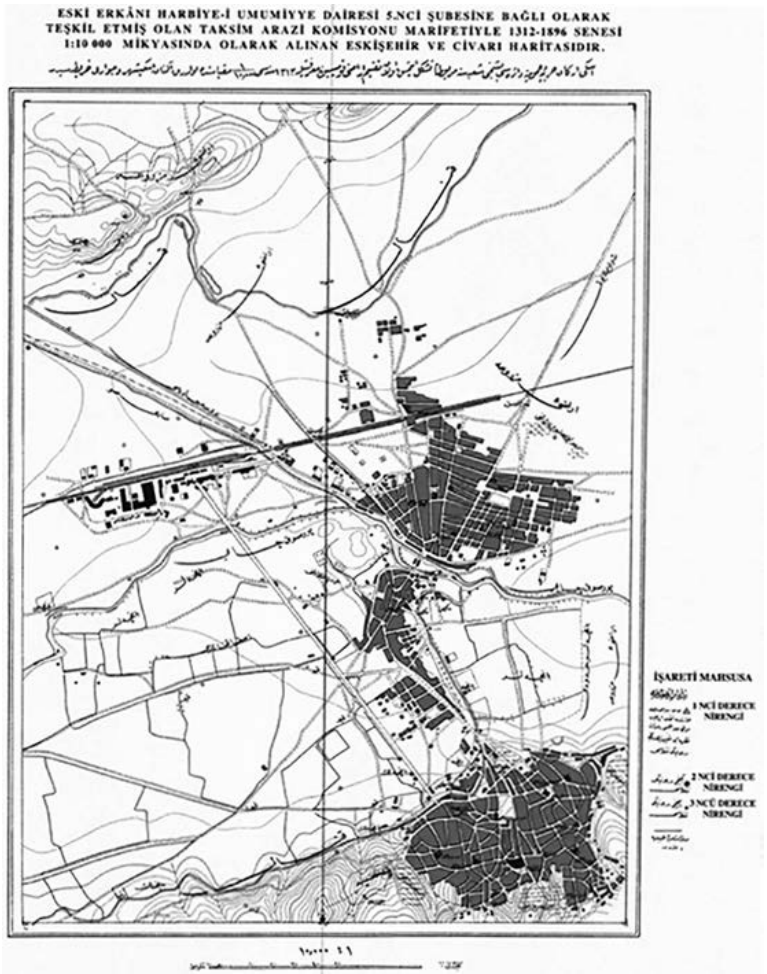


Figure 3.2 The city plan of Eskişehir and its environs prepared by the Ministry of War's Division of Land Commission in 1896. Scale: 1/10,000. (Metropolitan Municipality of Eskişehir.)

Figure 3.3 The Porsuk River Rehabilitation Project from the city center on the left of the image to Kent Park on the right. The image covers approximately 7 km. (Metropolitan Municipality of Eskişehir; Google Earth, January 25, 2011.)

Figure 3.4 The heart of the Porsuk River Rehabilitation Project. Eskişehir's city center (Çukurçarşı, Köprübaşı and Kızılay Districts), 2008. (Metropolitan Municipality of Eskişehir.)

(Figure 3.5). Overall, the most powerful transformation that the project has brought to the city is its renewed connection to the water. Today, due to the rehabilitation of the riverbed, Porsuk features on-river transportation and hosts water sports such as canoeing, which was introduced to the city after the development of the project (Figure 3.6).[44] In other words, the project

Figure 3.5 Public sculpture in front of the Tepebaşı Municipality Building (currently renovated as the Porsuk Hotel), 2014. (Photo by Kıvanç Kılınç.)

Figure 3.6 Water sports tournament on the Porsuk River, 2007. (Metropolitan Municipality of Eskişehir.)

went well beyond improving water quality by creating a new relationship between the city and the riverfront.[45]

Dreams of a seaside and Mediterranean climate

An enhanced relationship between the city and the river brought about the construction of new recreational areas. Leaving behind the fragmented nature of relatively small parks scattered throughout Eskişehir after the 1950s, the urban parks introduced within the last ten years provide a "green spine" through the city.[46] Kent Park is the largest project to extend this green urban core. Directly connected to the Porsuk River through a canal diverted from its original route and a redesigned waterfront, Kent Park covers an area of nearly 300,000 square meters (Figure 3.7). The municipality's official website notes that the park is located close to the international bus terminal, and like other major city parks can be reached easily by public transportation and the river. In addition to its famous artificial beach, an Olympic-size swimming pool, and open swimming pools for adults and children, the park accommodates an artificial lake and island, three restaurants, five kiosks, stables, a riding academy, an open-air fitness area, and other cultural and sports facilities. A former slaughterhouse, which was built in the 1940s, was renovated and is now a restaurant. In addition, the site is adorned by a series of sculptures and monuments, foliage plants, and rose gardens.[47]

Figure 3.7 A view of Kent Park to the city center, neighboring the Eskişehir Sugar Refinery and a luxury housing complex, 2009. (Metropolitan Municipality of Eskişehir.)

Kent Park merges picturesque landscaping elements with formal garden design. As an urban park, it is characterized by its diverse use of water. It also features a variety of plants, irregularly placed secondary walkways, bridges, and gently sloped artificial hills, as well as two main pedestrian walkways that traverse the entire site. In addition to including an elongated pond, the park connects to the Porsuk River and redirects its course to create an open pool and a popular artificial beach. The facilities consist of both open air and indoor recreation. More importantly, the park offers activities for people of different income levels. According to the mayor, the park's water facilities may be the only recreational option available to those from lower-income groups who cannot afford a summer vacation.[48] Also important to note is that together with the rehabilitation of the Porsuk River, property values around the park have significantly increased. Across from the park, TOKİ (Turkey's Central Housing Administration) built a luxury housing complex, and the mayor anticipates other new developments.[49]

Of greater impact, according to Büyükerşen, will be the new parks' role as recreational magnets, frequented by tourists visiting the city, and therefore supporting the growing tourism economy, in addition to functioning as public places for bringing different social groups together.[50] To this end, the designer of the park, Belemir Dalokay Güzer, wrote that it was envisaged as an interface connecting the Porsuk River and Eskişehir, functioning as a "generator site" to enable water to become a larger part of the city. Furthermore, the park is part of a larger strategy to knit a green corridor around the Porsuk River.[51] To this end, the design enhances the role of the river as a means for transportation, redefines the riverfront for recreational use, and prioritizes activities that utilize water (e.g., sporting events) – all of which serve to highlight the visible presence of water in the life of the park.[52]

The most popular facilities of Kent Park are its artificial beach and two swimming pools. Visitors from within and outside the city populate these facilities during the open season; they sunbathe on 5,000 tons of sand – imported from a coastal town on the Aegean – and swim in this little pocket of "sea" (Figures 3.8 and 3.9).[53] This artificial beach receives the most coverage in national media, and is heavily promoted on the municipality's official website as a place that "contains many novelties well beyond the ordinary concepts of recreation,"[54] the most important of which is to "compensate for the lack of a sea in Eskişehir."[55]

With its "imaginary" but also "real" seaside, Kent Park makes "allusions to worlds beyond the garden in place and time"[56] and it is where the "stylization of memory" takes place, in İpek Türeli's words.[57] This also has an interesting precedent in Ankara dating to the 1940s – namely the Youth Park (Gençlik Parkı). This park was located along Station Avenue (İstasyon Caddesi) and connected the Central Train Station to Ulus, the largest commercial center at the time, as well as the famous Ankara Palas Hotel and the Second National Assembly. According to Burcu Yılmaz, the Youth Park represented an attempt to build a proper venue for recreation and leisure for

Figure 3.8 The artificial beach and swimming pools located in Kent Park, 2010. (Metropolitan Municipality of Eskişehir.)

Figure 3.9 Sun beds and sunshades at the artificial beach in Kent Park, 2014. (Photo by Kıvanç Kılınç.)

the middle class. The Youth Park Gazino featured live music and dance, and its artificial lake and short-lived beach formed part of a popular recreational area.[58] In contrast to Kent Park, this "beach" was simply a poolside and lacked sand or palm trees.[59]

Parks on billboards

In "Eidetic Operations and New Landscapes," James Corner discusses two historical sources for the concept of landscape as we understand it today. The first one is *landskip*, which refers to "the seventeenth century Dutch *landschap* paintings." Corner argues: "Soon after the appearance of this genre of painting, the scenic concept was applied to the land itself in the form of large-scale rural vistas, designed estates, and ornamental garden art." According to Corner, this encouraged the formation of landscape architecture as a discipline that attempts to "reshape large areas of land according to *prior* imaging."[60] The second source for the term landscape is the Old German *landschaft*, which implies more than a passively consumed portion of nature. Corner writes that what *landschaft* suggests is the "environment of a working community," and it "comprises a deep and intimate mode of relationship not only among buildings and fields but also among patterns of occupation, activity, and space."[61] Here, the implication of landscape is larger than that of a "green area of city parks" and of the physical artifacts that it accommodates.[62]

The danger in limiting the meaning of landscape and contemporary landscape projects to what *landskip* implies is primarily to place the users of a park at a certain distance from the "complex realities of participating in the world." In so doing it reduces their experience to enjoying a scenic view or walking through a series of artificial, albeit "naturalized," settings.[63] Such an alienating effect has been fostered in recent decades by the increased pace of park privatization; the types of activities that take place within them have been designed and sold by private enterprises.[64]

In contrast, the landscaping elements at the Porsuk River Rehabilitation Project, Kent Park, and other large parks around the river are not dominated by their commercial use. On the one hand, the idea is to attract more attention from the public who can converge freely and make use of affordable facilities, and to create more spaces within which to interact. On the other hand, accompanying the officially proclaimed ideal of "being a European city" is the idea of turning the city into a national tourism center, especially for thermal and congress tourism. This marks a change in the direction of how tourism is perceived in Turkey (that is, sun, seaside, and historical sites), and how Eskişehir came to be defined – namely, through its developing economy and large factories. Büyükerşen sees the future of the city in tourism and in diversifying the city's financial system, as he believes that production has lost its significance in Turkey's economy.[65] In *Bizim Şehir*, for instance, tourism is cited as the city's new source of income and investment,[66] which aims to attract both national and international visitors.

In 2014 the first five-star "thermal hotel and hydrotherapy area" in the city (Rixos Eskişehir) was opened. The project was developed through a public and private partnership where the municipality took the lead in attracting private investment.[67] In addition to the new marketable values such as thermal waters, city aesthetics, and the "seaside beach," there is also a revived interest in well-known local products including traditional *lületaşı* (Meerschaum stone) handicrafts, and *Met Helva*.[68]

Not surprisingly, visitors are making an increasing number of excursions to the city; as such, representatives from other local governments are now visiting Eskişehir to see and experience firsthand the municipal developments being undertaken.[69] While the river is promoted with its "Amsterdam-type boats and Venice-type gondolas,"[70] new urban parks are included among important stops along the "Eskişehir tour."[71] When walking in any of Eskişehir's parks, one is constantly reminded of other available leisure places through the endless circulation of images such as on billboards. The ads have been placed at seemingly random locations, conflating the image of all these green niches within a largely plain landscape to create a unified impression of the city as a place with many recreational areas and attractions (Figure 3.10).[72] Furthermore, the longing for an urban

Figure 3.10 "This Honor Belongs to All of Us." Image of the Fairy Tale Castle (Masal Şatosu) promoted in Kent Park. The Fairy Tale Castle is located in Science, Arts and Culture Park (Bilim Kültür ve Sanat Parkı), 2014. (Photo by Kıvanç Kılınç.)

life by the sea has gradually developed into an admiration of Mediterranean climate and flora that might be found beyond the confines of the parks. For example, palm trees, a regular feature of many tropical and Mediterranean towns, are seasonally placed in various places around the city. Although the municipality uses a type of palm tree that is more suited to colder climates, it is still too cold to keep them out all year long. In order to adapt to the region's climate, the palm trees are carefully stored during the winter in greenhouses, ready to be taken out when the weather outside is suitable.[73] These palm trees have now become part of the city's identity, along with the public parks, artificial beach, renewed river shores, and water sports. Such tactics serve a larger strategy, which is to "make the city more market compatible,"[74] transforming its image from an old industrial city with minimal appeal into a "new find in national tourism."[75]

Competing visions for Eskişehir's urbanscapes

This chapter has shown that the Porsuk River rehabilitation project and the parks that are a part of it (or are connected to it through the "green spine") were designed to extend the city into the park – and the park into the city – in order achieve the "spatial integration" typical of many contemporary riverfront revitalization projects.[76] These revitalization efforts have sought to guarantee the healthy functioning of the urban core as a conglomeration of diverse social groups, each having access to recreation, social services, and public spaces. This undertaking resonates with what Anita Berrizbeitia calls "reciprocity of park and city."[77] Watercourses, lakes, and swimming pools have been used effectively to maintain such reciprocity in an attempt to respond to the longing for a Mediterranean climate, which was inherited from the early planners of the Turkish Republic – the best examples of which were first seen in 1930s Ankara.

With similar climatic conditions to the capital city and as the carrier of Republican populism in its most contemporary form, Eskişehir has gone through dramatic urban transformations in the last decade. In fact, Mayor Büyükerşen and colleagues have taken deliberate steps to amend the model that Ankara created in the 1930s with a social democratic agenda, purporting an amalgam of public ownership (of mixed-class and mixed-use large urban parks) and a free-market economy driven by thermal and congress tourism.[78] It is a fact that the Porsuk River, which was a detriment to the city for many decades due to pollution, has begun to reclaim its nostalgic image as a recreational area. Imagined as a green axis to which a cluster of many small- and large-scale urban parks are attached, the Porsuk River rehabilitation project has dramatically improved the image of Eskişehir.[79] It is not difficult to anticipate that the development of the tourism industry (even if partly subsidized by public bodies) will bring about the construction of luxury thermal and congress hotels, new shopping malls, and gated residential units. These changes, however, are also likely to result in

elevated prices, and eventually, less affordable city spaces for those with lower incomes.

Eskişehir is no stranger to the global phenomenon of growing economic potential and attracting new capital investment. According to Neil McInroy, the main motivation underlying many regeneration projects around the world is to promote "the city for capital investment and impressing artistic elites"; whereas concepts such as "partnership," "community," "co-operation," and "the people" that encircle the discourses of public space can actually work to disguise the real concerns of power.[80] Not surprisingly, as Anthony King has argued in *Spaces of Global Cultures*, many cities in the world today are turning into "spatially re-feudalized cities."[81] Fenced-off luxury settlements swim in an ocean of lower-income neighborhoods; in contrast, city centers are quickly being deserted by the upper and middle classes in favor of less mixed-class suburbs. Over the last two decades, evolving suburban developments in the United States, China, and India have given birth to a number of subcategories such as "suprurbs/globurbs," "ethnoburbs," and "technoburbs."[82] In the Middle East the pace of such transformation is particularly staggering: cities are being built from scratch in compressed amounts of time with little or no concern for decent working conditions – a prime example being Lusail City in Qatar, the host of the 2022 World Cup.[83] From Egypt to the United Arab Emirates and Turkey, signature tall buildings, coastal tourism infrastructure, gentrified residential units, and massive shopping malls have become the hallmarks of Middle Eastern urbanism of the new century.[84] Large-scale landscape projects such as the Dubai Islands are at the center of new transnational endeavors that seek to mark cities of the Middle East as tourism destinations, regardless of the presence of any "authentic" historical building stock that they possess.[85]

Inevitably, the more recent urban and architectural transformation of major Turkish cities, and especially of Istanbul as the economic capital of Turkey, is not independent from their global, and more immediate, regional contexts.[86] The new canal project (Kanal Istanbul), which will cut across the European side of Istanbul and connect the Black Sea to the Marmara Sea; the third bridge spanning the Bosporus; the new airport, with the "world's largest airport terminal under one roof";[87] and new satellite cities to be built right in the heart of the last forests of the city – all are promoted by the national government as "crazy projects."[88] Istanbul's many cultural heritage sites, city parks, and public buildings have been under immense pressure for development, which sparked one of the largest protest movements in Turkey's history in 2013, while the city's shores are being reshaped by a series of controversial regeneration projects.[89] In Ankara, "theme park aesthetics" have invaded not only the parks but also the everyday spaces of the city; the last example, Ankapark, is currently under construction within the borders of the Atatürk Forest Farm.[90]

Contemporary urban parks in Eskişehir and the Porsuk River rehabilitation project are situated against such a backdrop. As has been discussed

in this chapter, the city presents an interesting example where potentially conflicting urban policies are simultaneously or successively implemented. It seems likely that unless the municipality persists in carrying on the public role it has fulfilled until today, such duality has the possibility of undermining the progress made in socially concerned landscape design. In other words, in Eskişehir, contemporary urban parks work to accommodate the contradictory interests of the public and private sector. What will be the ultimate outcome of these attempts to reconcile two opposing currents in urban development – the two competing images of the city's future – remains an unanswered question.

Acknowledgement

We would like to thank Prof. Dr. Yılmaz Büyükerşen, Mayor of the City of Eskişehir; Deniz Kaplan, executive assistant of Mr. Büyükerşen; and Eskişehir Metropolitan Municipality Department of Environmental Protection for their welcoming attitude and their support. We are grateful to them also for allowing us to reproduce images from the Municipality's archives. We would like to extend our thanks to Mohammad Gharipour, and Christopher Ferraris from Yaşar University for their valuable comments and suggestions.

Notes

1 *Bizim Şehir* 20, 3 (n.d.). *Bizim Şehir* is the official newsletter of the Metropolitan Municipality of Eskişehir, http://www.eskisehir.bel.tr/bizim_sehir.php; see also Utku Tekin, "Eskişehir'de Turizm Devrimi" ["The Tourism Revolution in Eskişehir"], *Bizim Şehir* 33, 14 (n.d.), http://www.eskisehir.bel.tr/dosyalar/bizimsehir/33/bizimsehir.pdf.
2 *Bizim Şehir*, 19, 13 (October 2008), http://www.eskisehir.bel.tr/dosyalar/bizimsehir/19/bizimsehir.pdf.
3 Alan Balfour, "Afterword: What is Public in Landscape?," in *Recovering Landscape, Essays in Contemporary Landscape Architecture*, ed. James Corner (New York: Princeton Architectural Press, 1999), 278.
4 Ibid.
5 Ibid., 275.
6 Anita Berrizbeitia, "The Amsterdam Bos: The Modern Public Park and the Construction of Collective Experience," in Corner, *Recovering Landscape*, 187–188; As Berrizbeitia has argued, this was the idea behind the design of the parks that followed the picturesque traditions in the 19th century. Ibid., 192, 198.
7 Balfour, "Afterword," 275.
8 Belemir Dalokay Güzer, "Eskişehir Kent Parkı" ["Eskişehir Kent Park"], *Yenimimar* 36 (April 2006): 14. http://www.yenimimar.com/index.php?action=displayArticle&ID=809.
9 See Selami Kalay, "Küllerinden Doğan Kent Eskişehir" ["The City Born Out of Its Ashes"], *Yeni Asır*, December 3, 2013, http://www.yeniasir.com.tr/sarmasik/2013/12/03/kullerinden-dogan-kent-eskisehir.
10 See Sadun Özel, "Porsuk Barajı'nın Hikayesi" ["The Story of the Porsuk Dam"], in *Eski-Yeni*, ed. Aylık Şehir Kültürü Dergisi 4, 46 (Eskişehir: TC Eskişehir Valiliği, 2012), 44–47. In the beginning of 1900s, Eskişehir was rich in grain, and the miller's trade was an important source of income. Minorities

played an important role both in the economic life of the city and its physical formation.

11 Eskişehir's industry included the Sugar Refinery (1933); TÜLOMSAŞ (1924), which produced train locomotives and compartments as well as the first Turkish car in 1961; the aircraft factory (built as an airplane maintenance center in 1926), which built F-16 warplanes in the 1990s; and Sümer Bank Textile Factory (1965). See Hale Babadoğan, "Urban Projects' Implementations towards a European City: A Case Analysis of Eskişehir Greater Municipality," M.Sc. thesis, METU, Ankara, 2005: 53.

12 See, e.g., "Bu kent Avrupa'da değil Türkiye'de!" ["This City Is Not in Europe but in Turkey!"], May 13, 2010, http://www.emlaktasondakika.com/Kentbolgehaberleri/Bu-kent-Avrupada-degil-Turkiyede/haber-1421.aspx; "Modern Tramway Projesi Başlıyor: Avrupa Kenti oluyoruz" ["The Modern Tram Project Has Begun: We Are Becoming a European City], *Bizim Şehir* 2.5, 1 (n.d.). This ideological positioning has sparked criticism as well as public support. In local media the mayor has often been criticized as an "imitator" or "admirer" of Europe and overlooking Eskişehir's more local or national values. Some others criticized the municipality for not being able to catch up with the standards of a European city, other than some insignificant improvements. See, e.g., Vedat Alp, "Eskişehir'de Gerçekten Kral Çıplak Demek Gerekiyor" ["It Is Really Necessary to Say that 'the King is Naked' in Eskişehir"], *Eskişehir Gündem*, October 28, 2010, http://www.eskisehirgundem.com/?sec=2&yazarid=14590&newsid=44369; Cihan Yıldırım, "Avrupa Kenti Eskişehir Yalanı" ["The Deceit of Eskişehir Being a European City"], *2 Eylül*, October 28, 2012, http://www.2eylul.com.tr/avrupa-kenti-eskisehir-yalani-makale,1232.html.

13 For populism in Kemalist Turkey, see Michael N. Danielson and Ruşen Keleş, *The Politics of Rapid Urbanization: Government and Growth in Modern Turkey* (London: Holmes & Meier Publishing, 1985), 60.

14 Berrizbeitia, "The Amsterdam Bos," 187.

15 This park had a strong influence on Frederick Law Olmsted before he spearheaded the so-called park movement in 19th century North America. Gönül Evyapan, "Peyzaj Tasarımı: Deyim olarak Anlam ve Kapsamı" ["Landscape Design: Meaning and Scope"], *Mimarlık* 93, no. 254 (September 1993): 30.

16 Emma Reisz, "City as Garden: Shared Space in the Urban Botanic Gardens of Singapore," in *Postcolonial Geographies, Southeast Asian Cities and Global Processes*, ed. Ryan Bishop, John Phillips, and Wei Wei Yeo (New York: Routledge, 2003), 123.

17 Ibid., 31.

18 Gönül Aslanoğlu Evyapan, *Old Turkish Gardens, Old Istanbul Gardens in Particular* (Ankara: METU Faculty of Architecture Press, 1999), 138–140.

19 Evyapan, "Peyzaj Tasarımı," 31.

20 Evyapan, *Old Turkish Gardens*, 141.

21 See Duygu Kaçar, "A Unique Spatial Practice for Transforming the Social and Cultural Patterns: Atatürk Forest Farm in Ankara," *METU JFA* 28, no. 1 (2011): 171.

22 Duygu Kaçar, "Cultivating the Nation: Atatürk's Experimental Farm as an Agent of Social and Cultural Transformation," Ph.D. diss., METU, 2010, Appendix; following the works of the German construction firm of Philipp Holzmann, the Swiss architect Ernst Egli (1893–1974) designed the site plan of the farm in 1934. Along with the settlement, Egli designed the main buildings such as the Marmara Köşk (Mansion) of Mustafa Kemal Atatürk, the founder and first president of the Turkish Republic, a Turkish bath, a brewery, dwelling units for workers, a dwelling for Mustafa Kemal's adopted daughter Ülkü, and the 10th Year School, all in "modern" style. See Kaçar, "A Unique Spatial Practice for Transforming the Social and Cultural Patterns," 173; Leyla Alpagut, "Atatürk

Orman Çiftliği'nde Ernst Egli'nin İzleri: Planlama, Bira Fabrikası, Konutlar ve 'Geleneksel' bir Hamam" ["Traces of Ernst Egli in Atatürk Forest Farm: Site Planning, Beer Factory, Housing and the 'Traditional' Hamam"], *METU JFA* 27, no. 2 (2010): 239–264.

23 See Çağlar Keyder, "The Setting," in *İstanbul: Between the Global and the Local*, ed. Çağlar Keyder (Lanham, MD: Rowman & Littlefield, 1999), 3–28.

24 See Sibel Bozdoğan, *Modernism and Nation Building, Turkish Architectural Culture in the Early Republic* (Seattle: University of Washington Press, 2001); Bernd Nicolai, *Moderne und Exil, Deutschprachige Architekten in der Turkei* 1925–1955 (Berlin: Verlag für Bauwesen, 1998).

25 Ankara was planned by Austrian city planner and architect Hermann Jansen (1929). Jansen's city plan envisioned a modern city designed for 300,000 people. Jansen was Camillo Sitte's student at the Technical University of Aachen; he adopted a "picturesque" approach to planning and was a Garden City enthusiast. The main principles that the planner followed were zoning, the use of green belts to separate city functions, and creating "suburban" settlements (*Siedlungen*) in newly developed areas. Sitte supported similar ideals with Sir Ebenezer Howard in England, founder of the Garden City movement. See "Camillo Sitte," *Encyclopedia Britannica*, http://global.britannica.com/EBchecked/topic/546848/Camillo-Sitte; Duygu Saban Ökesli, "Hermann Jansen's Planning Principles and his Urban Legacy in Adana," *METU JFA* 26 no. 1 (2009): 47, 48; Esra Akcan, *Architecture in Translation: Germany, Turkey, and the Modern House* (Durham: Duke University Press, 2012). See also Ali Cengizkan, *Ankara'nın İlk Planı, 1924–25 Lörcher Planı* [*Ankara's First City Plan, The 1924–1925 Lörcher Plan*] (Ankara: Arkadaş Yayınevi, 2004).

26 "The project was designed by the French urban planner and garden designer Theo Leveau in 1936, the refreshment bar/club (*gazino*) fully functioning as late as 1946. As well as the refreshment bar and club which featured jazz and dance entertainment, the facility provided a restaurant." İnci Aslanoğlu, "1930–50 Yılları Ankara'sının Eğlence Yaşamı İçinde Gazino Binaları" ["Club/Gazino Buildings within the Entertainment Life in Ankara 1930–50"], in *Tarih İçinde Ankara II: Aralık 1998 Seminer Bildirileri* [*Ankara in History II: December 1998 Proceedings*], ed. Yıldırım Yavuz and Sevgi Aktüre (Ankara: Orta Doğu Teknik Üniversitesi, 1998), 329, 330; *Ulus* 18/6/1946, 6, cited in ibid., 330.

27 L. Funda Şenol Cantek, *Yabanlar ve Yerliler, Başkent Olma Sürecinde Ankara* [*Strangers and Natives: Ankara in the Process of Becoming the Capital City*] (İstanbul: İletişim, 2003), 243–244.

28 Kaçar, "A Unique Spatial Practice for Transforming the Social and Cultural Patterns," 171.

29 The use of water elements in parks and gardens is a long lasting tradition, developed independent from the Western influence. See Nurhan Atasoy, "Ottoman Garden Catalogue," Middle East Garden Traditions, http://www.middleeastgarden.com/garden/english/?page=ottoman.

30 See the use of the term "Colonization of the Countryside," in Bozdoğan, *Modernism and Nation Building*, 101–105, 147.

31 For the short-lived "humanist" approach within the nationalist discourse in Turkey in the 1940s (which named Anatolia as the source of Turkish culture), see Kaya Akyıldız, "Mavi Anadoluculuk" ["The Blue Anatolia Movement"], in *Modern Türkiye'de Siyasi Düşünce: Modernleşme ve Batıcılık* [*Political Thought in Modern Turkey: Modernization and Occidentalism*], ed. Uygur Kocabaşoğlu (Istanbul: Iletişim, 2002), 465–481.

32 In the most recent local elections (2014), Mayor Yılmaz Büyükerşen received 44.81 percent of the votes; http://www.milliyet.com.tr/2014YerelSecim/eskisehir/eskisehir/IlIlceDetay.htm.

33 Gül Şimşek, "River Rehabilitation with Cities in Mind: The Eskişehir Case," *METU JFA* 31, no. 1 (2014): 28. Flooding was another problem. While waterside houses, wharves, and boats accompanied the river in the past, the damaging floods required the dam that was constructed in June 1972. Özel, "Porsuk Barajı'nın Hikayesi."
34 Murat Küçük, ed., *Eskişehir* (Ankara: Republic of Turkey, Governorship of Eskişehir; Sistem Ofset, August 2010), 54.
35 Özel, "Porsuk Barajı'nın Hikayesi," 46–47.
36 *Bizim Şehir*, 7, 1 (n.d.). See also Babadoğan, "Urban Projects' Implementations towards a European City," 52.
37 European Investment Bank and equities of the municipality financed the expenses of the project. Duygu Kaçar et al., "Involvement of Riverfront as a Natural Artifact into Urban Public Life: Eskişehir Porsuk Case," in *26th International Building & Life Fair and Congress Proceedings*, ed. Tülin Vural Arslan and H. Kübra Eğri (Bursa: UCTEA Chamber of Architects Bursa Section & Section of UIA in Turkey, 2014), 221–229.
38 Şimşek, "River Rehabilitation with Cities in Mind," 28–29.
39 Küçük (ed.), *Eskişehir*, 54.
40 *Bizim Şehir* 7, 2 (n.d.).
41 *Bizim Şehir* 7, 1 (n.d.). More recently, Eskişehir is represented as a role model followed by European cities. One of the news stories featured on the municipality's website, "Eskişehir Continues to Set an Example for Europe," cites visitors from the de facto capital of the European Union, Brussels, who came to Eskişehir to examine revitalization efforts. The news story tells that a project, now approved by the Brussels Municipal Council on March 27, 2014, based on the Eskişehir example, will be implemented for the Anderlecht canal. This project includes building a pedestrian road and a tram rail as well as the landscaping similar to the area around Porsuk, "showing to Europe and the world that that the Eskişehir model is such an exemplary one." "Brüksel Belediye Meclisi Eskişehir Porsuk Modelini Resmen Onayladı. Eskişehir Avrupa'ya Örnek Olmaya Devam Ediyor" ["Brussels Municipal Council Officially Approved the Eskişehir Porsuk Model: Eskişehir Continues to Be a Model for Europe"], (March 28, 2014), http://www.eskisehir.bel.tr/haber_dvm.php?resim_id=348015. The newsletter also proudly announces that Eskişehir became the sixth city in Turkey which had an opera house. See *Bizim Şehir* 13, 3 (n.d.). The municipality offers services for the disabled, workshops, vocational courses and a counseling and solidarity center for women, social service buildings, choirs, summer schools, soup kitchen, and clothing support store, http://www.eskisehir.bel.tr/eng/sosyal_bel_hiz_bina.php; http://www.eskisehir.bel.tr/eng/index.php.
42 "Anadolu'nun Venedik'i" ["The Venice of Anatolia"], *Bizim Şehir* 33, 14 (n.d.) (referring to news coverage of Eskişehir in *Issue* magazine).
43 On the Western tradition of urban parks, see Richard Sennett, *Flesh and Stone: The Body and the City in Western Civilization* (New York: W.W. Norton & Co., 1994), 255–338; Alan Colquhoun, *Modern Architecture* (Oxford: Oxford University Press, 2002), 44.
44 *Bizim Şehir*, 1, 3 (n.d.); The municipality's official project of "setting an example for Europe" is further reinforced by a number of cultural and art events, such as the annual International Eskişehir Festival and numerous individual art exhibitions. These events take place at Anadolu University Symphony Orchestra, the Symphony Orchestra of the Metropolitan Municipality of Eskişehir, the Metropolitan Municipality Opera, and the City Theatres.
45 The rehabilitation project covers approximately 10–12 km of river shore.
46 The earliest urban plan of Eskişehir was held by a competition in 1952 (at 1/5,000 scale) and was approved in 1954 by the Ministry of Development and Housing. The date of this plan can be related to the establishment of the

directorate of land and cadastre in the 1950s. Therefore, it would not be wrong to say that the initial parks of the city that emerged before 1950s did not have a separate plan. On the other hand, one of the earliest parks, the Railway Park, located just in front of the Train Station, took place as part of the design of the Railway Campus. Information provided by the Directorate of Development ("İmar Müdürlüğü"), Metropolitan Municipality of Eskişehir, June 11, 2014.

47 "Kent Park: Eskişehir'in Deniz Eksiğini Gideren Proje" ["Kent Park: The Project which Compensated for the Lack of Sea in Eskişehir"], http://www.eskisehir.bel.tr/icerik_dvm.php?icerik_id=2&cat_icerik=1&menu_id=24; "Kentpark," http://www.eskisehir.bel.tr/sayfalar.php?sayfalar_id=68&menu_id=0.

48 "Kent Park: Eskişehir'in Deniz Eksiğini Gideren Proje"; Büyükerşen also commented that he was happy to see that lower-income social groups that had no access to the theater and concerts now showed a lot of interest and appreciation for these cultural events that take place in the city. *Bizim Şehir* 21, 9 (n.d.).

49 See also "Eskişehir Kent Park Evleri Fiyatı" ["Prices of the Eskişehir Kent Park Houses"], http://emlakkulisi.com/guncel/eskisehir-kentpark-evleri-fiyati/228649.

50 "Bir Uygarlaşma Hikayesi: Eskişehir" ["A Story of Becoming Civilized: Eskişehir"], *mimdap.org*, December 16, 2015 (based on an article in the daily newspaper *Milliyet* published on September 2, 2009), http://www.mimdap.org/?p=24021; İbrahim Güler, "Bu Şehir Hepimizin" ["This City Belongs to All of Us"], interview with Yılmaz Büyükerşen, *Bizim Şehir* 37, 8–13 (2013).

51 See Başak Özer, ed., *Ulusal Peyzaj Mimarlığı Ödülleri 2009–2013* [*Turkish National Landscape Architecture Awards 2009–2013*] (Ankara: TMMOB Peyzaj Mimarları Odası, 2014), 24. See also Güzer, "Eskişehir Kent Parkı," 14. The team that designed Kent Park included Belemir Dalokay Güzer, Leyla Gedik, Simtaç Hocaoğlu, A. Şebnem Arbak, and Müge Durusu (urban and landscape design); C. Abdi Güzer (architectural design); and Sedvan Teber (advisor).

52 *Bizim Şehir*, 1, 3 (n.d.).

53 Şimşek, "River Rehabilitation with Cities in Mind," 30.

54 "Kent Park: Eskişehir'in"; *Bizim Şehir* 19, 1 (October 2008).

55 Ibid.

56 Marc Treib, "Must Landscapes Mean? (1995)," in *Theory in Landscape Architecture, a Reader*, ed. Simon Swaffield (Philadelphia: University of Pennsylvania Press, 2002), 98.

57 İpek Türeli, "Modelling Citizenship in Turkey's Miniaturk Park," in *Orienting Istanbul: Cultural Capital of Europe?*, ed. Deniz Göktürk, Levent Soysal, and İpek Türeli (London: Routledge, 2010), 123.

58 Burcu Yılmaz, "Bozkırdaki Cennet: Gençlik Parkı" ["The Paradise in the Steppes: The Youth Park"], in *Sanki Viran Ankara*, ed. Funda Şenol Cantek (Istanbul: İletişim, 2006), 221.

59 Likewise, in another large park in Ankara, the Atatürk Forest Farm (AOÇ), one of the first structures to be built was a pool (with a capacity of one hectare) for watering the land. See Gazi Orman Çiftliği Müdüriyeti (GOÇM), *Gazi Hazretlerinin Ankara'da Tesis Buyurdukları Orman Çiftliği, 5 May 1925–5 May 1930* [*The Forest Farm which Gazi, his Excellency has Established*]: 2–3 (n.d.). Since collecting water in various seasons and directing the existing streams toward the fields were important, another pool was built with a capacity of four hectares. *Devlet Ziraat İşletmeleri Neşriyatından* (*DZİN*), 1939: 29.

60 James Corner, "Eidetic Operations and New Landscapes," in *Recovering Landscape, Essays in Contemporary Landscape Architecture*, ed. James Corner (New York: Princeton Architectural Press, 1999), 153.

61 Ibid., 154.

62 See Raffaele Milani, "The Birth of the Aesthetics of Landscape," in *Nature as Space: (Re)Understanding Nature and Natural Environments*, ed. Güven A. Sargın (Ankara: METU Faculty of Architecture Press, 2000), 143.

63 Corner, "Eidetic Operations and New Landscapes," 156.
64 These theme parks have evolved into the setting of "real towns," such as Celebration, Florida, by the Disney Corporation. Balfour describes life in Celebration as follows:

> A charmingly landscaped town center with plantings of mature trees and shrubbery convey a sense of cultivation, of rootedness, an illusion of establishment, carefully, and with conscious political intent, controlled. . . . The form of the ideal American small town is here shaped into the packaging for a controlled product – co-opting the public realm, franchising myth.
>
> In other words, it is not a real experience that enables "public sociability," but rather its "substitute." See Balfour, "Afterword," 280–281; see also Michael Sorkin, ed., *Variations on a Theme Park* (New York: Noonday Press, 1992).

65 *Bizim Şehir* 21, 9 (n.d.); *Bizim Şehir* 23, 2 (n.d.).
66 *Bizim Şehir* 33, 1 and 8–9 (n.d.); similarly, the Fairy Tale Castle (Masal Şatosu) in the Science, Culture and Arts Park (Bilim Kültür ve Sanat Parkı) is represented in *Bizim Şehir* as a new addition to the existing supply of tourism values of the city, another investment to attract tourists.
67 The project, situated in Bademlik, Eskişehir, which was commissioned by the municipality, was constructed by a Turkish firm with international outreach, Polimeks, and will be run by Rixos Hotels. See *Bizim Şehir* 39, 1, 8–10 (n.d.), http://www.eskisehir.bel.tr/bizimsehir/39/bizimsehir.pdf.
68 *Bizim Şehir* 33, 9 (n.d.); see also Tekin, "Eskişehir'de," in ibid., 14. Met Helva is a type of traditional sweet popularly consumed in Eskişehir.
69 *Bizim Şehir* 20, 3 (n.d.).
70 *Bizim Şehir*, 19, 13 (October 2008).
71 "Eskişehir Turu: Bilim Kültür ve Sanat Parkı" ["Eskişehir: A Tour of Science Culture and Arts Park"], http://www.eskisehir.bel.tr/eskisehir_turu_bilim_sanat.php; In Science, Culture and Arts Park, one could visit a "Pirate ship," do water skiing in the artificial lake, and play in areas decorated with fairy tale heroes and animal figures, all set against the backdrop of the Fairy Tale Castle. (This park is still partly in construction at Sazova vicinity. The newly added facilities are the Zoo and the Underwater World Center.) The tour is continued with a "gondola ride" that takes place on the Porsuk, reminiscent of Venice canals: "Eskişehir Turu: Gondol Turu" ["The Gondola Tour"], http://www.eskisehir.bel.tr/eskisehir_turu_gondol_tur.php.
72 The much-repeated story about the abundance of water contrasted with the difficult climatic conditions of inland Anatolia is not limited to parks within the close reach of the river. For instance, mentioning the Aquarium (part of the Underwater World Center) built in Science, Culture and Arts Park, *Bizim Şehir* reports that "the center brings the magical world of the underwater with Eskişehirians together" "in the middle of the steppes." See "Bozkırın Ortasında Sualtında Evlenme Teklif Etti. Sualtı Dünyasında Mutluluğa İlk Adım" ["He Proposed in the Midst of the Steppes, Under the Water. The First Step toward Happiness in the Underwater World"], http://www.eskisehir.bel.tr/haber_dvm.php?resim_id=348002.
73 Information provided by the Metropolitan Municipality of Eskişehir; see also *Bizim Şehir* 23, 6 (n.d.).
74 Şimşek, "River Rehabilitation," 25.
75 *Bizim Şehir*, 20, 3 (n.d.); see also Can Pulak, "Bir Turistik Mucize" ["A Touristic Miracle"], *TurizmGuncel.com*, October 3, 2014, http://www.turizmguncel.com/makale/bir-turistik-mucize-m1230.html.
76 Şimşek, "River Rehabilitation, 24.
77 Berrizbeitia, "The Amsterdam Bos," 195.

78 In "Third Way Urbanism," Roger Keil argues that the modernist belief that the city was "a space of possible liberation" is being increasingly replaced by "the image of the city with 'renaturalized' differences of social status, life changes, and citizenship. The neoliberal urban project reveals in the new inequalities that are sometimes clouded in a romantic rhetoric of urban diversity." According to Keil, "the neo-liberal project" does not only aim to move all the obstructions against the free flow of the capital, but attempts to maintain the system "with the most conservative social policies politically possible." Roger Keil, "Third Way Urbanism," *Alternatives* 25, no. 2 (2000): 254, 260. See also Jocelyne Cesari, "Global Multiculturalism: The Challenge of Heterogeneity," *Alternatives: Global, Local, Political* 27, no. 1 (January–March 2002): 5–21.

79 However, not all parts of the riverfront are accessed to the same degree. Especially in the city center, where it is much more crowded, the perception of water is limited because of level differences between the river and the banks; its public use is at times precluded by the use of balustrades between these levels.

80 Neil McInroy, "Urban Regeneration and Public Space: The Story of an Urban Park," *Space and Polity* 4, no. 1 (2000): 25.

81 Anthony D. King, *Spaces of Global Cultures: Architecture, Urbanism*, *Identity* (London: Routledge, 2004), 139.

82 Ibid., 103–106.

83 Philippe Auclair, "Soccer Punch: How Qatar Came to Host the 2022 World Cup," *Newsweek* (Europe Edition), June 12, 2013, http://www.newsweek.com/soccer-punch-how-qatar-came-host-2022-world-cup-224033.

84 See Hasan-Uddin Khan, "A New Paradigm: Glocal Urbanism and Architecture of Rapidly Developing Countries," *International Journal of Islamic Architecture* 3, no. 1 (March 2014): 5–34.

85 Ibid.; Hasan-Uddin Khan, "Identity, Globalization and the Contemporary Islamic City," *International Journal of Islamic Architecture* 1, no. 2 (August 2012): 197–216.

86 See Cana Bilsel, "Kentsel Dönüşüm, Çözülen Kentler ve Parçalanan Kamusal Alan" ["Urban Transformation, Disintegrating Cities and Fragmenting Public Sphere"], *Mimarlık* 327 (2006), http://www.mimarlikdergisi.com/index.cfm?sayfa=mimarlik&DergiSayi=41&RecID=1014; Hatice Kurtuluş, ed., *Istanbul'da Kentsel Ayrışma: Mekansal Dönüşümde Farklı Boyutlar* [*Urban Decomposition in Istanbul: Different Dimensions in Spatial Transformation*] (Istanbul: Baglam, 2005).

87 "Grimshaw unveils 'World's Largest Airport Terminal under One Roof' for Istanbul," *Dezeeen Magazine*, April 16, 2014, http://www.dezeen.com/2014/04/16/grimshaw-unveils-worlds-largest-airport-terminal-under-one-roof-for-istanbul/.

88 "Istanbul's New Stunning Airport," April 24, 2014, http://www.turkishnews.com/en/content/2014/04/24/istanbuls-stunning-new-airport/; Peter Kenyon, "Istanbul's Mega-Projects: Bigger is Better, or a 'Crazy' Canal?" *NPR*, February 4, 2014, http://www.npr.org/blogs/parallels/2014/02/04/267139656/istanbuls-mega-projects-bigger-is-better-or-a-crazy-canal; Yeniistanbul, "Yeni İstanbul'a İlk Adım 2013'te" ["The First Step Towards New Istanbul is in 2013"], blog entry, August 29, 2012, http://yeniistanbul.wordpress.com/author/yeniistanbul/page/3/.

89 See, e.g., Constanze Letsch, "Turkey's Giant Construction Projects Fuel Anger of Istanbul Residents," *Guardian*, June 7, 2013, http://www.theguardian.com/world/2013/jun/07/turkey-construction-anger-istanbul-protests; Emre Azizerli, "Gezi Park: Turkey's New Opposition Movement," *BBC News*, August 25, 2013, http://www.bbc.com/news/world-europe-23795857; A. Humeyra Atilgan, "Fate of Istanbul Historic Train Station Sparks Debate," *Anadolu Agency*, September 5, 2014, http://aa.com.tr/en/life/fate-of-istanbul-historic-train-station-sparks-debate/124974.

90 Ankara Büyükşehir Belediyesi [Metropolitan Municipality of Ankara], "Büyükşehir Ankapark'ı Tanıtıyor" ["The Municipality Is Introducing Ankapark"], March 25, 2013, http://www.ankara.bel.tr/haberler/buyuksehir-ankaparki-tanitiyor/#.VChVpRZ40qs.

4 Inventing the seashore
The Tel Aviv-Jaffa promenade

Elissa Rosenberg

In 2013, the Green Forum, an umbrella organization of forty environmental groups in Tel Aviv, circulated a petition opposing the renovation of the city's seaside promenade. The plan proposed to connect the promenade with the beach below using sections of bleacher seating in place of the existing retaining wall, in order to improve access to the beach and provide new gathering spaces facing the sea. The architects' goal was to create "a place to develop a new beach culture that doesn't exist today in in the city."[1] The plan was opposed because of its encroachment on the beach and its potential environmental damage (Figure 4.1).

Figure 4.1 The first phase of renovations to the Lahat Promenade were completed in 2013. and included new seating, shade structures and paving. (Photo by Aviad Bar Ness, courtesy of Mayslits Kassif Architects.)

The protection of the beach is one of many issues that environmental groups are battling in Israel in the face of intense development pressures in a densely populated country with diminishing open space. Environmental advocacy is a relatively recent phenomenon that has been gaining momentum. But the promenade controversy has stirred up familiar tropes. Its portrayal by the press as a battle of concrete versus sand recalls images that have characterized the planning debate of Tel Aviv's seashore since its earliest years. The contrasting narratives symbolized by these images not only relate to environment issues, but also by extension to the privatization associated with development. "Natural" has been conflated with "public" in the popular imagination. By adding more pavement (and wood), the new plan was perceived to strengthen private commercial interests on the beach and limit public access. Historically, the sandy beach of Tel Aviv has not only been viewed as a natural resource, but also as a democratic urban ground to which every resident – and visitor – has a basic right.

Tel Aviv was the site of Israel's first planned public beach and promenade, and it remains a paradigm for Israeli seaside urbanism.[2] The city first developed inland, with its "back to the sea,"[3] and reached the shoreline only gradually over the course of its expansion. Tel Aviv's relationship to the sea has always been full of contradictions. The seashore has been the site of conflicting pressures and opposing visions since the city was first established. Though marginal and neglected for many years, the beach now plays a central role in defining the city's identity and its secular, relaxed leisure culture. Mediating between the city and the sea, the promenade, or "*tayelet*," has become a significant public space for residents and tourists alike.

This chapter examines the design, use, and meaning of the promenade as a public open space in light of the complex historical relationship of the city to its seashore, and as result of the more recent effects of Tel Aviv's globalized metropolitan culture. The planning of the seashore is discussed in terms of the increasing urbanization of nature that has occurred in the context of changing planning frameworks. It will consider how, in the ongoing process of inventing itself as a city from its founding in 1909, Tel Aviv has invented – and reinvented – its seashore as the site of a changing leisure culture that has shaped the character of the city.

The founding of Tel Aviv and the Geddes plan

The mythic narrative of Tel Aviv's birth, a recurrent theme that has been engrained in the Israeli cultural imagination through visual art and literature as well as popular culture, portrays the city as emerging from a sandy *tabula rasa*. This narrative is more ideologically driven than historically accurate. Tel Aviv developed as a suburb of Jaffa, an ancient harbor city that was a thriving commercial center during the late Ottoman period. It was described at that time as a "city full of life and prosperity surrounded on all sides by orange and lemon groves and trees."[4] With the rapid growth

of the Jewish population in Jaffa in the late 19th century, the first Jewish neighborhoods, as well as new Muslim and Christian neighborhoods, began to be built outside the city walls.[5]

The traditional historiography of Tel Aviv marks the city's founding only in 1909, with the construction of the neighborhood of Ahuzat Bayit; the goal was to found a modern Jewish urban neighborhood in which the new Hebrew culture could develop. The narrative of "the city of the sands"[6] gave a mythic quality to the city's founding, signaling the radical newness and utopian aspirations of the Zionist project. This image not only elides the complex relationships that existed between the new Jewish neighborhoods and the Arab city of Jaffa, but it also erases its former fertile and varied landscapes. Maps and narrative descriptions of the time reference the luxuriant gardens and productive landscapes of groves, orchards, and vineyards that surrounded the city of Jaffa, and on which sections of Tel Aviv were to be built.[7] Thus, the founding myth of the city of Tel Aviv ex nihilo served to disengage it from Jaffa and its maritime identity, and from its own physical landscape context, in which the sea was a dominant presence.[8]

In contrast, everyday life in the emerging city of Tel Aviv reflected a different relationship to the sea. The early neighborhoods did not front the seashore; nonetheless, the beach became a popular focus of Tel Aviv leisure culture. The city has a subtropical Mediterranean climate, with short mild winters; long, hot, humid summers; and no rain for half the year. Before urban parks existed in Tel Aviv, the beach was one of the few outdoor spaces to provide respite from the stifling heat. In 1921, the British Mandate government formally granted Tel Aviv autonomy as a municipal jurisdiction, and one of the early initiatives of the new municipality was to grant concessions to bathing establishments as a source of revenue.[9] Hot and cold bathhouses were established, and cafes, clubs, and small hotels began to line the beach.[10]

In 1922, a luxurious Odessa-style seaside restaurant called the Galei Aviv Casino, designed by well-known architect Yehuda Megidovitch, opened on the beach at the foot of Allenby Street (formerly called the Derekh HaYam or the "Sea Road"). Allenby was realigned to connect with the beach. The three-story building included a winter garden and rooftop cafe that attracted the city's intelligentsia and public figures. Public transportation was also provided from this time, making the beach accessible to residents of Jaffa and southern Tel Aviv, and people would take to the street, walking to the seashore "row by row, or in groups or couples, along Allenby Street, which was long and full of life."[11] By 1924 there were some forty hotels by the beach. According to accounts from 1929, a thousand bathers used the beach daily, and several thousands came on Saturdays.[12] At that time,

> One could enjoy food, drink and dancing in one of the numerous cafes, buy corn, soft drinks and ice cream from the seashore peddlers, play different sports, bathe and swim, hire a deck chair or just walk along the beach.[13]

Figure 4.2 The Tel Aviv shoreline in 1932, with the casino at the foot of Allenby Street. (Courtesy of Library of Congress Prints and Photographs Division, Washington, DC.)

Despite the popularity of bathing, swimming areas were limited. The Tel Aviv sand beach was a short, narrow strip between the Arab neighborhood of Manshiya to the south and Mahlul to the north, an area of temporary housing located on a sandstone (*kurkar*) bluff. Industrial uses, including a tannery and silk factory, were also located along the shore in this area.[14]

The city experienced rapid growth following the transfer of Palestine to British rule after the First World War. Its population more than tripled between 1922 and 1932, from 12,392 to 52,240.[15] Existing neighborhoods were eventually linked together as lands continued to be purchased, and the city expanded to the north and to the west toward the sea. Recurrent outbreaks of violence between Arabs and Jews in 1921 and 1929 triggered the migration of thousands of Jaffa Jews to Tel Aviv.[16] The transformation of Tel Aviv from an ad hoc collection of neighborhoods to an emerging city with coherent spatial conception occurred in 1925 when Patrick Geddes, the renowned Scottish planner, was hired by the Tel Aviv municipality to create a plan for expansion of the city for a projected population of 100,000. Geddes produced a report outlining the planning principles that would structure the city's physical form and provide the basis for new civic culture. Geddes's urban vision was shaped by Garden City concepts; but unlike the idealized Garden City planning of Ebenezer Howard, Geddes's regionalist approach was more nuanced and responsive to existing conditions, adapting to the

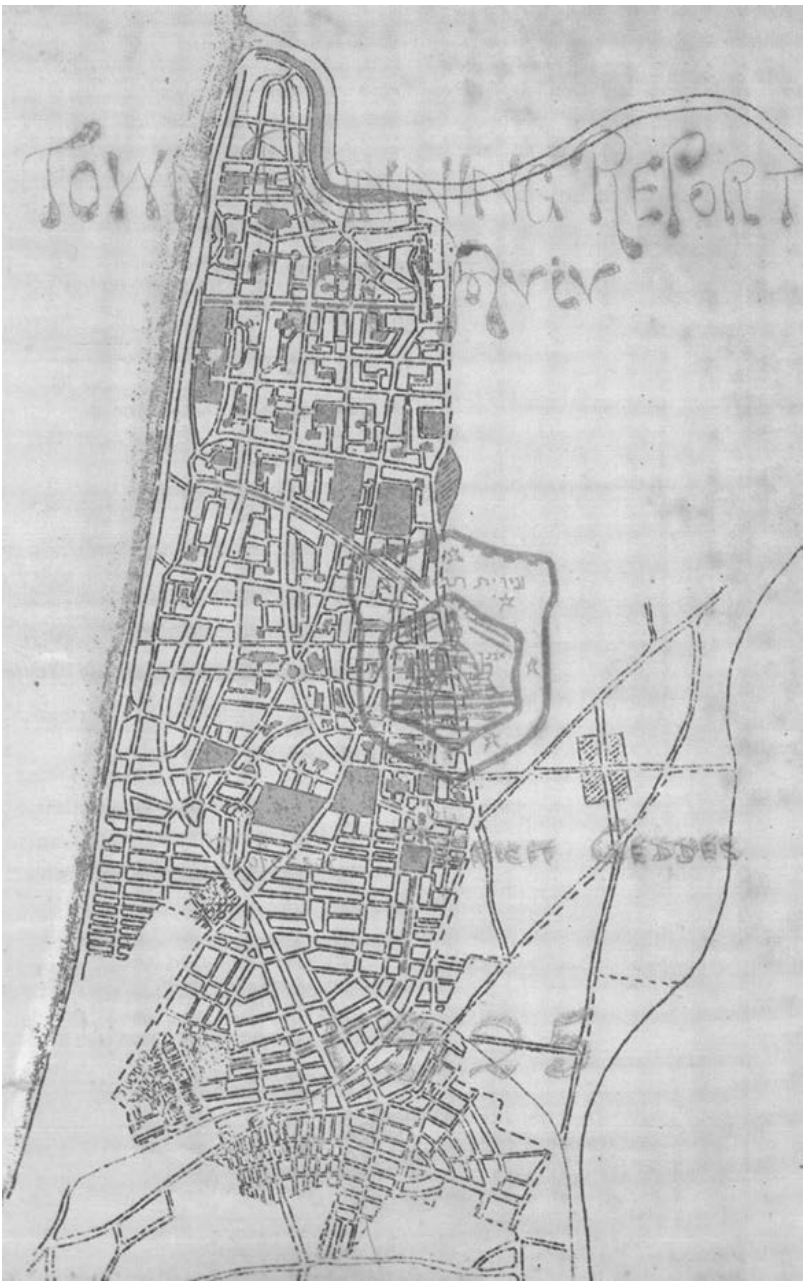


Figure 4.3 Geddes Plan, 1926. (Courtesy of Tel Aviv Municipal Archive.)

topography and natural features, the complex patchwork of existing roads and new Jewish neighborhoods, and to the existing fabric of Jaffa. The plan created an infrastructure for urban expansion, addressing circulation, block types, parcels, and the creation of a "central city feature," an acropolis-like cultural center located on one of the topographic high points of the region. His distinctive urban block was based on a hierarchical irregular grid that was inflected to the topography and existing road pattern. Primary streets (the wider "mainways") were distinguished from the interior streets (the slower residential "homeways"). Each block was arranged around central open spaces that contained community facilities. Within these blocks, the scale and configuration of the individual parcel was established, modeled on the image of a "garden village"; buildings were to be freestanding, two-story buildings with front yards and vegetable gardens in the rear.[17]

Despite Geddes' attunement to Tel Aviv's physical landscape setting, the seashore was not a central feature of his plan, neither as generator of the city street system nor as a significant public amenity. He had proposed that the city expand northward along the Mediterranean coast to the Auje (now Yarkon) River rather than inland to the east; yet the city plan was not oriented toward this increasingly long coastal edge. Only a limited number of east-west mainways connected the city fabric to the sea. In 1935, the national poet and local resident, Chaim Nahman Bialik, would critically observe of Tel Aviv: "There are no long, straight streets, prospects, that extend to great length to give a sense of urban grandeur. In particular, hiding the view of the sea from several streets was a mistake from the beginning."[18]

Geddes recognized the sea's climatic effect on the city and oriented streets and buildings to allow sea breezes to penetrate the urban fabric.[19] Except for this environmental strategy, his recommendations for the shore remained site-specific and local, minimally intervening in existing conditions and land uses. These included a proposal for an urban square surrounded by shops – a "good wide Public place"[20] to be located at "Casino Place" at the foot of Allenby Street, where a thriving cafe culture already existed. He proposed to create a nature preserve on the site of the Muslim cemetery located on a cliff overlooking the sea north of the beach. Brief mention is also made to the development of a "Sea-shore Drive" that Geddes predicted would some day run along the shore from Jaffa all the way to the Auje River alongside existing industrial uses.[21] This idea was not fully developed; it was not tied into the urban circulation system or to the bathing culture that already existed on the beach.

Geddes's report provided the basis for a physical plan that was developed by the City of Tel Aviv's technical department and approved in 1926 by the city council and by the planning board of the British Mandate in 1927. The plan's street and block structure was implemented as the infrastructure for the expanding city. By the 1930s the population had tripled again with the influx of immigrants prior to the Second World War. Because of increased housing demand, the plan was later amended in 1938 to provide higher density. The garden village houses of the original plan were replaced with freestanding four-story apartments set within the Geddesian parcel, which

were eventually designed by European trained émigré architects in the international style.[22] Although his plan was not fully realized, the city's basic structure developed as a result of Geddes's vision, establishing the unique scale and vitality of the Tel Aviv street and its role as the center of urban social life.[23] But the character of the seashore was left to future planners to develop.

Inventing the beach: the first promenade

Improving the seashore had become a municipal priority by the early 1930s, a period of increasing economic growth and relative prosperity. Public advocates and planners had high ambitions for the seashore, imagining it as the basis of European-inspired leisure culture – a Tel Aviv "Riviera."[24] European seaside resorts had originated the mid-18th century along the North, Baltic, and Mediterranean Seas, founded as commercial ventures that shaped a new form of seaside urbanism.[25] Resorts promoted the health benefits of the sea air and salt water, and typically incorporated musical and theatrical entertainment, casinos, dancing, parties, and a variety of curiosities such as zoos and aquariums. The promenade was its iconic centerpiece; walking along the shore was key feature of the seaside holiday, allowing the visitor to take in the sea air and gaze at the spectacle of the sea. It is to these well-known European exemplars – of Nice and Naples, as well as Odessa, the birthplace of many of the cultural elite and city founders – that Tel Aviv planners looked in their desire to transform Tel Aviv into a Mediterranean resort city.

From the beginning there was a fundamental tension between private interests and the public claim to the seashore. The seashore was perceived as "a natural gift," a basic public resource which every resident was entitled to use: "the secret of (the seashore's) allure lay in the residents' sense that together they all owned the beach."[26] In Tel Aviv's early period before the existence of municipal parks, the beach functioned as the city's main recreational open space. In his call to improve the seashore in the early 1930s, Chaim Nahman Bialik emphasized its public recreational role, citing the lack of public parks: "Since we don't have boulevards . . . or parks yet, where will we go?"[27] In 1933, the city launched a competition for a seashore plan. The competition brief underscored the public role of the beach, which was especially important "in the absence of squares, parks and other adequate public spaces."[28]

None of the competition schemes won, however, and instead Mayor Dizengoff commissioned French engineer and developer Claude Gruenblatt to develop a large-scale reclamation project.[29] The Gruenblatt Scheme, as it was known, proposed the reclamation of 350,000 square meters of land from the sea for the speculative development of a tourist center, promoted as a source of revenue for the city. The proposal included hotels, recreational amenities and residential buildings, focused on a central public garden, and bounded by a new promenade twenty-five meters wide. The project, which was approved by the municipality and the British Mandate government in

1936, immediately sparked an emotional public debate over the future character of Tel Aviv's seashore. The Gruenblatt Scheme was opposed on the grounds that it would deny public access to the sea, destroy the city's natural beach, and block the sea breezes.[30] Citizens organized a protest and submitted a petition against the plan. Given the lack of a culture of public participation in the planning process, this citizens' protest was unprecedented and attests to the intensity of popular sentiment for the seashore.[31] Gruenblatt's plan was never implemented, yet it set the terms for a debate that continues to polarize the planning of the seashore to this day, pitting development against preservation and private commercial interests against the right to public access.

The first promenade was built following this controversy, based on the plan of city engineer Ya'akov Ben Sira (Shiffman) for "the improvement of the seashore" in 1939–1940. Unlike Gruenblatt's proposal, the plan by Ben Sira envisioned the beach as a public space. But, according to Ben Sira, in order to thrive as a public urban space, the spontaneous qualities of the beach must be ordered and controlled.[32] The plan addressed "the need for the separation between the city and the beach by an engineered structure that would serve as a frame for the city."[33] The promenade was meant to instill a sense of decorum by creating a clear boundary between the city with its social codes and the permissive zone of beach culture. Along with separating the city and the beach, the plan was to bring order through a zoning approach that separated the various beach activities. The beach was not viewed as a single, monolithic space. The "water, sand and sun" were treated as discrete zones, each associated with distinct and usually conflicting activities, cultures, and codes (Figure 4.2).[34]

The functional separation of the activities of swimming, sunbathing, and walking implicitly suggested the separation of the distinct social groups that were associated with each realm. Ben Sira proposed to relocate the bathhouses and other structures that had filled the beach in order to provide more space for bathers and open up views of the sea. A new public space was created based on the newly constructed sea view that came into being as a result of clearing the beach. At the same time, as Azaryahu and Golan noted, "The decision to avoid construction on the beach area reinforced the special status of the beach as a sphere of nature. The promenade was thus the interface between 'nature' and 'civilization.' "[35]

The first promenade was an artifact of this binary conception of city and nature, but by spatializing the boundary between the city and sea the promenade participated in both realms, supporting an urbane seaside culture of walkers. From this landscaped space of planting and seating, one could watch the sunset and experience the sea without having to touch the sand. Its design language, consisting of formal rows of trees and benches, highlighted its sense of urbanity. The formal language of the promenade continued in London Park, where a series of paved terraces joined the promenade with the urban street above.[36] The invention of the promenade as a mechanism of

separation effectively preserved the radical difference between the city and the beach, intensifying the experience of beach as an open untouched space of nature, while allowing for a new form of leisure culture to take hold (Figures 4.4, 4.5 and 4.6).

Figure 4.4 View of the new promenade, 1941. (Photo by Zoltan Kluger, courtesy of JNF Photo Archive.)

Figure 4.5 Early view of the promenade. (Courtesy of the Library of Congress Prints and Photographs Division Washington, DC)

Engineering the seashore: traffic, sewage, and sand

The beach underwent a long period of decline beginning in the 1950s. The government declared a ban on swimming in the Tel Aviv beaches in 1950 due to the contamination of the water.[37] Tel Aviv's new sewerage system included six new sewage outfalls that released the city's untreated sewage into the sea.[38] With the closing of the beaches the promenade became increasingly marginalized and neglected. The decline of the seashore had become a municipal issue by the late 1950s, and large-scale planning efforts were directed toward its revitalization. The election of the Labor Party to municipal government promoted new alliances between the national Labor government and municipal agencies, creating a new structure of state-municipal development corporations charged with project-oriented urban redevelopment.[39]

The Tel Aviv planning discourse of the 1960s was influenced by both worldwide trends and local ideology. During this period Tel Aviv, like many Western cities, experienced negative growth, losing population to its expanding first-ring suburbs. This trend was reinforced by the national planning policy of "population dispersal," established in Aryeh Sharon's 1954 National Plan, the goal of which was to distribute the population in order to attract settlement to the periphery.[40] This dispersed pattern, along with the growth of car ownership, made traffic engineering a key issue that began to dominate the planning discourse. Urban renewal, based on the wholesale clearing of neighborhoods, was adopted as an urban panacea.

This policy served a political agenda that neatly aligned with private commercial interests.[41] It was also consistent with the traffic engineering approach that introduced wide arterial roads to the existing urban fabric. The clearing of the two shoreline neighborhoods that had bounded the promenade until now – the former Arab neighborhood of Manshiya to the south and Mahlul, the Mizrahi immigrant neighborhood to the north – provided new opportunities for large-scale land assembly, suggesting new programs and scales of development. A new central business district was planned to replace the cleared neighborhood of Manshiya aimed at uniting Tel Aviv with Jaffa.[42]

If until now planners approached the seashore as a self-contained area along the city's margins, by the 1960s it was now seen in its larger physical context, playing a role in achieving wider urban and ideological goals. In contrast with Ben Sira's conception of the promenade as a means of separating the city and the sea, the seashore was now imagined as the monumentalized centerpiece of ambitious urban megaprojects and multilane roads that erased the existing urban fabric and created it anew. Not all of these plans were realized, although they shaped the urban vision that would influence the eventual redevelopment of the seashore promenade, its adjacent tourist-based development, and a six-lane road along the shoreline.[43]

Fundamental to the revival of the seashore was the engineering of its two primary elements: water and sand. The development of the seashore was enabled by two new infrastructural systems. The first was the decades-long installation of a new city-wide sanitary sewer system that diverted city waste to a new treatment plant located south of the city. By 1965 the first two segments of a new trunk line had been completed, allowing the removal of two outfalls at the sea. The seawater was pronounced "clean" and the beaches were reopened that year.[44] The full system was not fully on line until 1982.[45] The second significant public works project concerned the systematic widening of the sand beaches via the construction of eight breakwaters during the 1970s.[46] This promoted the accretion of sand that effectively widened the shoreline to a strip averaging eighty meters wide. This reclaimed land not only added depth to the beach; it also provided the minimum dimensions required to widen the promenade and add a six-lane shore road.

In 1968 a joint state-municipal development corporation (Atarim) was established to develop tourism in Tel Aviv and "bring life back to the seashore."[47] By this time tourism was already taking hold, as evidenced by the fact that leading international chains began to build high-rise hotels along the seashore. Private recreational facilities were built, including a marina and a swimming pool.[48] Atarim was charged with coordinating the planning of the seashore, as well as providing the public infrastructure of roads, parks, and beach services in order to attract private investment along a 4.3-kilometer strip from Jaffa to the Yarkon River. Its stated mission purported to balance the needs of residents with the provision of tourist facilities, based on projections of one million annual tourists per year by 1980.[49] The goal was to leverage private investment for the development of public facilities. A team of four Tel Aviv architectural offices was hired to produce an overall plan, headed by the office of Ya'akov Rechter.[50] The centerpiece of the plan was the design of a new promenade to connect these new amenities and give the seashore a new identity. The old structure was demolished and the first segment of the new wider promenade opened in August 1982, followed by the second phase in 1984, which was later named the Lahat Promenade after Mayor Lahat, who guided its development (Figure 4.7).

The new promenade established a coherent identity along its length through its distinctive paving pattern, reminiscent of Burle-Marx's Copacabana Beach in Rio, and its curvilinear form, which offset it from the city street grid. The railing was removed and replaced with low planters along its edge, creating stronger visual spatial continuity with the beach. Access to the beach occurred at the stairways and ramps located at regular intervals, aligned with existing city streets. The streets terminated in public overlooks set on the roofs of the cafes that were located at each entrance, accessed from the beach level below the promenade. In contrast with the first promenade's rhetoric of separation, the Lahat Promenade was based on a vision in which the beach was an integral part of the city and its infrastructure. An

Figure 4.6 Robert Capa, "The Promenade, Tel Aviv Beach," 1948. (Collection of the Tel Aviv Museum of Art. Photo: Elad Sarig)

analogous large-scale process of development and reconstruction was being applied to both the city and the sea.

The character of the seashore had been substantially changed. With the completion of the promenade, the beach once again became a public destination and a lively center of activity for local residents after many years of unsanitary conditions and public neglect. The small-scale businesses, bars, and restaurants that had lined the street next to the promenade were gradually replaced by a row of hotels, and high-speed traffic now filled the newly widened road adjacent to the promenade. The foundation was laid for a growing international tourist industry focused on the beach.

Despite intensive private development, the beach preserved its public character. Atarim maintained a delicate balance between its dual mission of promoting tourism through attracting private investment and upholding the public right to the beach. For Rechter, these goals were not in conflict but

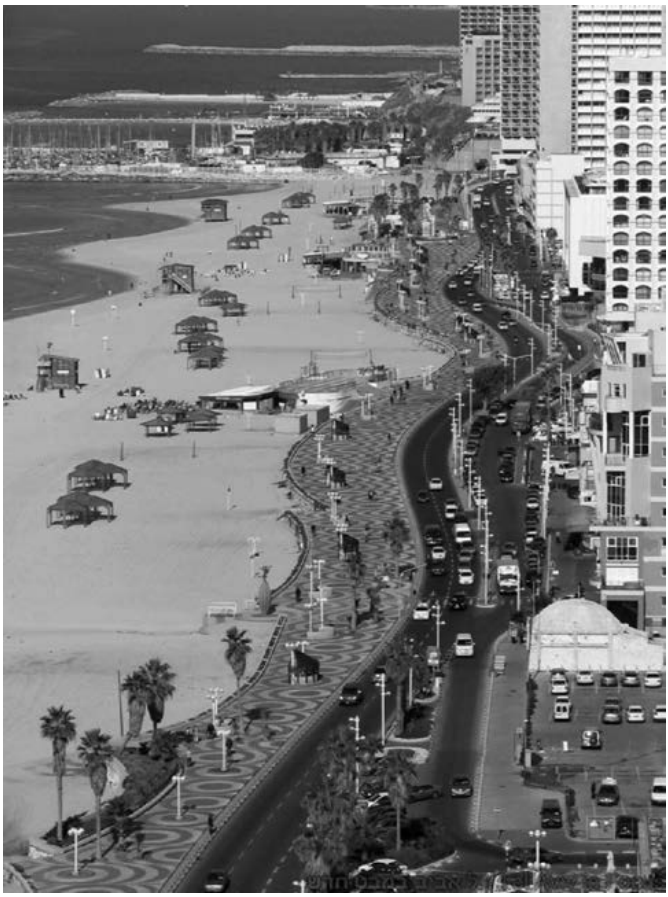


Figure 4.7 Lahat Promenade designed by Rechter Architects – aerial view. (Courtesy of Haratapuz hagadol blog – Tel Aviv blog)

rather mutually supportive. He claimed that "towers on the beach are a good thing, and the commercial activity and tourist activity along the beach is something that many cities are proud of."[51] Interestingly, he cited the examples of Monaco and Nice, models that had been continually evoked by Tel Aviv planners since the 1930s.[52] Atarim took the position that the hotels needed the additional height in order to minimize their footprint, so that views to the sea and the circulation of air could be preserved between the buildings.[53] Access to the beach remained free; Atarim proposed removing the fencing that blocked public access and argued against charging flat entrance fees unless they were based on specific services: "People should be free to use services as they wish, and if someone just wants to sit on the sand – that's their right."[54]

Figure 4.8 Giv'at Ha'aliya beach in Jaffa, designed by Giler-Lederman Architects as grassed terraces to accommodate families and small group activities. (Courtesy of Albatross)

The growth of tourism and the increasing commercialization of the beach did not erode the basic public right to the sand. The beach evolved into an active recreational space; in addition to swimming, sunbathing, and surfing, it became a magnet for pickup sports such as volleyball and paddleball. Regular meetings of folk dancers, drummers, prayer services, yoga practitioners, and a variety of other groups created new traditions and informal communities associated with the beach and promenade. The beach supported a number of subcultures and identities, with separate beaches assigned to religious Jews (offering an alternating schedule of gender-separated swimming), gays, and even dog owners. The design of the Jaffa section of the promenade adapted to local social patterns; taking advantage of the natural topography, the promenade was organized into grass terraces to form outdoor rooms that accommodated the gatherings of large extended families, typical to Jaffa culture (Figure 4.8).[55] A pluralistic public culture had evolved on the beach, perhaps more so than in any other public space in the city.

From beach to waterfront: globalization, locality, and connectivity

Since 2000, the Lahat Promenade has expanded to the north and south, linking Tel Aviv with Jaffa and its neighboring towns. A series of new developments along its length have added a new dimension to the promenade, affecting its urban role and its performance as a public space. The promenade has expanded beyond the beach to create a continuous urban waterfront. It

is no longer characterized by the singular gesture and strong urban identity of the Lahat Promenade that was closely tied to the beach. The large-scale urban operations of the 1960s and 1970s, including the reconstruction of urban neighborhoods and the engineering of the beach, have been replaced by a more project-based approach. The extension of the promenade to the north and south now connects new projects on sites of deindustrialized public works, including the decommissioned port of Jaffa to the south and the port of Tel Aviv to the north, as well as the formerly inaccessible waterfront edge surrounding the Reading power plant. The redevelopment of these areas follows global patterns of waterfront development and has added a new post-industrial character to the promenade.

During the 1980s the outward flow of Tel Aviv's population to the suburbs was reversed, and young singles and middle-class families began to return to the center city. This new interest in urban living, which mirrored global trends, provided the impetus for a wave of renovation and the eventual gentrification of many of Tel Aviv's historic neighborhoods. The 1985 Tel Aviv master plan (known as the Mazor Plan) reflected and supported these trends by recognizing the significance of the city's quality of life, historic architecture, and cultural capital. This approach to urban revitalization was more modest than in previous decades and was based on enhancing the existing urban fabric and preserving architectural resources as opposed to wholesale urban renewal–style redevelopment. This interest in preservation, which first emerged as early as the 1960s, was now fully developed as a revitalization strategy. During this period, in an effort to continue to attract the middle class, the city encouraged development projects that enhanced the quality of life, including luxury high-rise residential towers as well as new forms of leisure spaces.[56]

Recent developments along the shore reflect these demographic and cultural shifts, as well as larger global trends. With the advent of deep-water container port technologies in the 1960s, traditional urban ports became obsolete.[57] New uses were sought for these derelict urban sites, resulting in a worldwide wave of waterfront redevelopment. Places of production were converted into places of consumption, creating new commercial leisure centers that shared a common set of formulas.[58] Ports have been ideal sites for creating a unique brand of postmodern consumer culture. Their large-span industrial architecture has been exploited to "merchandise history,"[59] to cultivate niche markets and offer flexible space for cultural and commercial facilities. The postmodern waterfront is thus characterized by a basic paradox: it draws upon local history and unique architecture to create place identity, while adhering to a generic globalized pattern common to waterfront redevelopment worldwide.[60]

The Tel Aviv port, located just north of the central beach, operated until 1965 when a container port opened in Ashdod. In 2003 the port facility and the adjacent former Levant Fairgrounds were redesigned as a commercial and leisure center based on the waterfront model.[61] Cafes now line the

enclosed basin, and the historic hangar buildings have been redesigned as upscale restaurants, shops, galleries, performance spaces, and a farmer's market. An extensive undulating wooden deck was built along the seawall, which has become a haven for cyclists and skateboarders (Figure 4.9). The Jaffa port has emulated the extraordinary success of the Tel Aviv port, with the reuse of hangars as galleries, shops, and restaurants set within the historic port area.

These two port projects are a product of increasing globalization of architectural production. But as sociologist Uri Ram has argued, rather than viewing globalization as a force that creates universal cultural uniformity and erases local difference, it is more accurately understood as a two-way street in which local culture provides an opposing vector to the homogenizing forces of globalization. In his words, local culture "suspends, refines or diffuses the intakes from globalization so that tradition and local cultures do not dissolve; they rather ingest global flows and reshape them in the digestion."[62] Ram's argument offers a framework for understanding the hybridity of the new leisure culture at the ports as local variants of the global waterfront phenomenon, even if its local idiom tends to reflect a symbolic expression of social reality and not its deeper structural relationships.[63]

The architecture of the Jaffa Port renovation offers a local reinterpretation of the postmodern waterfront typology through the lens of the site's layered history. Memory and history were the generators of the design of the promenade at this section, which was conceived in response to the discovery of the destroyed Ottoman city wall,[64] as well as the later historical

Figure 4.9 Renovation of the Tel Aviv port and promenade by Mayslits Kassif, Architects. (Photo by Adi Brande)

layer represented by British port architecture of the 1930s, reflected in the industrial detailing and choice of materials.[65] The port's former use as an active fishing harbor is also accommodated in the design of the new sea wall, which provides places for fishing in order to retain the harbor's original local character and function. The fishing economy, however, has a fragile coexistence with the globalized consumer culture of the waterfront. Despite the port's unique historic setting, the sense of locality has become, in Ram's terms, more symbolic than structural.

The Tel Baruch section of the promenade near the Reading power plant (2009) is another example of a postindustrial reuse.[66] Here, the sense of locality is invoked through the design of the landscape (Figure 4.10). This section extends the promenade to the north of the port through the formerly fenced, inaccessible land of the Israeli Electric Company, setting it within a naturalistic park planted with low, nonirrigated coastal vegetation. As in many derelict industrial sites, the lack of access over a long period had the effect of preserving the site's unique ecology and allowing volunteer species to flourish amid the original *kurkar* rock formations. Against the looming backdrop of the electric plant, a 1930s icon of modernist industrial architecture, this section of the promenade was designed to amplify its local shoreline qualities by restoring the native Mediterranean coastal environment, which has been all but erased elsewhere along the promenade.

In addition to the phenomenon of Tel Aviv's postmodern waterfront, two further themes are related to the promenade's expanded role: first, its metropolitan scale and the associated discourse of connectivity; and second, the promenade's infrastructural role as a space of movement. The promenade has been reshaped by a metropolitan conception that defines it as a regional connector. Originally designed to be experienced from east to west, in a sequence from the city to the sea, the promenade is now a linear system that is experienced along its north-south length. Current plans call for the extension of the promenade to the north and south to form a continuous fourteen-kilometer urban edge that will eventually link neighboring cities Herzliya to the north to Bat Yam in the south. This new scale is a function of a recent metropolitan discourse that emphasizes the value of connectivity and shared regional resources. It also reflects a new physical reality in which sprawling urban growth has effectively blurred the boundaries between Tel Aviv and its adjacent communities.

The expanded scale is also a result of the changing speed of movement along it. The culture of the leisurely stroll that gave rise to the promenade has been supplanted by a sports culture of jogging and cycling that has animated it in new ways. This transformation has created a new open space typology of linear parks that has been proliferating worldwide on postindustrial sites such as abandoned rail lines and viaducts, canals, and other disused transportation corridors.[67] The park's linear form and metropolitan scale encourages it to operate as flexible infrastructure. Landscape designer Diana Balmori observed the new adaptable urban potential

Figure 4.10 Coastal plantings along the Tel Baruch Promenade near the Reading Power Plant designed by Braudo Maoz, Landscape Architects. (Photo by Oyoyoy CC BY-SA 3.0, courtesy of Wikimedia Commons)

of the linear greenway, as distinct from the traditional urban park, whose length and linear form allowed it to cut through multiple urban neighborhoods making it more accessible as well as more socially and functionally diverse.[68] The contemporary Tel Aviv promenade has come to assume multiple identities and functions in accordance with its varied local site conditions, while forging a new form of connectivity along the city's edge that was never successfully achieved within the urban fabric itself. The city's goal of creating a continuous, uninterrupted path along the shoreline has had a significant impact in promoting more socially diverse use of its open spaces, particularly evident in the flow of movement between Tel Aviv and Jaffa. The promenade has become a shared space between Arab and Jewish communities based on movement and the informal social mixing it promotes.

Conclusions

The interstitial nature of the urban seashore, caught between the city and sea, points to an inherent tension in the historic meaning of this space. The binary conception of city and nature, a legacy of modernism, had been a potent force shaping its meaning. The struggles over the planning of Tel Aviv's promenade reflect competing claims on the seashore: on the one

hand, as a space that plays a strategic role in the urban plan; on the other hand, as the city's "other," a natural space that remains separate from the city, outside the norms and everyday routines of urban life, subject to natural forces and processes.

The deeply held sense of the public ownership of this natural resource helped to establish a populist, democratic public culture on the seashore, which was effectively Tel Aviv's first public open space. The Tel Aviv promenade was first conceived in the 1930s as a mediating element that provided an interface between the city and the beach. This simple zoning conception of the promenade as a separator between urban social codes and beach culture changed with advent of the urban megaproject – characteristic of urban renewal of the 1960s in Israel and beyond – that was couched in the ambitious rhetoric of uniting Tel Aviv and Jaffa. The Lahat Promenade was the product of the large-scale planning of this period that sought to integrate the seashore into a larger urban vision. It depended on a new scale of operation that included regionally scaled engineering systems to treat Tel Aviv-Jaffa's greatly increased sanitary waste, and a system of breakwaters to nourish and widen the beaches.

Over the last twenty years, a new discourse of connectivity, articulated in the context of a metropolitan vision, gave the promenade a new infrastructural role as a space of movement. The promenade developed into a continuous linear system for walkers, joggers, and cyclists – no longer solely associated with the beach, but rather with a more varied set of conditions along the shoreline that include the postindustrial commercial centers in the former ports of Tel Aviv and Jaffa. The expansion of the promenade into a metropolitan waterfront has created a new hybrid leisure culture, reflecting globalized patterns, while expressing locality through a return to local history and indigenous coastal vegetation. The changing design and planning of the Tel Aviv promenade continues to reframe and reinvent the seashore and its meaning for the social life of the city.

Notes

1 Architect Ganit Mayslits, of the office Mayslits-Kassif Architects, for the renovation project is quoted by Noam Dvir, "The Beach Returns to Tel Aviv," *Haaretz*, March 17, 2010, http://www.mouse.co.il/CM.articles_item,1042,209,47055,.aspx.

2 In 1933, the British architect Clifford Holliday planned a seaside promenade for the city of Netanya, north of Tel Aviv, which was designed, along with the "King's Park," named for King George VI, by landscape architect Shlomo Oren-Weinberg. The park opened in 1937.

3 This phrase has gained currency in Tel Aviv historiography, deriving from art historian Gideon Ofrat's analysis of Israeli painting. See Gideon Ofrat, *Back Turned to the Sea* (Tel Aviv: Omanut Israel, 1990) [in Hebrew]. For this theme in Israeli poetry, see Hanan Hever, "They Shall Dwell by the Haven of the Sea: Israeli Poetry, 1950–60," *Mediterranean Historical Review* 17 (2002): 49–64. See also Sigal Barnir and Yael Moria-Klain, eds., *Back to the Sea: Israeli Pavilion, The 9th International Architecture Exhibition Venice* (Jerusalem: Keter Press, 2004). The Israeli song about Tel Aviv by Meir Ariel, "With Its Back to the Sea," further popularized this idea.

4 Eli Schiller, 1981, quoted in Mark LeVine, *Overthrowing Geography: Jaffa, Tel Aviv, and the Struggle for Palestine, 1880–1948* (Berkeley: University of California Press, 2005), 77.
5 The first neighborhood was Neve Tzedek, built in 1887, followed by Neve Shalom, Mahane Yehuda, Achva, Ohel Moshe, Mahane Yosef, and Mahane Israel. For a history of Tel Aviv see Yaakov Shavit and Gideon Biger, *The History of Tel Aviv (1909–1939)* (Ramot: Tel Aviv University Press, 2001) [in Hebrew]; Maoz Azaryahu, *Tel Aviv, Mythography of a City* (Syracuse: Syracuse University Press, 2007); Nathan Marom, *City of Concept: Planning Tel Aviv* (Tel Aviv: Babel, 2009) [in Hebrew]; and Mark LeVine, *Overthrowing Geography: Jaffa, Tel Aviv, and the Struggle for Palestine, 1880–1948* (Berkeley: University of California Press, 2005).
6 This is the term that Mayor Dizengoff used in the 1930s to describe the mythic beginnings of the city.
7 A parallel can be seen in the European settlers' ahistorical perception of the New World landscape as fundamentally empty – a "raw nature, a cultural vacancy untouched by history waiting to be filled by migrating Europeans." See Leo Marx, "The American Ideology of Space," in *Denatured Visions: Landscape and Culture in the Twentieth Century*, ed. Stuart Wrede and William Howard Adams (New York: MOMA, 1991), 62–78, 63.
8 Many scholars have taken issue with this founding myth. See Mark LeVine, *Overthrowing Geography*, 75–83, 121–151, 154–158, for a critique of the myth of Tel Aviv's "miraculous birth from the sands," which he claims is central to the city's identity and self perception as a new city and center of the renewal of Hebrew culture, separate from Jaffa.
9 Maoz Azaryahu and Arnon Golan, "Contested Beachscapes: Planning and Debating Tel Aviv's Seashore in the 1930s," *Urban History* 34 (2007): 278–295.
10 Shavit and Biger, *The History of Tel Aviv (1909–1939)*, 37.
11 Maoz Azaryahu, "Cultural History Outlines of the Tel Aviv Seafront: 1918–48," *Horizons in Geography* 53 (2001): 97 [in Hebrew].
12 Shavit and Biger, *The History of Tel Aviv (1909–1939)*, 39.
13 Anat Helman, "European Jews in the Levant Heat: Climate and Culture in 1920s and 1930s Tel Aviv," *Journal of Israeli History* 22, no. 1 (2003): 81.
14 Mayor Dizengoff initially envisioned the seashore as an industrial zone, and a silk factory and tannery were built, which are referred to in Geddes's report. Only later did Geddes recommend the development of the beach as a leisure area, recognizing its tourist potential. Quoted in Shavit and Biger, *The History of Tel Aviv (1909–1939)*, 40.
15 Gideon Biger and Elie Schiller, "The Geography of Tel Aviv," *Ariel* 48–49 (1989): 19 [in Hebrew].
16 See Mark LeVine, *Overthrowing Geography*, for a detailed history of these events and their effect on the development of Tel Aviv.
17 For a discussion of the Geddes plan, see Nathan Marom, *City of Concept*; Neil Payton, "The Machine in the Garden City: Patrick Geddes' Plan for Tel Aviv," *Planning Perspectives* 10 (1995): 359–381; Volker Welter, "The 1925 Master Plan for Tel Aviv by Patrick Geddes," in *Tel-Aviv, the First Century: Visions, Designs and Actualities*, ed. Maoz Azaryahu and S. Ilan Troen (Bloomington: Indiana University Press, 2011), 300–326; and Yodan Rofe and H. Schwartz, "Vision, Implementation and Evolution of Patrick Geddes' Urban Block in Tel Aviv," in *Regional Architecture in the Mediterranean Area*, ed. Alessandro Bucci and Luigi Mollo (Florence: Alinea Editrice, 2010), 483–491.
18 Chaim Nahman Bialik, *Yediyot Iryat Tel Aviv* (June 8–9, 1934), quoted in Yael Moriah and Sigal Barnir, *In the Public Realm: A Tribute to Avraham Karavan* (Tel Aviv: Tel Aviv Museum, 2003), 96. [in Hebrew].

19 Patrick Geddes, *Town-Planning Report, Jaffa and Tel Aviv* (Tel Aviv Historical Archive, 1925), 21. While Geddes's prescient climatic approach is often praised, Marom notes that his approach contradicts current thinking; he sought to maximize the north-south orientation of the streets in order to maximize east and west exposures of the building façades. Today, the conventional wisdom is to maximize east-west street orientation to allow the penetration of breezes from the sea. Marom, *City of Concept*, 59.
20 Geddes, *Town-Planning Report*, 18.
21 See Iris Graicer, cited in Rachel Kallus, "Patrick Geddes and the Evolution of Housing Types in Tel Aviv," *Planning Perspectives* 12 (1997): 294, who speculates that Geddes's acceptance the industrial uses along the seashore was influenced by Meir Dizengoff, Tel Aviv's mayor and Geddes's client, who favored industry over recreation.
22 This became the typical Tel Aviv apartment building, retaining the front setback garden, and a small private garden in the rear. For a discussion of Tel Aviv housing in relationship to the Geddes plan, see Kallus, "Patrick Geddes and the Evolution of Housing Types in Tel Aviv," 281–320.
23 For an analysis of the street as the locus of public life as opposed to the urban square in the Geddes plan, see Rofe and Schwartz, "Vision, Implementation and Evolution of Patrick Geddes' Urban Block in Tel Aviv," 489.
24 See for example, Moshe Roitman (Amiaz), "On the Question of the Beach in Tel Aviv," *Yediot Iryat Tel Aviv* 1, no. 2 (1937): 46–47, Tel Aviv Municipal Archive [in Hebrew].
25 For a discussion of European resort development and the promenade, see Franck Debié, "Une Forme Urbaine du Premier Âge Touristique: Les Promenades Littorals," *Mappemonde* 93, no. 1 (1993): 32–37 [in French], http://www.mgm.fr/PUB/Mappemonde/M193/PROMENAD.pdf; and Alain Corbin, *The Lure of the Sea: The Discovery of the Seaside in the Western World, 1750–1840* (Berkeley: University of California Press, 1994).
26 Azaryahu, "Cultural History Outlines of the Tel Aviv Seafront" 100.
27 Bialik quoted in ibid., 102.
28 The competition brief stated: "Today the seashore is used as a place of rest and relaxation, outings, sport and leisure for the city's residents and for many visitors. In the absence of squares, parks and other adequate public spaces, the beach has double significance." Shavit and Biger, *The History of Tel Aviv*, vol. I, 40. The beach was the only large public leisure area in the city until the Levant Fair opened in 1934 and included an amusement area. During the 1930s, two large municipal parks were planned: Meir Park and Independence Park. A competition for the first urban square also took place in 1934, which was won and built by architect Genia Aurbach.
29 See Maoz Azaryahu and Arnon Golan, "Contested Beachscapes: Planning and Debating Tel Aviv's Seashore in the 1930s," *Urban History* 34 (2007): 278–295; and Tali Hatuka and Rachel Kallus, "Mediation Between State, City, and Citizens: Architecture along the Tel Aviv Shoreline," *Journal of Architectural and Planning Research* 24 (2007): 23–41.
30 Azaryahu and Golan, "Contested Beachscapes," 289. See also Hatuka and Kallus, "Mediation Between State, City, and Citizens," for a discussion of this proposal.
31 Azaryahu and Golan, "Contested Beachscapes."
32 Ya'akov Ben Sira (Shiffman), "Plan for the Improvement of the Tel Aviv Seashore," *Yediot Iryat Tel Aviv* 6–7 (1938–39): 150, Tel Aviv Municipal Archive (Hebrew).
33 Ibid.
34 Roitman, "On the Question of the Beach in Tel Aviv," 46–47.
35 Azaryahu and Golan, "Contested Beachscapes," 293.

36 London Park was designed by the city gardener Avraham Karavan and opened in 1942. Its formal design was uncharacteristic of his work, which included numerous parks in Tel Aviv. The park was named for the Londoners who had lived through the Blitz during WWII.

37 Yaron Balslev, "The Pollution and Purification of Tel Aviv Sea Shore, 1909–1982," *Horizons in Geography* 78 (2012): 112.

38 On the creation of a joint sewage plan for Tel Aviv and Jaffa, see Nahum Karlinsky, "Jaffa and Tel Aviv before 1948: The Underground Story," in *Tel Aviv, The First Century: Visions, Designs, Actualities*, ed. Maoz Azaryahu and Ilan Troen (Bloomington: Indiana University Press, 2011), 138–164; and Balslev, "The Pollution and Purification of Tel Aviv Sea Shore."

39 Other projects included Atarim Square, a large elevated commercial center built along the seashore on the site of the razed neighborhood of Mahlul. The city also promoted preservation-oriented tourist development during the 1960s, with the historic restoration of the old quarter of Jaffa as an artists' quarter of studios, shops, and restaurants coordinated by the Jaffa Development Company.

40 For a discussion of the Sharon Plan, see for example Ilan Troen, "The Transformation of Zionist Planning Policy: From Rural Settlements to an Urban Network," *Planning Perspectives* 3 (1988): 3–23.

41 See Nathan Marom, *City of Concept*, 257–299, for a detailed analysis of the Tel Aviv 1964–1968 master planning process, led by architect Tsion Hashimshoni, and the increasing influence of private interests during this period.

42 The City Center was the subject of an international competition held in 1962 for a large mixed-use mega-project for Manshiya, formerly a northern neighborhood of Jaffa that was conquered during the War of Independence. After a long period of neglect, the neighborhood was slated for demolition and reconceived as a new central business district that would link the recently merged cities of Tel Aviv and Jaffa. The competition process, its political agenda, and an analysis of the winning schemes are reviewed by Taly Hatuka and Rachel Kallus, "Loose Ends: The Role of Architecture in Constructing Urban Borders in Tel Aviv-Jaffa since the 1920s," *Planning Perspectives*, 21 (2006): 23–44; Zvi Elhyani, "Seafront Holdings," in *Back to the Sea. Israeli Pavilion, The 9th International Architecture Exhibition Venice*, ed. Yael Moriah-Klain and Sigal Barnir (Jerusalem: Keter Press, 2004), 104–117; and Nathan Marom, *City of Concept*, who discusses the project as a real-estate bonanza, dubbing it "Moneyshiah." For a discussion of the project's ideological role, see Alona Nitzan-Shiftan, "The Architecture of the Hyphen: The Urban Unification of Jaffa and Tel Aviv as a National Metaphor," in *Tel-Aviv, the First Century: Visions, Designs and Actualities*, ed. Maoz Azaryahu and S. Ilan Troen (Bloomington: Indiana University Press, 2011), 373–405.

43 Only several office towers were realized as part of the Manshiya project and the plan was highly criticized by the former city engineer, Ya'akov Ben Sira (Shiffman), Tsion Hashimshoni, and others. The central business district was later redesignated further east near the Ayalon highway. Marom, *City of Concept*, 315–318.

44 Balslev notes that this was far from the case, as untreated sewage was still flowing into the sea in the southern portion of the beach, where the third phase of the system was still to be installed. The festive reopening of the Tel Aviv beaches, he suggests, was politically motivated as it occurred during an election year. See Balslev, "The Pollution and Purification of Tel Aviv Sea Shore," 117.

45 Ibid., 118. Until the tertiary treatment plant was completed in 1982, the waste was piped to a primary treatment plant nearby in Reading that then flowed to the sea.

46 The breakwaters were developed following the recommendations of Italian planner Luigi Piccinato, who was commissioned in 1963 to prepare a plan for the Tel Aviv seashore. An experimental breakwater was first installed in 1970, and following its success, seven additional breakwaters were built along the shore from north Tel Aviv to Manshiya over the next ten years. Shavit and Biger, *The History of Tel Aviv*, vol. III, 100.
47 Atarim meeting minutes, "A New Shoreline for Tel Aviv," *Tel Aviv Municipal Archive*, 1974 [in Hebrew], 1.
48 The first six- to nine-story hotels began to appear in the early 1950s. In 1965 the Hilton was built, and additional hotels were built along the beach in the 1970s in the former area of Mahlul. The marina was built in 1970 south of the breakwater. Shavit and Biger, *The History of Tel Aviv*, vol. III, 100.
49 Ibid., 6.
50 These were Nadler, Nadler and Bickson; Niv and Reifer. A. Yasky and Y. Rechter, who led the team.
51 Doron Rosenblum, "The Tel Aviv Shoreline: A New Look," *Davar*, February 19, 1971.
52 Ibid.
53 Danka Harnish, "Tel Aviv Could Lose the Sea," *Davar*, April 9, 1971.
54 Atarim meeting minutes, *Tel Aviv Municipal Archive* 75/31–32, October 15, 1982.
55 This section of the promenade in the Ajami neighborhood is called Giv'at Ha'aliayah and opened in 1993. It was designed by architects Giler-Lederman.
56 Marom, *City of Concept*, 329–341.
57 See Glen Norcliffe, Keith Bassett, and Tony Hoare, "The Emergence of Postmodernism on the Urban Waterfront: Geographical Perspectives on Changing Relationships," *Journal of Transport Geography* 4 (1996): 123–134.
58 Ibid.
59 See Christine Boyer, "Cities for Sale: Merchandising History at South Street Seaport," in *Variations on a Theme Park*, ed. Michael Sorkin (New York: Hill and Wang, 1992), 181–204.
60 Norcliffe et al., "The Emergence of Postmodernism on the Urban Waterfront."
61 The winners of the Tel Aviv Port competition were architects Mayslits Kassif with Galia Yavin.
62 Uri Ram, *The Globalization of Israel: McWorld in Tel Aviv, Jihad in Jerusalem* (New York: Routledge, 2008), 197.
63 Ibid., 199.
64 The promenade section "City Walls" was designed 2001–2003 by architects Eitan Eden and Eyal Ziv for the Atarim Corporation. In the end, the Ottoman wall could not be restored, and it was represented metaphorically as a marking in the paving. Personal communication, Eitan Eden, 2008. See also Hatuka and Kallus, *Loose Ends*.
65 The pavers, for example were carefully chosen to emulate those used in British railroad stations of the period. Personal communication, Eitan Eden, 2008.
66 This portion of the promenade was designed by landscape architects Braudo-Maoz.
67 See Amita Sinha, "Slow Landscapes of Elevated Linear Parks: Bloomingdale Trail in Chicago," *Studies in the History of Gardens & Designed Landscapes: An International Quarterly* 34 (2014): 113–122.
68 Diana Balmori, "Park Redefinitions," in *The Once and Future Park*, ed. Deborah Karasov (New York: Princeton Architectural Press, 1993), 39–45.

5 Sculpted landscape

The unbuilt public square of Islamabad

Farhan Karim

Derek Lovejoy (1925–2000), a renowned American landscape architect, in his 1966 speech at the Royal Society of Arts recounted the challenge he experienced in the project of Pakistan's presidential complex: there was no landscape architect in Pakistan to provide him any local support. However exaggerated Lovejoy's discontent may sound, the practice of landscape design as a modern profession has only emerged very recently in Pakistan. During the 1950s only a handful of professional architects were practicing in West and East Pakistan, and they often took responsibility for only the landscape design of their own project, which tended to be limited to design settings of individual buildings. The current conception of landscape architecture as a large-scale endeavor to articulate natural elements and ecological settings within their urban context was nonexistent before the 1990s.

During British rule, the colonial education policy crippled the development of the modern design profession on the subcontinent. A major obstruction for sustaining a design profession in the colonial era was the absence of a competitive market for real estate and a domestic industry of consumer products. Instead of establishing any design schools, the colonial government's policy was to produce skilled draftsmen and technicians to assist the growth of colonial infrastructure that was deployed through various colonial institutions such as the Public Works Department (PWD). The following two decades of independence on the Indian subcontinent resulted in important reforms to design education. However, in India and Pakistan the main focus was on architecture and product design since professionals in these two sectors were of immediate need to support the growing construction and consumer industry.

Landscape design was considered a secondary sector, which is why the first architectural school of West Pakistan, the Government School of Architecture (GSA) established in 1954, only offered a diploma in architecture and no degree in landscape design. The first two schools of architecture in West and East Pakistan were established in 1962 as the Department of Architecture at the University of Engineering and Technology; both schools were established with technical assistance from the Ford Foundation and

the US Agency for International Development (USAID) and offered no degree program in landscape architecture. In fact, the course curriculum was modeled on US technical universities, and these newly established schools taught landscape design only as a minor theory course. This curricular arrangement and unavailability of a degree program in landscape design had a lasting impact on the profession; as a result, in contemporary Pakistan landscape design is often interpreted as a derivative or specialized sector in architecture.

Under these circumstances, when the first large-scale development projects were undertaken by the martial government of Ayub Khan in the 1960s, both the architectural and landscape aspects of the project were commissioned to Western, and especially American, architects. This deliberate decision was intended to give local associates the opportunity to gain professional experience from the foreign architects. The landscape design of the newly established capital in Islamabad was the major landscape project after independence, in which an integrated effort of landscape design was carried out for the first time in modern Pakistan.

This chapter provides a historical overview of how the production of urban squares and the landscape setting of Islamabad are related to deliberate architectural decisions to create a visual metaphor of postcolonial national identity, and vice versa. The martial government of Field Marshal Ayub Khan founded Islamabad in 1959, and the design consultancy was commissioned to the Greek firm Doxiadis Associates (DA). After laying out the spatial, infrastructural, and ecological or landscape grid of the city, the Capital Development Authority (CDA), a government organization that oversaw and managed the Islamabad project, invited notable Western architects to design the public buildings. The main challenge in designing Islamabad was determining how the open space of varied scales and significances would create an integrated system of landscape settings for the city.

Although DA specified small-scale urban squares in the residential fabric, the character and scalar relationship among the urban squares were open to further investigation by the architects. This chapter looks at a specific case study, the Center for Islamic Ideology, commonly known as the triangular building in the presidential complex of Islamabad's administrative zone, which was designed by US architect Louis I. Kahn. Through a discussion of its design process, this chapter shows that in Islamabad, architecture and landscape served as a metaphor – if not a means to display and exercise the new Pakistani government's authoritative power – that symbolized aspiration to develop a recognized postcolonial identity. Based on evidence from Kahn's office drawings, sketches, letters, and CDA reports, this chapter argues that Kahn's design for Islamabad, which at first glance might appear to work only on a small scale, actually is indicative of Kahn's larger desire to create a centralized landscape for Islamabad that would reflect the new nation-state's collective spirit of nation building. To this end, Kahn's strategic step in this design was to merge landscape with architecture: architecture

morphed into landscape and vice versa to create interconnected and transitory spaces – namely, a sculpted landscape.

The focus herein is to analyze Kahn's scheme to achieve these objectives, how local authority has influenced Kahn's design, and why Pakistani bureaucrats and the CDA eventually found Kahn's strategy to be unsuitable and terminated him in 1965. Edward Durell Stone (1902–1978) eventually completed the design that translated CDA's wish to create an intricate network of buildings and monumental urban spaces that would signify the authority of the state and its newly crafted nationalism.

Doxiadis Associates and the establishment of Islamabad's new landscape

In 1947 following the end of British rule, the Indian subcontinent was partitioned and the nation of Pakistan was founded on the idea of Muslim nationalism. The new state quickly attempted to establish its own capital city in order to create an administrative center and to display the nation's authority.[1] In the decade following independence, Karachi, one of the country's oldest cities and an important seaport, served as Pakistan's capital city. However, due to several changes of government and a political impasse, the goal of establishing a new capital did not advance. Following long and turbulent political conflicts among contesting political parties, Field Marshal Ayub Khan assumed power in 1958; in February 1959 he established a Special Commission to resume the project and appointed Doxiadis Associates (DA) as its consultant. At that time, Constantinos Doxiadis, an urban and regional planner, was working on several projects in both East and West Pakistan as a consultant to the Ford Foundation. In June 1959, following Doxiadis's advice, it was decided that the new capital would be located at the foot of the Margalla Hills, closer to Rawalpindi, the military center of the country.[2]

The location was chosen for various reasons: (1) to showcase the strength and zeal of Khan's new government; (2) to create an exclusive bureaucratic class by separating the administrative zone from the rest of the country; and (3) to have a close surveillance on Rawalpindi to ensure that another military coup would not threaten Khan's authority.[3] In September 1959, the new Federal Capital Commission succeeded the Special Commission. The CDA, a new government organization under the leadership of W. A. Sheikh, replaced the Federal Capital Commission. On May 24, 1960, the new capital was named Islamabad – the "City of Islam." The CDA is in charge of administering and managing the city's planning and design issues to this day.

In order to produce a master plan for one of the 20th century's most ambitious urban projects, DA undertook a massive survey with the help of about one hundred Pakistani specialists in various sectors grouped into fourteen subcommittees. The resulting master plan and five-year program were approved in October 1960 (Figure 5.1). The master plan was based

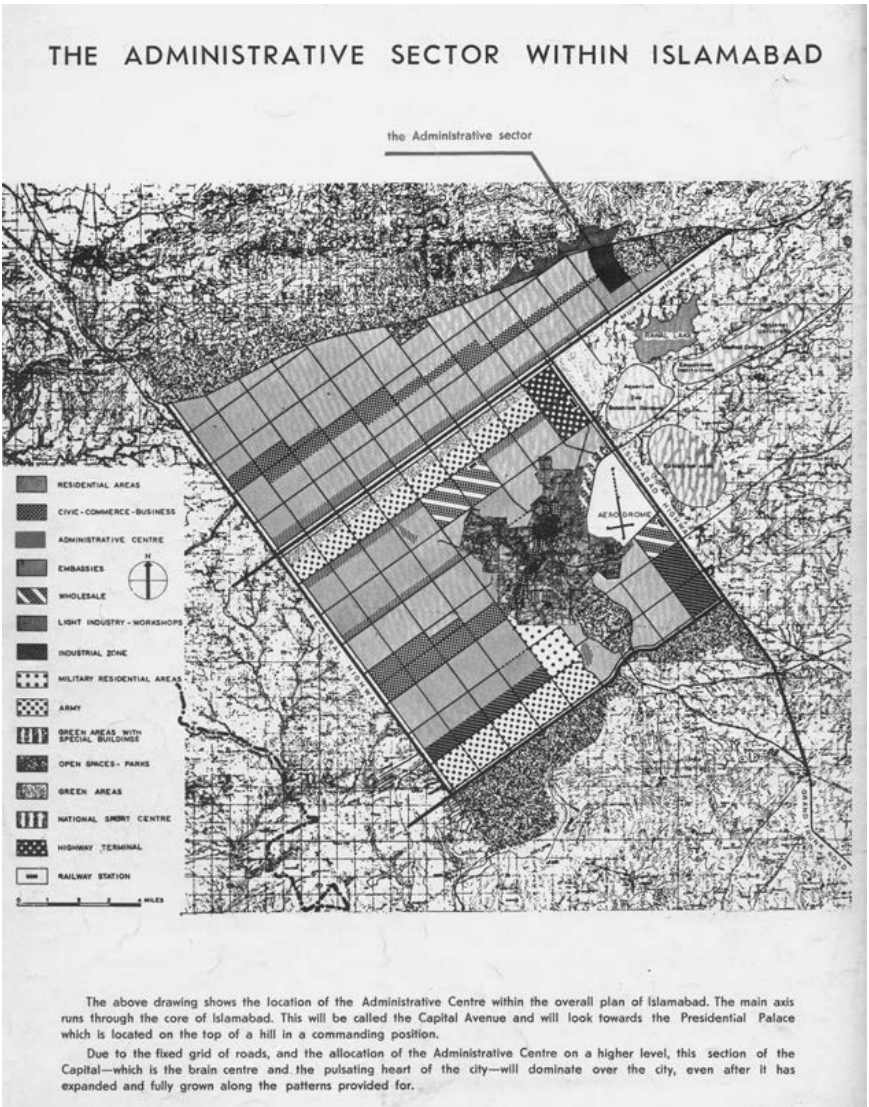


Figure 5.1 The master plan of Islamabad prepared by Doxiadis Associates, 1960. (Courtesy of Constantinos A. Doxiadis Archives.)

on the DA-formed principle of "Dynapolis" – a theory denoting a continuously growing and self-sustainable city, or Dynamic Metropolis. To design an infinitely stretchable urban fabric, DA laid out a modular grid of 2,100 by 2,100 yards, roughly one square mile, marked by wide roads designed for high-speed vehicles. The oversized grids were not conceived as neighborhood or community boundaries, but rather as self-contained cities occupied

by 30,000–60,000 inhabitants. Doxiadis claimed he derived the area of the modular grids from his study of the historic city.[4] To substantiate his argument, Doxiadis juxtaposed four cities, contemporary London and Paris, classical Athens, and Renaissance Florence, on the Islamabad grid to compare the physical expanse and spatial complexities. It was assumed that, in the future, this grid would expand toward the southwest.

The site is located at the foot of the Margalla Hills and bounded by the Murree Hills in the northeast and the Korang and Soan Rivers in the east and southeast. The site gradually rises 1,650 feet above sea level in the southeast to 2,000 feet on the northeast along valleys formed by series of hillocks running in the same direction. The modular grids, which are self-contained urban sectors each having its own commercial core, were organized around two central axes: the southeast-northwest, derived from the historic Grand Trunk road; and the southwest-northeast axes that geometrically divided the site longitudinally in two sections. The first axis terminated at a grand mosque and the second terminated at the presidential complex, which Doxiadis called the urban nucleus. This would be the location of the president's house, parliament house, secretariats, high courts, and other administrative buildings.

Besides the geometric grid that gives the city its physical structure, the city's landscape was organized around two conceptual grids – "ekistical"[5] and ecological grids (Figure 5.2). The ekistical grid is the boundary of each grid having thick plantation and road systems – a green belt around the periphery of each gridded sector. The ecological grid follows the natural alluvial soil of ravines that crisscrossed the geometric pattern of the ekistical grid. The continuous ecological grid cuts through the urban fabric and ensures a continuous flow of wildlife and nature within the urban environment – a fusion of landscape and townscape. Humans are meant to occupy the voids located between the ekistical and the ecological. Although on a larger scale the infusion of nature into human habitats is a radical leap forward from the classical town-planning tradition, on a smaller scale the natural ravines, together with cul-de-sac roads, often isolate the subzones within an ekistical grid, thereby creating a disconnected urban space.

Creating more pedestrian linkages and introducing public squares could have solved this problem. From the aerial view of the model (Figure 5.2) one sees, on the larger scale, the continuous and organized growth of commercial space and the swirling ecological grid that seems to create an uninterrupted flow of public space within the city. Looking closer, however, one understands that there is not much scope for developing a strong sense of a centralized public square. The objective of the landscape is to facilitate a systematic preserve and growth of park, nature, and water, while the limited open public space relates to the commercial zone, which exhibits little intention or purpose of contributing to the city's public life. The series of small-scale public spaces are often called *gossip squares*; although very human and intimate in scale, they were designed to remain pseudo-public in nature (Figure 5.3). DA also did not consider providing

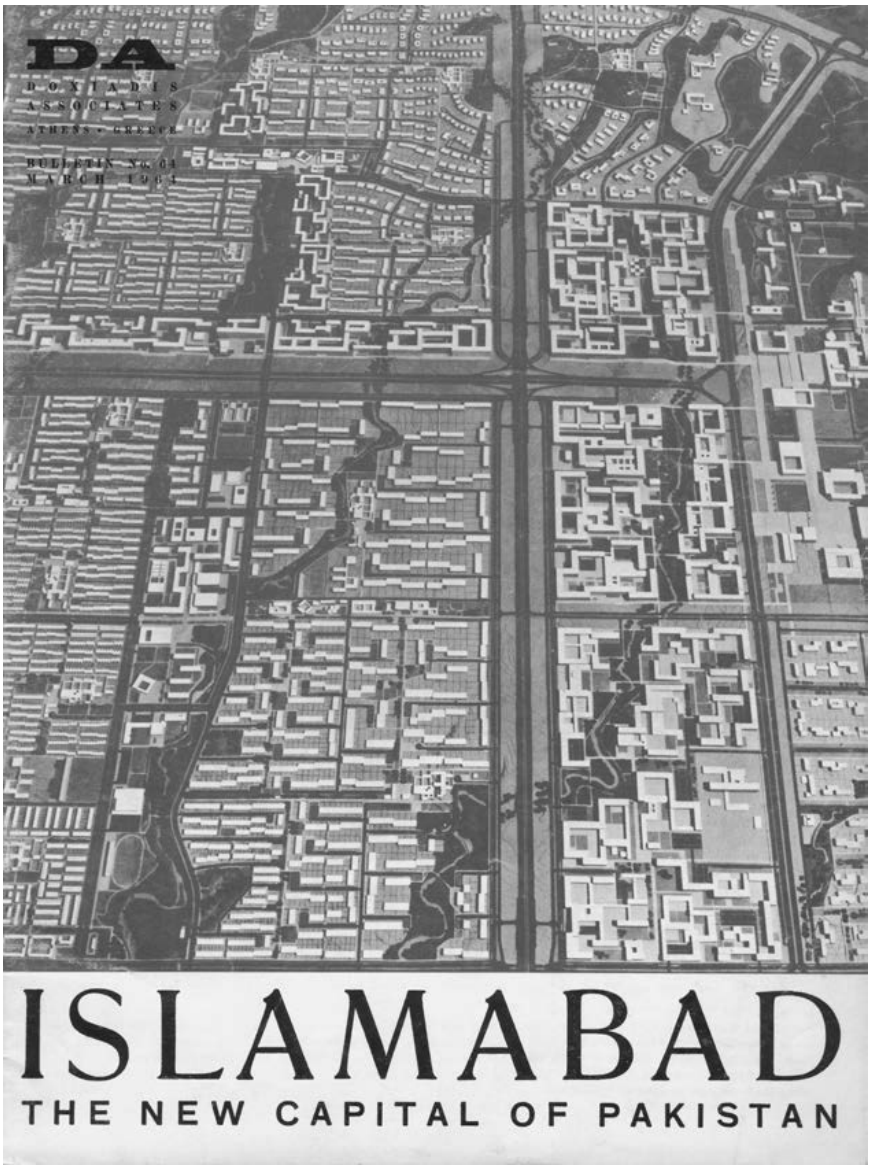


Figure 5.2 Aerial photograph of the model of Islamabad city, showing the interrelated ekistical and ecological grid. (Courtesy of Constantinos A. Doxiadis Archives.)

a central space for cultural buildings that would have tied together the city's public and cultural life. The geometric intersection of the two main axes was reserved for a "terminal highway" and a "national sport center," which DA could have successfully turned into the city's cultural hub. The

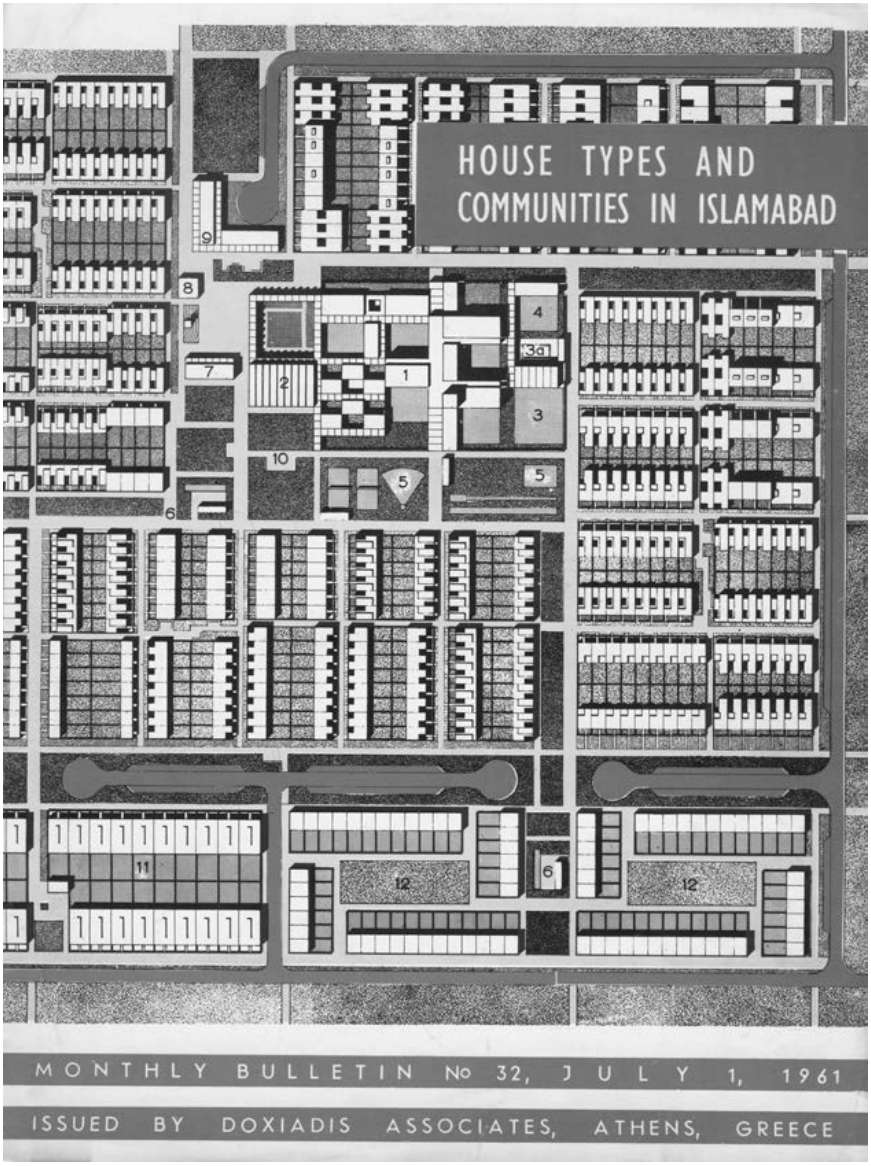


Figure 5.3 A sector of Islamabad city showing the cul-de-sac road arrangements and the commercial center at the center. (Courtesy of Constantinos A. Doxiadis Archives.)

overemphasis on the administrative core subdued the need for creating a cultural and social core.

In DA's other concurrent urban design project, Korangi Town – a satellite town designed primarily for refugees coming from India – the Ayub Khan

government wanted to make sure that there would be no spatial platform that might encourage public gathering and potentially incite antigovernment demonstrations.[6] Applying that same hypothesis to the Islamabad planning, we may surmise that the absence of a strong sense of public space played out as a dialogue between Doxiadis's metanarrative of the intricately connected global flow of space and Ayub Khan's pseudo-totalitarian state politics. DA's proposal for Islamabad, with the most important public square at the presidential complex, which is located at the city limits, also indicates that any public gatherings would be held within close surveillance of the city's administrative center.

Beginning with the decision to establish Islamabad, there was an ongoing controversy about what would be the character of the new city's open spaces – a city conceived as a hybrid of Muslim nationalism, Pakistani traditionalism, and global modernism. Archival documents show that the discussion was limited mainly to the nature of the open spaces as strolling parks and gardens (a continuation of the practice of the Mughal gardens) or as botanical gardens and active sports arenas (a continuation of former colonial practices). Historical study of the Lahore gardens from Mughal to contemporary times shows that the role of urban open space as an extension of the city's cultural life was more a matter of public entertainment and well-being and less an issue for the public sphere.[7]

Despite this fact, the urban open spaces in Karachi, Lahore, and Rawalpindi continued to be used as spatial mediators to form public opinion during the anticolonial movement and afterward. However, such use of urban open space represented the spontaneous appropriation by inhabitants – not a conscious design effort to facilitate events related to public dissent. In 1961, under this historical condition and contemporary political context, the government commissioned Louis Kahn to design the presidential complex, which was to include the president's residence, parliament building, and a structure tentatively planned to function as the Center for Islamic Ideology. Kahn's primary focus was on creating a public square that would be the *space of inspiration* for the entire city.[8]

Kahn did not oversee many master plan projects throughout his career, and a scholarly discussion of his approach to master plans is needed. However, we can logically surmise that although Kahn did not likely disagree with DA's emphasis on creating a decentralized and unbroken (if not endless) network of open spaces, he wanted to create centralized and monumental spaces as the nucleus of urban public life. The discourse on forming an urban core by combining public buildings, squares, and urban open spaces as the principal space was also a main topic for the International Congresses of Modern Architecture (CIAM), in which Kahn was an active participant.[9] In the 1950s Kahn was also part of CIAM's ongoing discourse on monumental space within urban space to facilitate public life. He believed the public space has power to shape public opinion and urban inhabitants' collective will, and this belief cemented his fundamental strategy of designing the buildings and square of the presidential complex.

Kahn, the Capital Development Authority, and the question of the public square

Kahn worked on the Islamabad project for two years, between 1964 and 1966, and eventually was terminated from the job based on the belief that his design did not meet Pakistan's image of a city that bears the mark of modernity and Muslim nationalism. During the brief period of his appointment, Kahn produced a substantial number of drawings and sketches, and eventually presented three key versions of his proposals.[10] In each of these schemes his central concern was to create a public square harmoniously related to the surrounding landscape and building, while at the same time serving as the metaphoric center of inspiration for the city. The three buildings to surround the square were parliament, the president's residence (or President's Palace), and the Center for Islamic Ideology.

The last building was only tentative, and its function was never settled. In fact, this building was the key issue of debates on the nature and scale of the public square, and was eventually abandoned in 1965. However, in the first two versions, Kahn used a unique triangular-shaped building for the Center for Islamic Ideology as a connection between the built and natural landscape of the sites, while also enhancing the presence of the square. From the outset of the design process, Kahn considered this building as the element that would define the limits of the square, which through its gradual slope would connect the square's upper and lower parts. The continuous folded surface of its roof and walls were articulated to create a smooth transition between the built structure and surrounding landscape.

On his early site visit in January 1964, Louis Kahn expressed his views that the incorporation of the site's three hills into the design should be the main design principle: the central hill would be used for the president's house, the northern hill for a recreation area, and the southern hill as a quiet precinct.[11]

A report by Derek Lovejoy & Associates, the landscape consultant for both the presidential complex and Islamabad, supported the concept of using the landscape as an integrated part of architectural design. In their report, the company stated a general intention of establishing a large-scale composition of woodland and open spaces to complement and incorporate the existing ground configuration, and to define approaches up to the hills from the lower areas, linking with a system of north-to-south paths generally following the linear formation of higher ground.[12] They also suggested considering the foothills as the design's most significant element because they represent Islamabad's defining landscape feature, and thus the most appropriate image of the site would be buildings contained by the three hills.

One of Lovejoy's concerns for the overall design scheme was that the landscape and architecture were somewhat confrontational, creating a negative visual friction or lack of cohesion. Further, the contrast between the *triangular* blocks and the continuous slab-like formation of the secretariat was too acute, and the monumental public buildings subordinated the

landscape. Lovejoy suggested a harmonious landscape-architecture partnership that would develop rudimentary earth-forms of gently rounded hills to create an analogy of architectural form. The report, along with the already completed landscape design, was handed to Kahn on October 18, 1964.

The first documentation of any discussion of the triangular building was during the January 25, 1965, meeting at the CDA office. In Kahn's initial scheme, the three-dimensional composition of the building was arranged as a combination of four prismatic pyramidal blocks. Each block touches the edge of the adjacent block in a manner that creates a wide triangular fissure to form the main entry (Figure 5.4). The four smaller blocks are combined to create the impression of a single pyramid that rises gently from the ground

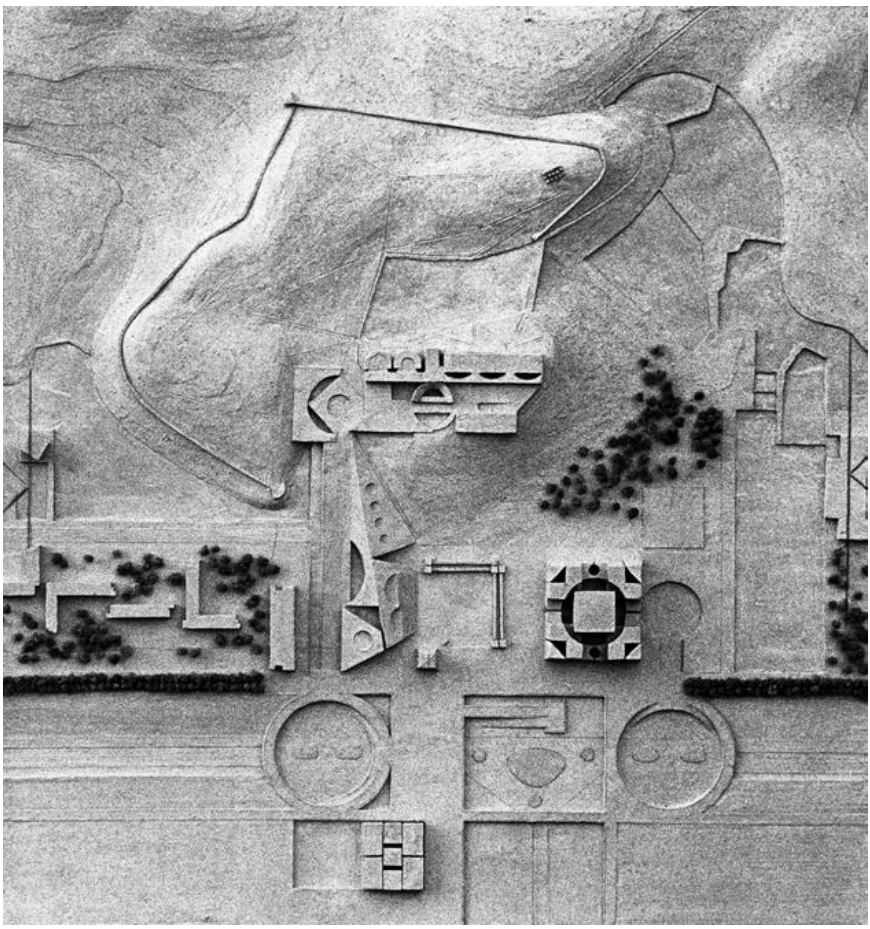


Figure 5.4 Louis Kahn's proposed master plan for the President's Estate. The buildings are presented as prismatic volumes to show the proportion and scale of the square and its relationship with surrounding buildings. (Courtesy of Architectural Archives, University of Pennsylvania.)

from the northeast side and smoothly merges along the slopes of the hill to meet with the south side of the president's residence at the highest point of the hill. The straight edge of the south side is the boundary of the ramp that connects vehicular traffic from the road below to the President's Palace and also to the foreign office blocks. This ramp also served as a visual boundary between the public square and the foreign office block to the south.

At first glance the arrangement of the four fragmented blocks appears arbitrary, but a closer look reveals the underlying ordering principle that organizes the apparently random direction of the edges of the triangular building. A pair of wide steps that take visitors about twenty feet above the level of the square defines the entry, which eventually terminates in a pair of arched portals. The geometric centerline of these portals passes through the central axis of the parliament building located exactly opposite the triangular building. From Kahn's study sketches it is evident that while he was working on the angles and shape of the building's sides, he also gave due consideration to the vistas and landscaping elements that frame them. In order to enhance the feeling of confined space, Kahn added another definite boundary to the public square, placing a structure that would serve as both minaret and chapel at the southwest corner.[13]

When Kahn first presented his idea for the triangular building, it received a mixed response. The chairman of CDA demanded that the shape required more development and refinement, while Altaf Gauhar, the acting Secretary of Ministry of Information and Broadcasting, held a strong view that the triangular block only increased a sense of separation in an already congested square and destroyed its integrity. However, it appeared that Sir Robert Matthew, the presidential complex project's coordinating architect, was sympathetic to Kahn's scheme. He argued that the feeling of congestion experienced by some of the committee members was due to the fact that the final scale of the built structures could not be visualized properly. He assured the committee that after completion of the landscaping and treatment of lakes around the buildings, that sense of congestion would be gone.

Matthew argued that the ramp leading toward the President's Palace and the triangular building would eventually increase the scale. He supported the close-knit position of each building around the square, stating that if any were removed then the square's integrity would be completely lost, as he argued that *space* in and of itself does not increase the scale but rather decreases it. He stressed the rationality of the triangular building by saying that if it were removed, the square would be nothing but a wide space bounded by a small Foreign Affairs Ministry and a huge National Assembly structure. In expressing his views on this debate, Kahn said the development of the square would actually increase the scale of the space, since empty space diminishes in scale. Kahn also resisted this view of congestion by arguing that the square would be no less than any square in other famous cities of the world.

There was also controversy and confusion about the function of the triangular building. During the January 25, 1965, meeting, the CDA explained to Kahn that the initial suggestion of housing the Council of Islamic Ideology was only tentative and that it might locate an auditorium in the building as well. In the next meeting held one day later, it was discussed that although the location of the triangular building was fixed, its function was not. A part of it could be used for a cabinet division, and it could also be used for the president's secretariat. However, N. A. Faruqui, the then CDA director, stated that any provision for an auditorium in the triangular building had to be postponed, as CDA did not have any provision for an auditorium in the central square. He also said that the functional requirement was still under consideration and would be communicated to Kahn later.[14]

The imprecise nature of the block's function fit well with Kahn's fascination for architectural ruin. In this specific case where space was not associated with any precise function or pragmatic intention, Kahn sought architecture's greater meaning as being dissolved into landscape. He treated the triangular block as *beyond* architecture's elemental existence. He strived to give it a spontaneous landscaping formation, liberated from functional association. At least primarily, he designed it as an open structure intended to be a space of transition that gradually connected the square at the foot of the hill and the president's complex at the top. The question of scale in the square's design and its relationship to the surrounding buildings and woods beyond was a serious concern for Matthew, CDA, and Kahn.

The relative height, location, and distance of each building in relation to the hill and surrounding landscape was indicative of how Pakistani bureaucrats conceived the role of each official function in the mechanism of national state politics. For instance, CDA suggested to Kahn that the height of the assembly building should not exceed that of the President's Palace.[15] It is difficult to say exactly what prompted this opinion – whether the CDA wanted to place the president's complex on a higher plane as a symbolic gesture of the dominance of the presidential system over parliament, or whether it was just a choice of composition and visual preferences. Either way, this definitely complicated Kahn's perception of master planning, as it compelled him to create a stronger contrast and grade separation among different building blocks.

In response, Kahn wanted to utilize the triangular building as a tool to minimize the sharp transition of grades from the lower level. In his January 25, 1965, report, Matthew stated that Kahn had found it "inevitable but unfortunate" to reduce the height of the natural hill in order to obtain a reasonable gradient from National Avenue to the President's Palace.[16] As such, from the sketches of the triangular building it is evident that one of Kahn's own interpretations of the structure was that the pyramidal formation would enhance the existing landscape feature of the hill, and would appear only as a fold in the existing slope of the hills that naturally connect the complex's lower and upper zones.

The report of January 25, 1965, documented that Kahn had reduced the scale of the triangular building in order to reduce its impression as a barrier between the square and the secretariat areas, addressing one of CDA's complaints. Kahn also ensured that a visible connection would be made through the building, so one can assume that there would be a significant level of transparency at eye level to create a sense of flow and connection through the landscape. However, during a meeting on February 6, 1965, the committee was not convinced by the building's proposed scale, and many expressed the view that it still overwhelmed the square and created a sense of congestion.[17] Kahn believed that the public square would eventually become the inspiration for all Islamabad, and he suggested that the assembly building site be pushed further to the southeast to provide more space in the square.

He also drew a sketch (for which no documentation exists) for an alternate proposal to solve the problem of congestion, which apparently the whole committee agreed upon. However, despite Kahn's argument and Matthew's support, at the end of this meeting the idea for the triangular building was completely discarded. Kahn was also reminded again to place an "accent on National character and Islamic architecture."[18] At this point it seems that Kahn gave up the triangular building proposal idea and instead gave the building a rectilinear shape.

In the CDA meeting held on February 2, 1965, Kahn detailed his view on the landscape of the complex. He stated that, preferably, the trees along the esplanade should have clean trunks and crowns; 10 feet of space between the trees and a height of 40 feet would be satisfactory. Next, shrubs of natural color should be planted around the presidential hill to give it a rugged feeling and to avoid a severe contrast with the area's landscape. Shrubs should continue toward the northern hills and trees should be planted in the valleys. There should be no interruption between the presidential residence's hill and the square.[19]

The committee was of the opinion that the square was too small in relation to the terrain, the mountain, the future city, and the extensive physical strength of the secretariat buildings. In a letter dated March 19, 1965, to Italian architect Gio Ponti, designer of the secretariat block on the south side of the presidential complex, Kahn told Ponti he had sacrificed his triangular building in the interest of making a grand square and requested that Ponti eliminate the blocks from the southeast side of the ramp.[20] Kahn explained that the ramp and the building were now integrated so as to place more importance on the building than on the ramp. He would further move the assembly building to the southeast side to create a more expansive square framed on the northeast by the hill and the President's Palace and on the southwest by the Supreme Court. Thus, the new arrangement would create a group of buildings – the ramp, the foreign office building, and the cabinet building. Kahn did not propose placing any trees near the main ramp to the President's Palace. In the July 1965 CDA meeting, Kahn remarked that use of water and trees was central to Islamic architecture and that he wanted to

create that feeling in the central square.[21] In the same meeting N. A. Faruqui, the newly appointed chairman of CDA, emphasized that it was a government directive that Islamic touches be given to the architecture of the public buildings.

The 1965 appointment of Faruqui provided a new impetus for incorporating Islamic motifs. In a letter to Matthew and Kahn written on May 11, 1965, Faruqui explained CDA's preference for a "valiant emphasis" on Islamic architecture.[22] He admitted that the question of Islamic architecture was contentious, and in order to arrive at a consensus the CDA arranged several lectures to define the premises of Islamic architecture. However, instead of giving any clear idea of Islamic architecture, he stated: "Even otherwise, I am sure that architects of international standing know what Islamic architecture is. The question is of imparting it to our major public building."[23] Absent any clear consensus, Muslim architecture and landscape possessed an indefinite, if not ambiguous, meaning to Pakistani bureaucrats and Western consultants that operated only through a tentative and skeletal form.[24]

So far there is no documented evidence in which Kahn explicitly explained his strategy to materialize Islamic spirit and Pakistani traditionalism and nationalism in design.[25] Throughout his career, Kahn rarely faced a client's challenge to create a balance between tradition and modernism – rather, it was the other way round. Kahn's tendency for the analogical use of historical forms was a cause of discomfort and disagreement for his American clients. However, his use of history and tradition was not attached to any specific place. Indeed, his reincarnation of the past has placeless and global overtones in his work, since one can discern many direct and indirect suggestions of imperial Roman, ancient Egyptian, Scottish, and medieval Christian elements in his designs. Moreover, based on his travels and firsthand experiences, Kahn appropriated, inherited, and imbued world architectural heritage, and took his artistic autonomy to juxtapose and recreate it in any location as he saw fit.

At the same time, however, it cannot be argued that Kahn's method was an eclectic muddle; indeed, his form has graceful singularity and a sense of austerity. It also cannot convincingly be argued that Kahn took historical elements from the place of the project – specifically, in his works in East and West Pakistan. Although scholars argue that Kahn used Mughal motifs and suggestions of Deltaic waterbeds or traditional space pattern in his works in Pakistan,[26] apart from his notes and remarks there is no compelling evidence supporting the conclusion that Pakistan's specific spatial and cultural practices inspired the generation of form and geometry in his work. In this argument, the thesis of "situated modernism"[27] is therefore not indicative of any specific site, but rather an abstract and all-encompassing view of site and context. It is due to this principle of the global interchange of architectural heritage and free appropriation of architectural images from different civilizations that Kahn could easily eschew the debates of the presence of

any specific religious and nationalist beliefs in architecture and, instead, opt for a holistic oneness and union of land and built form.[28]

In the course of the public square design process, Kahn was repeatedly reminded that all but the National Monument should have a visual expression of Muslim architecture and Pakistan heritage. It must be noted, however, that the CDA never explained properly what was meant by "Muslim architecture." Scholars have discussed elsewhere that this ambiguity, which was a general characteristic of the time, was not because authorities were perplexed about the issue, but mainly because this apparent ambiguity was an essential part of the flexible Muslim being in making, which is the core of Pakistani nationalism.[29]

Scholars argue that although this flexibility has often resulted in violent confrontations, it has made Pakistan's interpretation of Muslim nationalism open, flexible, and accommodative. It is noteworthy here that when Doxiadis worked in Pakistan, his response to the demand for creating a modern Muslim landscape took an interesting turn: Doxiadis created a binary opposition between Hindu architecture and Muslim architecture and claimed that simplicity and clarity of form is the foundation of Muslim architecture, which also made it superior to that of its Hindu counterpart. Doxiadis's narrative of "Muslimness" only exists and is sustained by creating an imaginary rivalry between Hindu and Muslim – which perhaps was an unscrupulous effort that capitalized on the sustained enmity between India and Pakistan. Kahn did not have Doxiadis's privilege, as India commissioned him for one of the major projects of his career, and Kahn was also disinterested in mixing religion, as a fixed ritualistic practice, with architectural expression.[30]

At one point, Kahn stated that the monument in the square should express three major attributes: (1) the independence of the country; (2) religious significance; and (3) the making of the capital.[31] However, he never presented an explicit scheme of how to interpret these ideas in architecture – at least not in any published or unpublished reports or CDA documents. So it can be assumed that Kahn's claim was more an alibi than an actual rationale that shaped his forms.[32]

Triangularity and play in Kahn's sculpted landscape

Kahn's proposal for the Islamabad public square, exploring the possibility of a new landscape tradition of interweaving buildings and the environmental context in a tangible and material way, did not fit harmoniously with the traditional practice of landscape design in Pakistan. Mughal tradition of intertwining architecture into the garden was nuanced and related to complex political rituals and cultural practices, but Kahn's proposal was more literal and material, related more to his interpretation of modern man's relationship with landscape.[33]

Kahn interprets building as a physical extension of landscape, or in other words architectural forms emerge as a controlled crease in the landscape.

In other words, a building generates in the same way a mountain is formed by natural forces – the thrust and reverse fault movement. The form thus generated is inseparable from the ground and embedded in the earth, so much so that it bears the mark of the inner tensions of the earth: folding, faulting, cracking, friction, and wound. This idea is probably best expressed in the Riverside Drive Park Playground (1961–1966) in New York, in which Kahn collaborated with sculptor Isamu Noguchi. Noguchi's artistic inspiration came from an inquiry into how sculptural form could be created as a continuous and reciprocal entity of the ground plane and how humans could be engaged in this intertwined relationship in a playful manner.

Indeed, play was the central theme of Noguchi's work – be it human engagement with a structure, interplay and collapse of background and foreground, or blurring the boundary between sculpture and its environmental context. It was his objective to obfuscate, if not deny, the edge between three entities: environment, or specifically the ground plane as passive container; sculpture as the contained artifact; and human as the voyeuristic beholder. In a way Noguchi advocated for a new sense of holistic living through impurity, informality, indifference, and union. Beginning in 1961 Kahn and Noguchi worked together to produce five different models; however, Kahn's idea of architecture as a sculpted landscape was a theme that he long explored in different ways (Figure 5.5).[34] This theme, I would argue, was only in its germination phase and Kahn experimented and tried to understand this phenomenon through different tetrahedral pyramidal

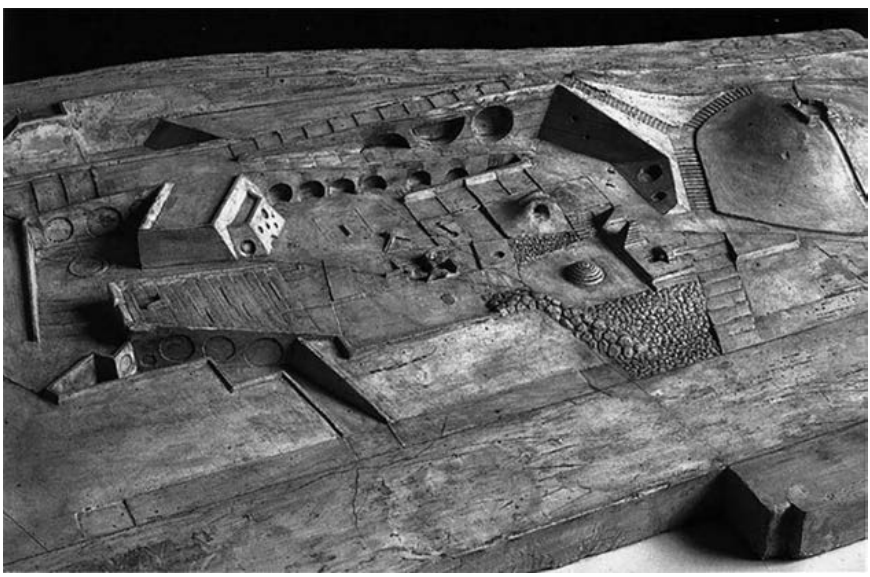


Figure 5.5 A bronze model of Levy Memorial Park by Isamu Noguchi and Louis Kahn. (Courtesy of Architectural Archives, University of Pennsylvania.)

forms that he designed in the Levy Memorial Playground (1961–1966) in New York, the Interama Community, Miami (1964–1969), and the Center for Islamic Ideology in Islamabad (1964–1966).

In his own work, Noguchi interprets the pyramid as the archetypal form that embodies a common past of human civilization. The pyramid is also man's reinterpretation and reinvention of a mountain, a magnificent force of nature, into a tangible plastic form. However, Noguchi's use of pyramidal form fuses the feeling of perpetuity of a pyramid with the playful events of contemporary life. His rendition of a pyramid transforms the conventional intimidating image of the pyramid as the tomb of ancient elites into a form of artifact for everyday use by modern people. This denotes an important turning point for Kahn's appropriation of the pyramidal form in his later works.

Kahn's design principle operated by appropriating different images, forms, and languages across the many civilizations that he experienced through his interactions with various geographic contexts in different countries.[35] However in Kahn's long list of appropriating forms and ideas, *play* was not an important consideration. Rather, it was the urge to achieve a monumental expression that dominated his 1950s and 1960s civic architecture.[36] It can be reasonably surmised that in Kahn's architectural vocabulary, the theme of *play* as an ingredient of monumental expression came after his collaboration with Noguchi. This is evidenced by the fact that he cautiously applied this theme only to those buildings that were not associated with a specific function or that did not inherently require a definite ordered and geometric purity.

The function of his three unrealized pyramidal forms was ambiguous and open, if not ambivalent. It is also noteworthy that Kahn chose the pyramidal form as the structural content of play. This is partly because the exterior surface, when lowered down to human scale, could be used as a sloped ground or an open theater and marks a transition from landscape into building façade. It is also partly because the form creates a dynamic profile when placed against the vertical lines of surrounding buildings.

As a traveler, Kahn's own exploration of the Egyptian pyramids did not match with his other concurrent inquiry into the Temple of Amon, Karnak, or mortuary temple of Hatshepsut, and Deir El-Bahri (sketched in 1951).[37] It is hard to tell now why the pyramids did not fascinate him in the same way the columns of the Hypostyle hall of the temple of Amon did. But it can be conjectured that in the very sculptural presence of the pyramid, Kahn did not find the themes of historic precedence he was searching for: an architectonic expression in which different elements come together to create a larger whole, poised against or rising from the ground. The second reason might be that the pyramids are not *ruins* in the sense Kahn may have understood the meaning of the term – namely, a mutilated, convoluted, stripped off, if not morphed and mutated, existence. Ruin, in Kahn's understanding, is an independent form that bears the mark of its original existence but

eventually acquires a completely different life through destruction, wound, and resilience.

In such an interpretation, the original form of a Hadrian villa is less important than the aura it now creates through its ruinous existence. Pyramids, on the other hand, preserve the sense of their original form quite impressively. It also seems that the question of achieving a ceaseless continuity through one single form did not quite motivate Kahn.[38] His other use of a partially submerged pyramidal form, in which the sloped surface is used as a performing space, was in an unrealized design of the Interama plaza and housing.[39] The project was conceived as a space to exhibit solidarity among North American countries. In this design, a more controlled outline of the partially submerged form is found, although the steps over the slope create an informal, rhythmic pattern. This sloped side, which faces the complex's central plaza, acts both as a roof and a wall. In a way the sloped plane is a controlled element that bows down to the ground to receive people from the plaza. The harsh boundary between building and ground, and between the base and the surface, eventually is diffused.

In the design of West Pakistan's presidential complex, Kahn returned to the question of using the monumental pyramidal form as sculpted landscape. In one of his early sketches there is a drawing of a pyramid whose apex is made flat; additionally, a gigantic crescent and star, the symbol of Muslim spirit used on Pakistan's national flag, is attached to the front elevation. There is neither a firm logic nor supporting evidence to argue that Kahn was actually considering using this symbol and form literally.

It is more logical, in fact, that perhaps Kahn was absorbed in the idea of creating a visual emblem of Pakistan's newly institutionalized Muslim nationalism. Kahn did not pursue this idea literally, but it seems that he thought seriously of incorporating a pyramidal shape in the design for either East or West Pakistan projects. In a preliminary stage of designing the East Pakistan Parliament, Kahn considered a pyramidal shape hidden within the structure with an oculus to invite light to come through it. He also did not pursue this line of thought and rather moved to the concept of bunched cylinders in the manner of a medieval castle.

In Kahn's architectural vocabulary, a space, or a *room*, had a triangular shape or perimeter if it was associated with a space of transition and threshold, or with a space that connects two blocks or rooms or exterior space between two blocks, or outdoor rooms. However, in his 1950s works, the use of triangles was generally restrained, equilateral, and understood mainly in terms of the adjacent rectangle or the cylindrical volume that inscribed them.

Toward the end of the 1960s, Kahn's triangular outdoor space started to gain more liquid expression, which means that instead of following any ideal geometric order that reciprocates with the solids within which it is inscribed, Kahn emphasized the in-between spaces or the landscape setting that acted more as a fluid container in which the solid forms floated freely.

An epitome of such use of triangular spaces' liquid buoyancy can be seen in the layouts of the Dominican Motherhouse (1965–1969).[40] However the triangular space was, of course, by no means a compositional by-product; rather it reciprocated Kahn's principle of active geometry, in which the geometric shape breaks its orthogonality to establish a kinetic connection.[41]

This context of Kahn's use of playful triangular interior and exterior space and the variations of pyramidal volume raise the question: what prompted Kahn to use this form for the Center of Islamic Ideology? From the outset, the building did not have a very detailed program. In different phases, Kahn was provided with a detailed program for the other buildings in the presidential complex,[42] but there is no such document for the triangular building. And the various meetings between Kahn and the CDA only referred to the building as the "triangular building," as if the building were merely a hollow container with no strict function attached to it. It can be safely assumed that neither Kahn nor the CDA was sure about the structure's ultimate function. From the very beginning, it was the location, existence, and shape of the building that were important in defining and connecting the central square and creating an integrated landscape. Although the official title of the building makes us think that it would be a place where Pakistan's new government would showcase the newly anointed citizenship based on Muslim nationalism, in reality the triangular building was valuable to both the CDA and the consultants for its physical existence, for its role in giving the central square a definite identity.

Based on Kahn's use of triangular space and pyramidal volume, his treatment of Muslim architecture, and his approach toward landscape, it is possible to say that Kahn took the opportunity of the building's indefinite program to create a playful form and space that, at the same time, could be used as a space of connection between the square, assembly building, and the president's complex. Kahn hoped that by establishing connections among different blocks, the plaza would insert a sense of play and informality to the ceremonial and monumental appearance of the complex, and would bind together all of the buildings around the central plaza and surrounding landscape (Figure 5.6). Kahn used the lack of a program for the building to his advantage, experimenting with open spaces and rooms with little functional association, but a strong sense of openness and diffusion with the surrounding landscape.

Theatrical display of power in the landscape of Islamabad

CDA's demand for a larger public square was not so much about the physical expanse of the square and its landscape setting, although that was a recurring point of debate. Instead, it was a requirement for a grand and majestic scale of the square that perhaps sought to emulate the spirit of colonial grandeur and ceremonial ambience. On this ground, Kahn's idea was eventually not accepted by the CDA and he was terminated from the job

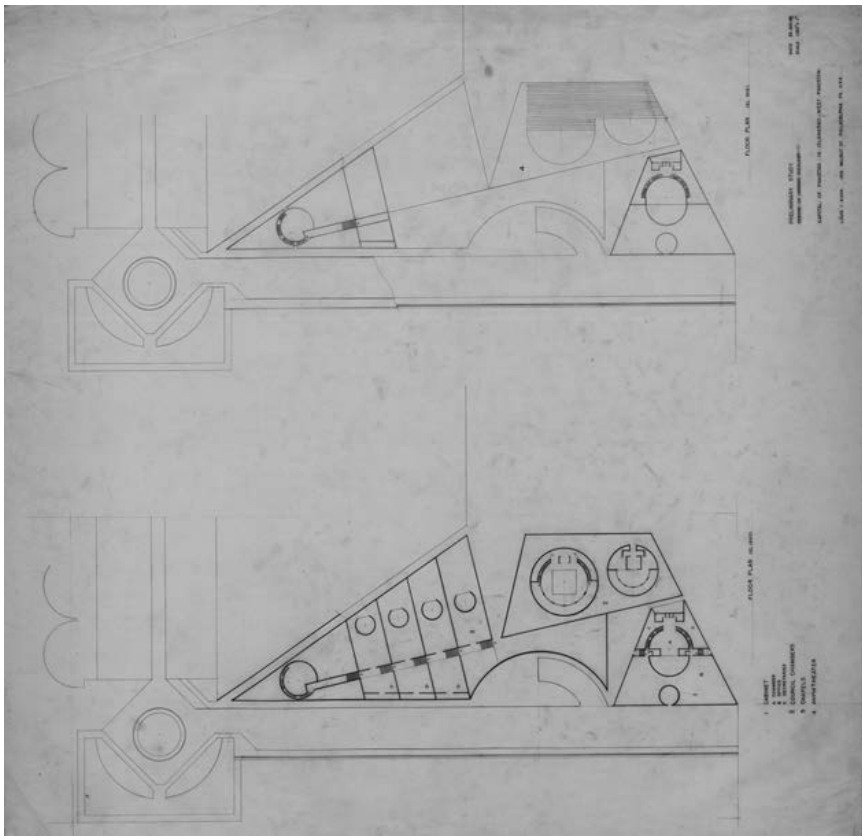


Figure 5.6 A schematic plan of the triangular building. The circular rooms and its surrounding lobby spaces are not associated with any specific function. (Courtesy of Architectural Archives, University of Pennsylvania.)

in 1966. The commission was immediately handed over to Edward Durell Stone, who was working in Pakistan on several government and private projects.[43] In fact, CDA contacted Stone before anyone else and asked him to take the role of either the coordinating or contributing architect on the team. However, because of Stone's prior work commitments, he was not able to accept the responsibility, and it was only in 1966 that he agreed to design the presidential complex.

In a 1961 letter, the CDA briefed Stone to create a space that would conjure up a series of connected open courtyards, monumental landscape, and Islamic architecture as an "operative mode."[44] This instruction defines Pakistan's bureaucratic goal for the project that conceived the landscape setting both as a backdrop and as a cause of animating and displaying nationalism as a modernizing force.

The archival documents of Stone's design process show that he followed two main design principles. First, he employed a basic module set up by the two rotating squares to create a star-shaped pattern – the hallmark motif of Islamic geometric decoration. He then utilized the hillside slope of the site strategically as the main design feature, both for buildings and squares. Stone employed the star-shaped module as a visual order that determined the scale of the composition – ranging from pavement and layout of the garden to interior floor tiles and ceiling decoration. This geometric module gives an underlying order that binds the interior space with the exterior landscape, the proportion and shape of the landscape, and the squares between the buildings.

The second design principle that Stone utilized was considering the entire presidential complex as the terminating end of the grand axis of Islamabad. The oblong landscape, as defined by the squares between the buildings, is considered the virtual extension of the city's main transportation artery, Jinnah Avenue (Figure 5.7). The landscape is articulated to create the end of the urban axis in an ascending hillside over which the President's Palace is located. The visual reminiscence of the structure with that of a tiered Mughal structure, juxtaposed over the monumental garden-like landscape, generates a powerful metaphor of power rooted in regional politics.

Stone's design, as it stands today, is organized against a central axis that terminates in the President's House (Aiwan-e-Sadr); the parliament house and the cabinet block of the Pakistan Secretariat sit face-to-face on both sides of the axis (Figure 5.8). It is not difficult to find the similarity with

Figure 5.7 Model of initial scheme of Edward Durell Stone's proposal for the Islamabad presidential complex. (Courtesy of Special Collections, University of Arkansas Libraries, Fayetteville.)

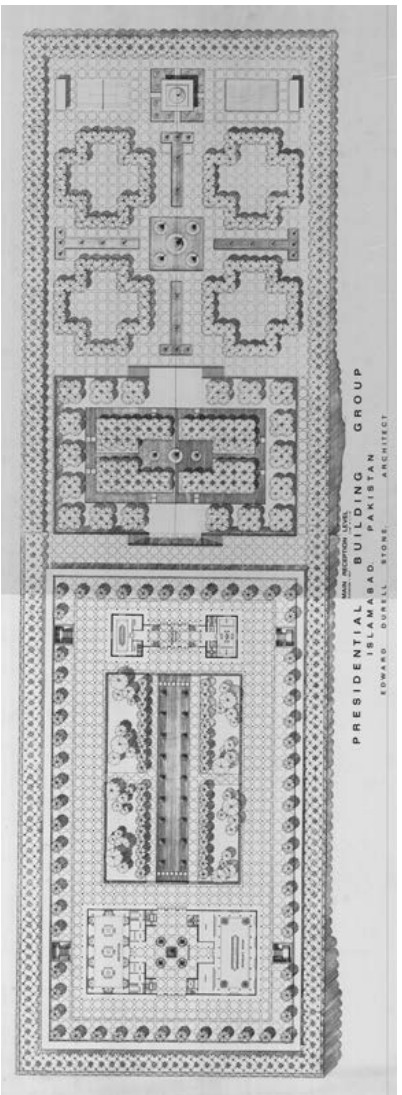


Figure 5.8 Durell Stone's initial scheme of the presidential complex showing the relationship between the landscape, square, and the main building blocks. (Courtesy of Special Collections, University of Arkansas Libraries, Fayetteville.)

Edwin Lutyen's plan for New Delhi, in which the grand central axis (Raj Path) terminates at the viceroy's palace, with the two identical secretariats placed on both sides of the central axis. In Stone's design, the sense of a solid square, which was the central point of Kahn's design, is not present; rather a grand open space creates an empty but stately foreground for the entire

complex. The grassy open space between the cabinet block and the parliament building is laid out on a typical *chahar bagh* (fourfold) concept, but surely was not intended to be used as a public square occupied by the commoners of Islamabad. The space is mainly a ceremonial space that separates the buildings and enhances the central axis. The architectural presentation of Stone's design of the presidential complex bears a striking resemblance to that of a traditional carpet's two-dimensional, abstract composition of geometrical patterns (Figure 5.8). Stone conceived the buildings as autonomous geometric shapes hovering over the surrounding landscape, which is mainly a voided ambience dotted with disciplined trees and shrubs to enhance the object-like existence of the building forms.

In retrospect, by considering Stone's design of theatrical display of ceremonial space, it is evident that the missing ingredient in Kahn's design was the sense of grand ceremoniality and a gesture of postcolonial authority and autonomy. But paradoxically, Stone's spatial schemes and landscape design shared symbols from the colonial spatial tradition. Kahn's scheme, on the contrary, was to create the square as a space of inspiration and to accommodate the multitudinous population, the vicissitude of ideology, and evolving cultural practice in a single public square. Kahn wanted to achieve that goal by incorporating the idea of *play* in conjunction with the idea of building as sculpted landscape. By utilizing the gradual and smooth transition of landscape and built form, as well as the force of triangular form and landscape, Kahn wanted to establish a dialogue between the square intended to be occupied by *people* and the playful linkage among different points in elevation of the terrain. It was the idea that the public square is an ambivalent space holding both intimacy and ceremoniality, built and unbuilt, playfulness and formality. However, CDA found the plan to be indecisive, if not perplexing. Additionally, Kahn's plan challenged the conventional mental image of Muslim architecture, which was modeled on a juxtaposition of Beaux Arts formality with Mughal symbols, an expression that the CDA deemed appropriate for the contemporary political situation.

The design and implementation process of Islamabad received a mixed review from the press; while some considered it representative of Pakistan's economic development, many others considered it sheer madness to waste limited economic resources for such purposes.[45] Nonetheless, research has shown DA's initial use of small public spaces is popular among the inhabitants even today, and they continue to use these spaces as hubs of outdoor socialization.[46]

These open spaces, as designed by DA, were not intended to serve as inspirational centers for the entire city – in other words, forming a space to evoke collective aspirations was never DA's central agenda. According to their design, the continuous band of small open spaces woven throughout the residential zones were meant to be an active ingredient of everyday life, but never to surpass the everyday experience to contain the heroic and

monumental sense of collectivism. DA confined the city-scale open space within the presidential complex. Through careful placement, DA wanted to ensure a safe distance of this space from the everyday life of the city. The nature of this gathering, as initially conceived by DA and later supported by the CDA, was very formal and only reserved for ceremonial performances.

While Kahn was reluctant to give expression to that grandiose, if not exclusive, ceremoniality, it was Stone's design that captured the spirit of ceremonial display of authority. Stone's space also features a conceptual linear hierarchy similar to ancient cities, in which authority was located (if not created) at the edge of the overall spatial scheme and then deployed through the network of roads and other open spaces. In Islamabad this notional idea of disseminating power through a network of open spaces is well displayed annually through the independence parade on Jinnah Avenue, the main visual and physical axis of the city. The symbolic power of the presidential complex is thus deployed through the network of open space, transposing the apparently innocuous and passive open spaces into apparatuses of sustaining power and authority.[47]

Conclusion

Louis Kahn's unrealized design of Islamabad is one of the most important design endeavors in the late 20th century for its value as a lens for viewing his mature thoughts. The design also documents how Pakistani bureaucrats, architects of the CDA of Islamabad, and martial leaders of Ayub Khan's government imagined the material expression of the new postcolonial Muslim nationalism, and how that was similar to and different from Kahn's perception. The conflict, confrontation, agreement, and disagreement between Kahn and the CDA is best preserved in the three major schemes that Kahn developed throughout his involvement in the project. These in-progress designs are the only surviving evidence and reflections of the complex psychological processes of the leaders of a postcolonial nation – not to mention Louis Kahn and his associated American consultants' response to evolving sociopolitical conditions.

The central focus of initial discussion in CDA was to determine a design strategy for the presidential complex in Islamabad, the character of the public square, and how to moderate the harsh separation of public building and open space. In response to CDA's primary concern, Kahn proposed to diminish the intimidating monumentality of public buildings that were set in the vast modular grid of Islamabad by their articulation, and merge them with the surrounding landscape. On the basis of CDA's primary input in the design, during the germination phase of the design, Kahn was more attentive to giving the square a carefully controlled monumental scale that would not be intimidating or exclusive, but rather heroic in its presence.[48]

Through this heroic monumental existence, CDA and Kahn expected to draw people together in his proposed landscape to create the core of the urban surroundings. However, as the project developed, the idea of an urban square as the hub of public life eventually diminished. Instead, CDA (under the influence of Ayub Khan) refocused emphasis on creating dynamic movement along a grand axis, an imposing order, and a disciplined natural environment. CDA's shift of preferences becomes evident by comparing Stone's and Kahn's designs. Kahn was exploring ways by which a square could exist – both as an intimate human gathering place and at a grand monumental scale – where people could assemble and that would stimulate action and events. In contrast, Stone's scheme promoted continuous human movement along an axis that impeded any possibility of gathering.[49] The landscape and urban square had been considered as a way to set the spatial background to display state authority. CDA insisted on conceiving the square and landscape as a passive background in which everyday public events should be discouraged from taking place.

For example, Kahn's proposal of a chapel from where Muazzin could call for prayer, though very Muslim in spirit, must have appeared inappropriate to the CDA; this idea in Stone's final design did not materialize. The square was evolving in Kahn's design as a lofty vision of sculpted landscape – sculpted in a way that it not only dissolves visually and formally the boundary between building and its landscape setting (as seen in the design of the triangular building), but also conceptually destroys the barriers between the building as the container and generator of event and its landscape. The open space and urban square as an active agent to evoke the desire to act and perform events set the framework of Kahn's forms. CDA's involvement in Kahn's design demonstrates a multilayered picture in which CDA and Kahn interpreted the meaning of landscape in a very different, if not contentious, manner. In contrast, they both agreed on uniting landscape, buildings, squares, and interior and exterior space in a synergistic way. The incomplete design of Kahn represents both an appropriation and criticism against the theatrical and synthetic display of any specific ideology, such as Pakistani nationalism or Islamic traditionalism. In the end, the design was intended to act as a catalyst or attractor to create liberated space – liberating condition for individuals and for the nation – anywhere in the world.

Acknowledgment

The Graham Foundation's Grant for Advanced Study in Art and Architecture generously supported research for this study. I am grateful to William Whittaker and Nancy Thorne for their generous help in my research at the archives of the University of Pennsylvania. Mohammad Gharipour's comments on the early draft helped to structure this chapter, and Stephen Grabow's valuable suggestions also strengthened the arguments presented here.

Notes

1 Pakistan was established on the basis of Muslim majority regions in British India and eventually was divided into two wings, East Pakistan and West Pakistan, separated by India by 1,000 miles. Except for religion, the two wings were radically different in cultural practices. In addition, the conflicts among different regions and factions and feuds within West Pakistan were also complex. In order to sustain the integrity between the broader two wings and also the contesting groups within each wing, it was crucial to create an ideological symbol and center that would bind the different groups under the spirit of a single nationalism. Besides many other political and administrative objectives, the new capital was supposed to serve as the emblem of Pakistani nationalism. However, East Pakistan separated from West Pakistan through a bloody liberation war and emerged as a new nation-state, Bangladesh, in 1971. For the context of establishing Islamabad, see Derek Lovejoy, "The Design of Islamabad – New Capital City of Pakistan," *Journal of the Royal Society of Arts* 114, no. 5123 (1966): 923–941; and Anne Prentice, "Islamabad: A New Capital City," *Geography* 51 no. 1 (1966): 58–61.

2 Doxiadis Associates, *Islamabad: The New Capital of Pakistan* (Athens: Doxiadis Associates, 1964).

3 Matthew S. Hull, *Government of Paper: The Materiality of Bureaucracy in Urban Pakistan* (Berkeley: University of California Press, 2012).

4 Ahmed Zaib Khan Mahsud, "Rethinking Doxiadis' Ekistical Urbanism," *Positions* 1 (2012): 6–39.

5 Ekistics is an overarching theory of an integrated design discipline that takes the development and evolution of physical environment holistically – regional, urban, and rural planning, as well as community settlements, housing, and individual dwellings. Through ekistics Doxiadis wanted to achieve a scientific mode of design that would combine aesthetics with ecology, anthropology, politics, and culture.

6 M. Ijlal Muzaffar, "Boundary Games: Ecochard, Doxiadis, and the Refugee Housing Projects under Military Rule in Pakistan, 1953–1959," in *Governing by Design, Architecture, Economy and Politics in the Twentieth Century*, ed. Aggregate (Pittsburgh: University of Pittsburgh Press 2012), 142–178; and Markus Daechsel, "Sovereignty, Governmentality and Development in Ayub's Pakistan: The Case of Korangi," *Modern Asian Studies* 45 (2011): 131–157.

7 Abdul Rehman, "Changing Concepts of Garden Design in Lahore from Mughal to Contemporary Times," *Garden History* 37 (2009): 205–217.

8 For a critical review of Kahn's conception of large-scale civic space, see Sarah William Ksaizek, "Critiques of Liberal Individualism: Louis Kahn's Civic Projects, 1947–57," *Assemblage* 31 (1996): 56–79.

9 For Kahn's remark on monumentality, see Louis Kahn, "On Monumentality," in *New Architecture and City Planning: A Symposium*, ed. Paul Zucker (New York: New York Philosophical Library 1944), 77–88. For a general review on the approach toward monumentality and civic architecture of the 1950s, see Sarah Ksiazek, "Architectural Culture in the Fifties: Louis Kahn and the National Assembly Complex in Dhaka," *Journal of the Society of Architectural Historians* 52, no. 4 (1993): 416–435.

10 For a general discussion of Kahn's involvement in Islamabad project, see David G. De Long, "L'architecture de la communion," in *Louis I. Kahn: Le Monde de l'Architecture*, ed. David D. Brownlee and David G. De Long (Paris: Center Georges Pompidou, 1992), 145–165; Heinz Ronner, Louis I. Kahn, and Sharad Jhaveri, *Louis I. Kahn: Complete Work, 1935–1974* (Boston: Birkhäuser Verlag, 1987); Louis I. Kahn, *The Louis I. Kahn Archive: Personal Drawings: The*

Completely Illustrated Catalogue of the Drawings in the Louis I. Kahn Collection, University of Pennsylvania and Pennsylvania Historical and Museum Commission (New York: Garland, 1987).

11 Minutes of the Joint Meeting of Architects Held in the Capital Development Authority's Conference Room, January 9, 1964. Louis I. Kahn Collection, University of Pennsylvania (hereinafter LIK), 030.11.A.82.24, Kahn Collection.

12 Administrative Sector Landscaping. Derek Lovejoy & Associates, Rawalpindi, January 6, 1964. LIK 030.11.A.82.24, Kahn Collection.

13 In a letter to Matthew, Kahn summarized his thoughts on the square in the following manner:

> The Landscaping of the two hills and the lake area harbored by the tree hills is now more understandable. The National Monument on the square in place of the Cabinet Building is suggested out of the recent realization that it could be a new concept of Minaret embodying a small chapel raised above the level of the square, and a small platform from where one could preach facing Mecca toward a chapel and facing the multitude on the square. The square is being suggested as a roofless Hall of Meeting.
>
> Letter, Kahn to Matthew, January 8, 1965, Master File – January 1965–February. Box LIK 10, Kahn Collection.

14 Minutes of the Meeting of the Government Committee Held on January 26, 1965. LIK 030.11.A.82.24, Kahn Collection.

15 Ibid.

16 Preliminary comments on plans for president's house, assembly building, and other buildings presented by Prof. Kahn, January 25, 1965, by Robert Matthew. p. 1. LIK 030.11.A.82.24, Kahn Collection.

17 Capital Development Authority, Corrigendum, Rawalpindi. February 6, 1965. p. 2. LIK 030.11.A.82.24, Kahn Collection.

18 Ibid.

19 Minutes of the Meeting Held on February 2, 1965. p. 1. LIK 030.11.A.82.24, Kahn Collection.

20 On March 5, 1965, Gio Ponti wrote Kahn the following letter:

> Dear Mr. Kahn, I can hardly believe that in your intervention in the work for Islamabad you have not thought that all works already made by us, your colleagues, for the design of the Foreign Office building are to be sacrificed, while you had seen all the plans representing two years work and the model submitted at the meeting in Rawalpindi last October in your presence. Yours, Arch. Gio Ponti.

21 Minutes of the Meeting Held in Conference Room, CDA, Rawalpindi, July 14, 1965. p. 2. LIK 030.11.A.82.24, Kahn Collection.

22 Letter, Faruqui to Matthew, May 11, 1965. LIK 030.11.A.82.24, Kahn Collection.

23 Ibid.

24 This situation must have created a confusing state for Kahn, as he wrote to Matthew: "The insistence of the Islamic touch is plaguing . . . but in spite of this, it can stimulate resources called on before." Letter, Kahn to Matthew, August 27, 1965, Master File, June 1965, July . . . October. Box LIK 10, Kahn Collection.

25 Kahn's response toward traditional architecture in the context of a predominantly Muslim country is well documented from his speech at the 1970 World Congress of Architects, Isfahan, titled "The Interaction of Tradition and Technology." The congress was organized by Queen Farah Deba to discuss the interaction of tradition and the modern technology. Kahn, an invited speaker, expressed his views: that he preferred the ruins of Persepolis over the architecture of Isfahan, as the

architecture of Isfahan, built under Muslim rule, followed a prototype while the Palace of Persepolis did not follow any prototype, and thus it is pure expression of architectural inspiration. He also stated that tradition is like a golden dust that provides the architect the power of anticipation. Although Kahn's assumption might not be absolutely historically accurate, it is reasonable to say that Kahn opted for a prehistoric time that is distant enough to have lost any direct association with contemporary situation. See Louis Kahn, Speech at the International Architectural Congress, Isfahan, 1970 transcript printed in *Art and Architecture* Special Issues 6–7 (June–November 1971): 3; Fereydoon Arastoozahed, "Interview with the First International Architectural Congress Participants, Isfahan, September 1970," *Art and Architecture* 8 (1972): 66–68, quoted in Hamed Khosravi, "Politics of DeMonst(e)ration," *San Rocco* 6 (2013), 28–37.

26 William J.R. Curtis, "Authenticity, Abstraction and the Ancient Sense: Le Corbusier and Louis Kahn's Ideas of Parliament," *Perspecta* 20 (1983): 191, 181–194; William J.R. Curtis, "Modern Architecture and the Excavation of the Past: Louis Kahn and the Indian Sub-Continent," *Louis I. Kahn: The Power of Architecture*, ed. Mateo Kries, Jochen Eisenbrand, and Stanislaus von Moos (Weil am Rhein: Vitra Design Museum, 2012).

27 Sarah Williams Goldhagen, *Situated Modernism* (Ithaca: Yale University Press, 2001).

28 The topic of free or "context-less" use of regional motifs and symbolic elements in modern architecture complicates the notion of critical regionalism in modernism, as it suggests that specific elements, whether addressing climate or culture, seen as appropriate to a particular place were in fact incorporated on a global scale but just explained in local terms or according to local history/culture in each instance. For example, it complicates much recent scholarship that looks at the localization of modernism by suggesting that many of the elements seen as regional were in fact deployed on an international scale, thereby undermining arguments of the localization of modernism as a demonstration of local agency. This is especially relevant when dealing with postcolonial or first world/third world relations, which also suggest that there may have been a disconnect between government ideology or the way these buildings were discussed at a popular level and the ideology or practice of the architect. This in turn calls for us to look more at the global scale and networks within which many architects were working in the postwar period (architects such as Stone, Kahn, etc.), and how this shaped practice and influenced their practice.

29 Naveeda Khan, *Muslim Becoming: Aspiration and Skepticism in Pakistan* (London: Duke University Press, 2011).

30 Susan G. Solomon, "Louis Kahn's Buildings for the Three Faiths: 'Religion . . . not a religion,'" in Kries et al., *Louis I. Kahn*, 149–163.

31 Minutes of the Meeting of the Government Committee Held on January 26, 1965. LIK 030.11.A.82.24, Kahn Collection.

32 Nevertheless, the last version of Kahn's assembly hall – a domed structure with a triangular punched surface – was evidence of Kahn's negotiation with the bureaucratic demand of Islamic architecture. So far, no documentary evidence records any of Kahn's explicit study of the Islamic dome and his effort to transpose that in the assembly hall. However, this issue demands a more detailed discussion, which is beyond the scope of this chapter.

33 For a discussion of Mughal garden, see: James L. Wescoat and Joachim Wolschke-Bulmahn, *Mughal Gardens: Sources, Places, Representations, and Prospects* (Washington, DC: Dumbarton Oaks Research Library and Collection, 1996). For a discussion of Kahn's philosophy of conflating architecture and landscape, see Kazi Khaleed Ashraf, "Taking Place: Landscape in the Architecture of Louis Kahn," *Journal of Architectural Education* 61, no. 2 (2007): 48–58.

34 In the second version of Levy Memorial Park (beginning in 1963), we see the emergence of three-stepped pyramidal forms, each half-embedded in the ground below. These three-stepped platforms face each other over a central rectangular courtyard, resembling Aztec temples. In the third version of the design, toward the end of 1963, a distinct stepped pyramidal shape marks the west end of the side that balanced a large stepped and inclined stepped platform that dominates the east side of the site. Three circular punches on two sides and a triangular entryway suggested that the pyramidal form is different from that of the Egyptian one as this new pyramid is hollowed and can be entered. The central platform is now scattered all over the site; the main play area is curved out from the ground and delimited by a broken medieval fortress-like periphery, an image further accentuated by the use of two circular curved spaces at the jagged corner and the long causeway. In the fourth version (1964), the pure pyramid is now flattened into an elongated triangular shape, connected to the peripheral causeway that has now taken more of the shape of a building. However the circular punch on the side of this impure pyramid has gained more prominence and become the major defining factor of the elevation. In the final version (1965), this shape of an impure or fragmented pyramid form is subdued by surrounding structures and gives an impression of pivoting or transitioning while remaining the same. See Isamu Noguchi and Louis Kahn, *Play Mountain* (Japan: Marumo, 1996). Published on the occasion of the exhibition "Isamu Noguchi & Louis I. Kahn Riverside Drive Park Playground 1961–66," May 11–September 8, 1996 at Watari-Um, the Watari Museum of Contemporary Art.

35 George M. Marcus and William Whitaker, *The Houses of Louis Kahn* (Ithaca: Yale University Press, 2013).

36 Sarah William Ksiazek, "Architectural Cultures in the Fifties: Louis I. Kahn and the National Assembly Complex in Dhaka," *Journal of Architectural Historians* 52, no. 4 (1993): 416–435.

37 Eugene J. Johnson and Michael J. Lewis, *Drawn from the Source: The Travel Sketches of Louis I. Kahn* (Cambridge MA: MIT Press, 1996).

38 The design of Washington University Library, St. Louis, Missouri (unbuilt, 1956), in a ziggurat or stepped pyramid form had the objective of breaking the monolithic and stout mass of the colossal function into human scale so that the building could move between two different scales – urban and human. The cross-shaped plan also makes the corner ridge soft and blurry, the gradual upward movement of the stacked blocks creates a good transition from the human scale at the sidewalk to the urban scale toward its apex. Scholars speculate its connection with French Neoclassicism especially with Boullée's Project for a Pyramid, see Kenneth Frampton, "Louis Kahn and the French Connection," *Oppositions. A Journal for Ideas and Criticism in Architecture* 22 (1980): 20–53.

39 Robert A. Gonzalez, "The Fair City of Interama," *Journal of Architectural Education* 62 (2008): 27–40.

40 The three different versions express the architect's intention to minimize the corridor-like connection among blocks by bringing the corner of each form closer to each other, eventually resulting in a composition of a series of juxtaposed triangular exterior spaces.

41 Triangular space as a space of transition, connection, and switch is also evident in Kahn's travel sketch of the pyramids in which the triangular shadow claims a surface on the ground that gives a grounding to the mass of the pyramid and paradoxically gives the impression of being very light and floating.

42 "Revised Space Requirements in Respect to the President's Estate . . . April 1963," "President's Estate, Islamabad, Program." Box LIK 82, Kahn Collection.

43 Cable, Kahn to his Philadelphia office, January 11, 1966, "Cablegrams – Pak. Estate." Box LIK 82, Kahn Collection. For a review of Stone's work in a

non-Western context, see Timothy Reinen and Mohammad Gharipour, "Edward Durell Stone: Architectural Works in Asia & North Africa," *Proceedings of the 2nd International Conference on Sustainable Cities, Urban Sustainability and Transportation*, Baltimore, 2013: 232–238.

44 Letter from Akhtar Mahmood, Secretary CDA to Edward Durell Stone, August 1, 1961. Box 82, Folder 4, MC 340. Edward Durell Stone Papers, Architectural Archives, University of Arkansas.

45 Sydney H. Schanberg, "Pakistani Capital: Madness to Some, It is a 'Lovely Garden City' to Others," *New York Times*, April 10, 1970.

46 Saima Sabit Ali, "Measuring the Success of Human Settlement – The Case of Islamabad," masters thesis, Urban Management and Development, Erasmus University, Rotterdam, the Netherlands, 2013.

47 Lawrence Vale, *Architecture, Power and National Identity* (New York: Routledge, 2008).

48 From the outset Kahn was criticized for his over emphasis on the square. Letter, Matthew to Kahn, March 3, 1965, "President's Estate . . . Correspondence, Sir Robert Matthew." Box LIK 82, Kahn Collection.

49 Capital Development Authority, Corrigendum, Rawalpindi, February 6, 1965. p. 2. LIK 030.11.A.82.24, Kahn Collection.

6 Paradise reconsidered

The early design history of Pardisan Park in Tehran

Kathleen John-Alder

In March of 1975, the Philadelphia land planning and landscape architecture firm Wallace McHarg Roberts and Todd – in conjunction with the Tehran-based architecture firm, Mandala Collaborative – delivered a report to the Iranian Department of Environment titled *Pardisan: Plan for an Environmental Park in Tehran*.[1] According to the document, Pardisan was to be an international symbol of enlightened stewardship that would outshine all other environmental parks then in existence.[2] At the national level, it would create a precedent for the integration of ecology into Iran's modernization schemes, which in turn would provide a platform to showcase the country's rich natural and cultural history, and the progressive vision of the Imperial Government of Iran. Given these ambitions, it is not surprising that Pardisan was also seen as a means for Iran to regain its position as one of the world's foremost intellectual leaders.

The Department of Environment subsequently presented the Pardisan report, along with an accompanying illustrative site plan, model, and short movie, to Her Royal Majesty Queen Farah Diba-Pahlavi, empress and consort of Mohammed Reza Pahlavi, the Shah of Iran.[3] The project's preservation objectives, educational mandate, and desire to provide an oasis-like recreational setting for the Iranian middle class reflected the vision of modernization promoted by the Queen.[4] Yet Pardisan's implementation ultimately depended upon the approval and financial backing of the Shah.[5] To that end, the report made reference to Persian architectural grandeur, Islamic spiritualism, and traditional customs.

Although clearly intended to appeal to both the Queen and Shah – thereby garnering political and financial support – the report's antimodern sentiment also mirrored a larger intellectual discourse occurring in Iran at that time. This discourse, as noted by the architectural historian Talinn Grigor, reflected a growing sense among the Iranian design-elite (a belief they shared with environmentalists in the United States) that the technological progress made possible by Western industrialism was no longer adequate – that it had somehow caused people to lose contact with their surroundings and with others. Iranian society, in other words, was somehow both the beneficiary and victim of modernization. As Grigor also observed, the Iranian

aristocracy, in allegiance with the Pahlavi regime, had kept a tenacious grip on wealth and power, which made their embrace of Iran's cultural heritage a socially critical but self-referential act that somewhat ironically looked to the state for sponsorship.[6] Further complicating this state of affairs was the equally strong desire by Iran's burgeoning middle class for all the modern accoutrements the West could provide.[7]

In this sense, Pardisan was as much about the personification of competing personal interests and motivations as it was about the Pahlavi regime's modernization agenda. To capture this elusive but critical aspect of the design's history, this chapter draws upon archival resources, project reports, and personal interviews in an attempt to let the words and actions of the project's key players – as they developed the plan and sought financial support for its implementation – speak for themselves. These key players included Eskandar Firouz, the first director of the Department of Environment in Iran; Jahangir Sedaghatfar, the architect deputized by Firouz to manage the project; Ian McHarg, the landscape architect and urban planner selected by Firouz and Sedaghatfar to design the project; and Nader Ardalan, who sought to infuse the architecture with spiritual meaning. This chapter reveals the intersection of aspirations, ambitions, and politics that ultimately shaped the design. But perhaps most importantly, by recovering the scattered pieces of Pardisan's early history, this chapter also captures a singular moment in mid-20th-century landscape design when regionally based, ecologically inspired conservation strategies became global in scope and entwined with postcolonial modernization.

An image of paradise

To fully understand the Pardisan project, it is necessary to begin with the United Nations Conference on the Human Environment held in Stockholm, Sweden, in June of 1972. Commonly referred to as the "Only One Earth" Conference (in reference to the iconic photograph of Earth taken by the Apollo 11 astronauts), the meeting promoted international cooperation as a means to protect, improve, and remediate the human environment.[8] Although ecology was the idealistic underpinning that drove the discussions, conference participants pragmatically considered whether or not the "intractable conflict between environmental conservation and economic development, between global needs and national rights, between wealthy and poor countries" could be resolved amicably.[9] The delegates, in effect, recognized both the jurisdictions and varying agendas of each country, which they then formalized through modest but optimistic language that asserted that global environmentalism had to begin at the local level.

Eskandar Firouz, undersecretary for Iran's Ministry of Agriculture and vice chair of the Stockholm Conference, led the Iranian delegation.[10] Inspired by the forward-thinking tone of the conference and its call for environmentally responsible urbanization, Firouz envisioned Iran as a global leader in the

science and policy of sustainable development. As revealed by subsequent actions, he drew particular inspiration from the intertwined themes of ecology, urbanism, natural and cultural preservation, education, and informed public decision-making enumerated in the conference recommendations.[11]

Firouz was born in 1926, in Shiraz, Iran, into the illustrious and powerful Farman-Farmaian family. He was educated in Germany and then in the United States – first at the Lawrenceville Preparatory School and then at Yale University, where he studied civil engineering. After graduating, Firouz returned to Iran to work as a consulting engineer for the 1958–1961 Karaj Dam project, and then served as president of the Iran-Khalij Company, a manufacturer of small trucks.[12] The water and hydroelectric power from the dam helped to fuel the industrial production that modernized Tehran, and made possible corporations such as Iran-Khalij.[13]

Beginning modestly and under the patronage of the Shah and his brother Prince Abdorreza, Firouz's first foray into environmental activism began in 1956 with the Game Council of Iran. Essentially a loose confederation of individuals from the country's elite families, the organization instituted and sold game licenses, established hunting seasons, and designated endangered species.[14] In 1967, Firouz assumed leadership of the newly formed Game and Fisheries Department of Iran. That same year he presented Iran's recent conservation efforts at a scientific conference in Morges, Switzerland, sponsored by the International Union for Conservation of Nature (IUCN). In line with the model embraced by IUCN, he outlined an approach to wildfowl conservation that relied upon the continuance of traditional farming and hunting customs – in effect embracing a policy that combined care for the rural poor with the protection of animal species critical for game hunting.[15] Although Firouz now promoted wildlife conservation over sportsmanship and hunting prowess, in many ways this stance simply codified principles that had guided his efforts at the Game Council. For example, he espoused the aristocratic notion of responsibility toward the less fortunate, coupled with the pragmatic belief that it was smart policy to protect the resources upon which one's livelihood depended. While this approach commonly guided conservation efforts in Europe and the United States, for Firouz it was personal and closely related to the intellectual patrimony of his family.[16]

The Morges meeting set the stage for a conference held in the Iranian city of Ramsar in February of 1971, which resulted in the Convention on Wetlands of International Importance (Ramsar). As noted by G.V.T. Matthews, who alongside Firouz helped to organize the event, Ramsar ratified standards for global conservation that used the management of wetland and wildfowl stock as the metric for success. An address by Prince Abdorreza, in conjunction with the decision by the Iranian government to place in trust a wetland of global significance, added an air of legitimacy to the proceedings. Firouz's skillful diplomacy with a recalcitrant Russian delegate is universally credited for the successful outcome of the conference.[17] One month later the Department of Game and Fisheries became the Department of Environmental Conservation.[18]

Now armed with practical knowledge, international contacts, and a national platform, Firouz acted decisively to protect the landscape of his rapidly modernizing country. His efforts included the establishment of Iran's first system of parks and land preserves.[19] But his crowning vision – the venue that would symbolize his ideals and instill an environmental ethic in his fellow countrymen – was the park that he dreamed of creating during the Stockholm Conference. According to Firouz, this park would "embrace all known aspects of the universe and the world. Ranging from its beginning; to the evolution of life; to man and his use and abuse of nature; to a future wherein he must find harmony with his world."[20] Venues would display the natural history of the earth, and they would situate the history of human settlement within this context. Equally important, the park would present its narrative of "man and nature" as the ultimate synthesis of Eastern cultural tradition and Western technological acumen. To honor this conceptual unification, Firouz named the park Pardisan – an amalgamated concept of paradise derived from the cognate of the Greek *paradeisos* and the Arabic term for *many*.[21] In Firouz's mind, Pardisan would be a scientific and culturally resonant embodiment of the ancient Persian royal garden – a place to enjoy "all good things the earth provides."[22]

Shortly after the conclusion of the June 1972 Stockholm Conference, Firouz approached Jahangir Sedaghatfar, an expatriate Iranian architect living in the United States, to help realize Pardisan. Born in the Sarechal section of Tehran, Sedaghatfar left Iran in 1963 to study architecture at Queens College in New York. Two years later he transferred to Kent State University in Ohio, where he received a bachelor of science in architecture in 1970 and a master's in urban design in 1971. Shortly thereafter he moved to Newport News, Virginia, where he taught design studios and a course on architecture and the environment at Hampton College.[23]

Sedaghatfar traveled to Iran in the summer of 1972 to deliver a series of talks on urbanization to the Ministry of Science and Higher Education, the Ministry of Housing and Development, Tehran University, and the Shiraz (Pahlavi) University. As he would later proudly note, the prominent royalist newspapers *Kayhan* and *Ettela'at* published his remarks.[24]

Sedaghatfar's talking points, as outlined in his 1971 book *Entopia*, incorporated environmental commentary then typical in architectural discourse, including anxiety over pollution, population, nuclear annihilation, and the imbalance between technological and psychological development. Hand-drawn illustrations by Sedaghatfar supported this worldview, as did references to and quotes from Buckminster Fuller, Constantinos Doxiadis, Paolo Soleri, Paul Ehrlich, Reyner Banham, Alfred North Whitehead, Pierre Teilhard de Chardin, and George Orwell.[25]

Of relevance to the present discussion is the latter half of *Entopia*, which examined urban development in Tehran. In this section of the text, Sedaghatfar mourned the loss of the city's architectural heritage, as symbolized by the demolition of its 19th-century walls and gates in the 1930s during the reign of

Reza Shah, the current Shah's father. He then superimposed upon this image a vision of a modern city driven more by commerce, technology, and the leisure pursuits of an aspiring middle class than by a shared sense of place. His subsequent planning proposal provided basic infrastructure, light industry, community facilities, single-family housing, and parkland as a means to extend the health and welfare objectives of modern architecture to all income districts of the city. Yet, as indicated in his proposal to control growth by concentrating new development in satellite communities located along the Tehran-Karaj highway, his scheme serviced the upwardly mobile rather than the urban poor.[26]

Despite the fact that Sedaghatfar's proposed development scheme failed to address all of his social aspirations, it nonetheless validated why Firouz sought out the young, Western-trained architect. First, Sedaghatfar, who fortuitously was in Tehran when Firouz began to formulate his plans for Pardisan, was a meticulous researcher versed in the latest architectural discourse, including those of Western avant-garde theorists, as well as the closely entwined development and political history of Tehran. Second, as an ambitious, educated member of Iran's new middle class, he was receptive to the ideas that Firouz sought to implement. Third, and perhaps most importantly, the two individuals shared a respect for tradition, which they combined with the belief that modernization could be morally uplifting and environmentally friendly.

As the deputized agent for Firouz, Sedaghatfar's assignment involved selecting the lead design consultant. Working independently (and initially without pay), he developed selection criteria, compiled a list of potential consultants, and conducted interviews. The consultant list included the architectural firms Morris Ketchum, Van der Pool, and Skidmore Owings and Merrill, each of which had completed major zoo facilities. The list also included the urban planner and landscape architect Ian McHarg, who had come to Sedaghatfar's attention through his book, *Design with Nature*.[27] After an extensive interview process, during which Sedaghatfar talked with each consultant and reviewed submitted project materials, he presented his findings to Firouz. This meeting occurred in a hotel room in Chicago, and McHarg was the top candidate on the list.[28] Following Sedaghatfar's recommendation, Firouz selected McHarg, who then traveled to Iran to learn more about the project.[29] Sedaghatfar, however, declined an offer to manage the project, preferring instead to remain at Hampton College. He was convinced that Pardisan, while an intriguing idea, was a utopian dream far outside the realm of possibility.[30]

Designing with nature in mind

It is impossible to talk about the design of Pardisan Park without talking about Ian McHarg, the fiery orator and visionary urban planner selected to lead the project. McHarg was born in Clydebank, Scotland, in 1920. After

serving with distinction in the Second World War, he attended the Graduate School of Design at Harvard University where he received degrees in landscape architecture and urban planning. In 1954, McHarg accepted a teaching position in the Department of Landscape Architecture at the University of Pennsylvania, where he served as department chair for over thirty years. In addition to his administrative and teaching responsibilities, he was a founding partner of Wallace McHarg Roberts and Todd (WMRT).[31]

In 1969, McHarg gained critical acclaim and international notoriety as the author of *Design with Nature* – a fiercely passionate environmental planning manifesto that championed the close observation of the natural environment. The starkly dramatic images of the Sun and the Earth on the front and back covers of the book linked the text's high purpose and revolutionary environmental declarations to McHarg's belief in scientific progress and to his innocent capacity for cosmic wonder.[32] The logical intricacy of *Design with Nature*'s planning method, the immaculate clarity of its environmental message, the hint of the fantastic in its futuristic vision, and the folk-hero status of its author contributed greatly to the mystique and success of McHarg and WMRT – all of which played a role in his selection as lead consultant for Pardisan.

In the fall of 1972, WMRT negotiated a contract with the Iranian Department of Environmental Conservation for an initial feasibility study, with McHarg as partner-in-charge, William Roberts providing day-to-day management, and Colin Franklin assuming an important design role as project captain.[33] The site for the proposed study, a rugged 300-hectare parcel of open land northwest of Tehran, had magnificent views of Mount Damavand, Iran's highest mountain. The parcel was part of a larger 1,100-hectare tract under development by Bank Omran, the financial arm of the Pahlavi Foundation (Figure 6.1).[34] Also noteworthy is the fact that a recently completed *Comprehensive Plan for Tehran*, prepared by Victor Gruen Associates and Abdol Aziz Farman-Farmaian, had proposed that land in this section of the city be preserved and reforested as part of a larger urban greenbelt system.[35]

A "Descriptive Report" on the environmental park, written by Firouz, established the planning framework that WMRT would follow in the feasibility study, beginning with the statement: "Man has a living, creative and inseparable link with the environment." Firouz argued that to understand the nature of this relationship, one must have a thorough "familiarity with all elements of life, including the soil, water and all living things, from the basest to the most noble of creatures." The park, which would consist of a zoo, botanic garden, natural history museum, planetarium, and aquarium, would provide that familiarity through an integration of the sciences. This scientific "ecosystem" would, in turn, be supplemented by an integrated mode of display in which plants, animals, and people were "exhibited in close proximity to each other as they exist in nature."[36]

Figure 6.1 Site sketch and location map by WMRT. (Courtesy of Architectural Archives, University of Pennsylvania.)

A key objective was education. Firouz hoped that park visitors would embrace what they observed, link their experience with the park to their personal lifestyles, and modify their behaviors accordingly. Firouz argued such experiential lessons would, following the guidelines of the Stockholm Conference, demonstrate that "progress and expansion of human communities does not inevitably lead to the destruction of nature."[37] In addition to the public programs, this objective would be supported by a research facility devoted to environmental protection, pollution mitigation, and the preservation of endangered species.

Another important objective was the celebration of ancient Persian culture, which Firouz claimed was consistent with the principles enumerated at Stockholm because it "conceived of the earth as mother, nature as sacred, and pollution of the environment as sin."[38] This line of thinking led Firouz to further state that although global in conception, Pardisan's vantage point would be Iranian. Accordingly, its design would dramatize the close relationship between the country's diverse, multiethnic culture, its religious and philosophical traditions, its art and architecture, and the diversity of its physical landscape.

Brian Spooner, the University of Pennsylvania cultural anthropologist who compiled the ethnographic information for the project, identified five possible themes for cultural exhibits in the park: Irrigation and Agriculture, Pastoralism, Housing, Daily Life (videos, not reenactments), and Crafts.[39] Firouz, however, in keeping with his interest in wildlife conservation, appeared most interested in nomadic pastoralism. This self-sufficient lifestyle, he wrote, relied upon the food (milk, yogurt, and meat), wool (carpets), and hides (tents and saddles) provided by sheep and goats. After noting similarities with the material culture of Native Americans – and arguing that Western society no longer valued traditional environmental harmony (somewhat in contradiction to his earlier references to Stockholm) – he then observed that pastoral communities were careful "not to overgraze, to husband resources of nature on whose recurring cycle his very life depended."[40] According to Firouz, the instructional displays on pastoralism demonstrated an appropriate balance between resource availability and lifestyle, while simultaneously educating visitors to value and respect historic customs. The important point here is that Firouz took the political stance (as he had previously done at Morges and Ramsar) that state-sponsored, scientifically predicated landscape conservation should go hand in hand with the preservation of cultural traditions.

The politically savvy Firouz was equally selective in his choice of animals to be displayed in the Pardisan zoo. The lion, long emblematic of the Persian and Iranian monarchies but recently hunted into extinction in Iran, would take precedence. Following the wish of the Shah, the lion display at Pardisan would reinforce ecological efforts to reintroduce the lion at the newly formed national preserve at Dasht Arjan.[41]

McHarg hardly needed Firouz's prompting. Many of the points outlined in the Descriptive Report echoed themes McHarg had earlier presented in *Design with Nature*. These included a search for a cosmic order; a correct fit between development and resource use; a deeper connection with nature made possible by a planning approach that reintegrated science, technology, and culture; and the belief that Middle Eastern garden tradition, in contrast to Western tradition, was fundamentally ecological in conception.[42] Pardisan, in other words, represented the perfect collaboration for their shared conviction that they could create a better world, as symbolized by the "One Earth" image. McHarg was also cognizant of the need for government support, and likewise sought to increase the project's political momentum. In his written summary, he noted that Pardisan, as both a didactic display and active research center, "would help modern Persians solve modern problems."[43]

An ideogram prepared by WMRT for the feasibility study adroitly included ideas promoted by Firouz, the Iranian government, and McHarg. For example, the scientific venues enumerated by Firouz became the Universal Park (planetarium), the Terrestrial Park (zoo and botanic garden), and the Aquatic Park (aquarium). The ideogram distributed these venues and their

associated activities and exhibits along a central spine labeled the Iranian Bazaar.[44] Perspective sketches of the bazaar by Colin Franklin – replete with natural history dioramas, restaurants serving traditional food, and shops selling traditional crafts – mixed science, culture, and the consumer-oriented social vision of the officially sanctioned *Comprehensive Plan for Tehran* (Figure 6.2). The *Comprehensive Plan*'s commercial aesthetic, as well as its requirement that all future development accommodate the automobile, is similarly evident in the four large parking lots that flank the entrance.[45] Once in the park, visitors could then travel via monorail, minibus, electric cart, or on foot – a dream of modern transportation that, in this case, owes more to the American shopping mall, Disneyland, and the separation of circulation in New York City's Central Park than to indigenous nomadic lifestyles.[46]

WMRT likewise called upon ecological theory to support Firouz's desire that Pardisan represent "the cosmos and the world" from an Iranian perspective.[47] This mandate was reflected in their suggestion to configure the Terrestrial Park to replicate an ecological transect passing through the middle of Iran. The imaginary line of the transect extended from north to south and consisted of six bioclimatic (geomorphologic) zones: the Caspian Sea, Broadleaf Forest, Conifer and Scrub, Herbaceous Steppe, Desert, and the Persian Gulf. Comparable biomes from Asia, Africa, and Oceania extended to the right (east), and biomes from Europe and North and South America extended to the left (west).[48] Following WMRT's preferred overlay system, the proposal further categorized each biome by its vegetation, physiography, zoology, and culture – thereby emphasizing the close interplay of ecology and human settlement patterns (Figure 6.3).[49] The ecologist and former staff scientist at the Museum of Natural History in New York City, Jack McCormick, and the zoologist and director of the National Zoo in Washington, DC, Theodore Reed, provided annotated plant and animal lists for the proposed biomes based upon Tehran's climate and the site's solar aspect and terrain.[50]

Needless to say, the proposed attempt to recreate all of the biomes of the world, beginning with Iran, was extraordinarily ambitious. But one of the most striking characteristics of the proposal was the fact that it was as much a flowchart as it was a formal design plan. The details of this organizational system are perhaps best illustrated by a diagram that represented the Iranian transect and its associated global analogues as a series of black boxes interconnected by circulation pathways (Figure 6.4). The diagram conceived the world as a dynamic but integrated landscape and positioned Iran as the starting point for global diversity. Paradise, it seems, based on the principles of system thinking, could be represented as a box matrix connected by information linkages, always leading back to Iran.

On March 20, 1973 – less than a year after the Stockholm Conference and less than six months after they were hired by Firouz – WMRT completed a report entitled *A Feasibility Study for an Environmental Park in*

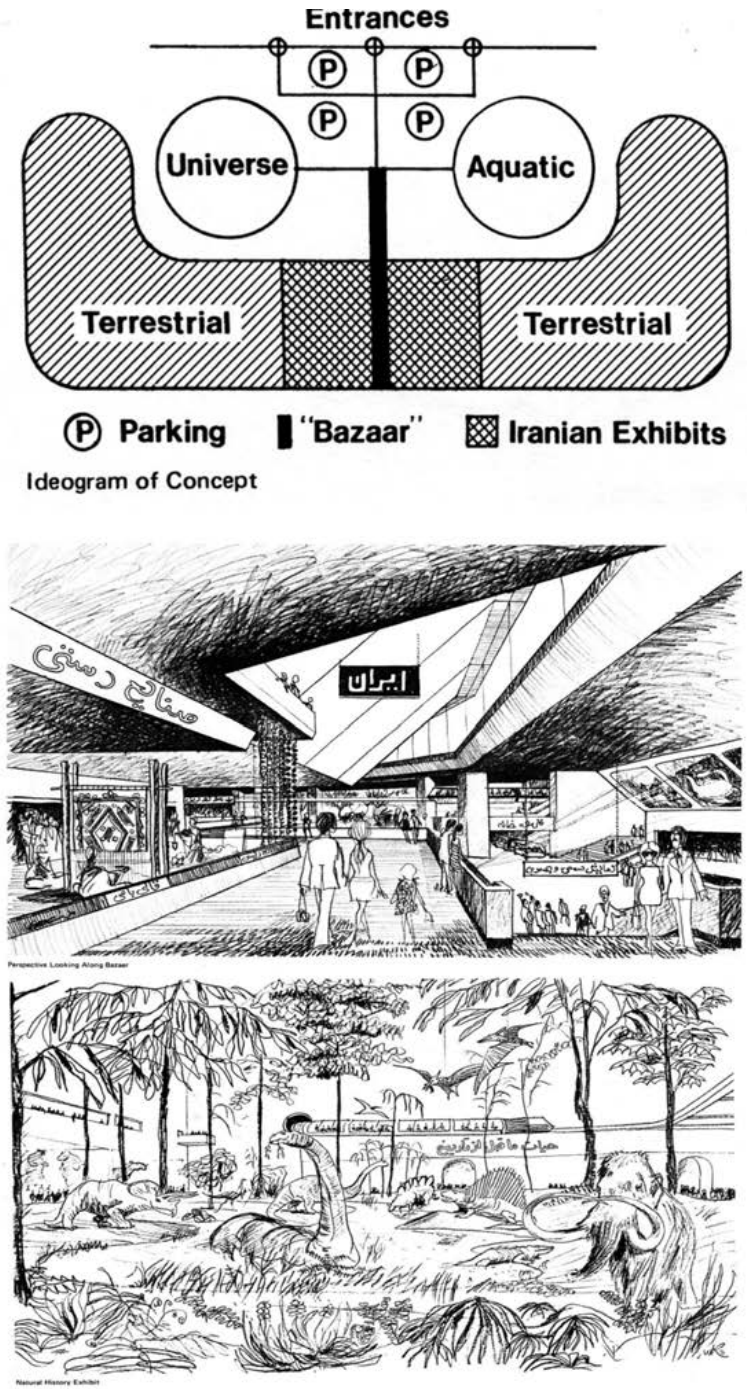


Figure 6.2 Ideogram and concept sketches by WMRT. (Courtesy of Architectural Archives, University of Pennsylvania.)

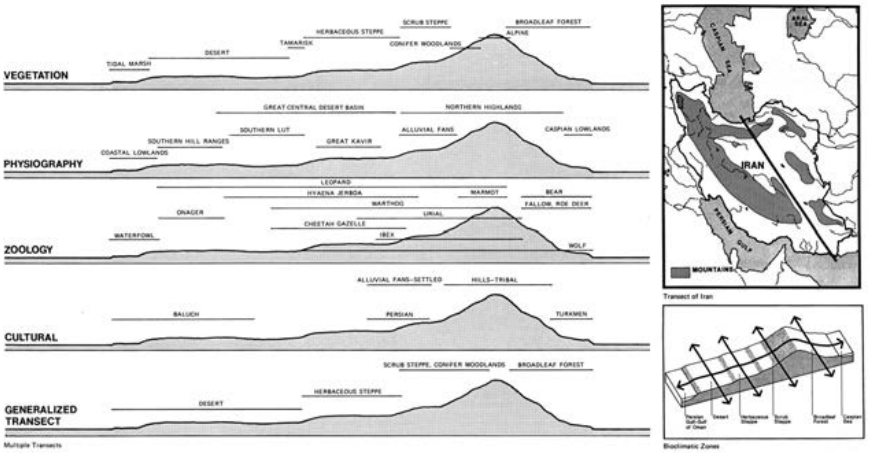


Figure 6.3 Ecological transect studies by WMRT. (Courtesy of Architectural Archives, University of Pennsylvania.)

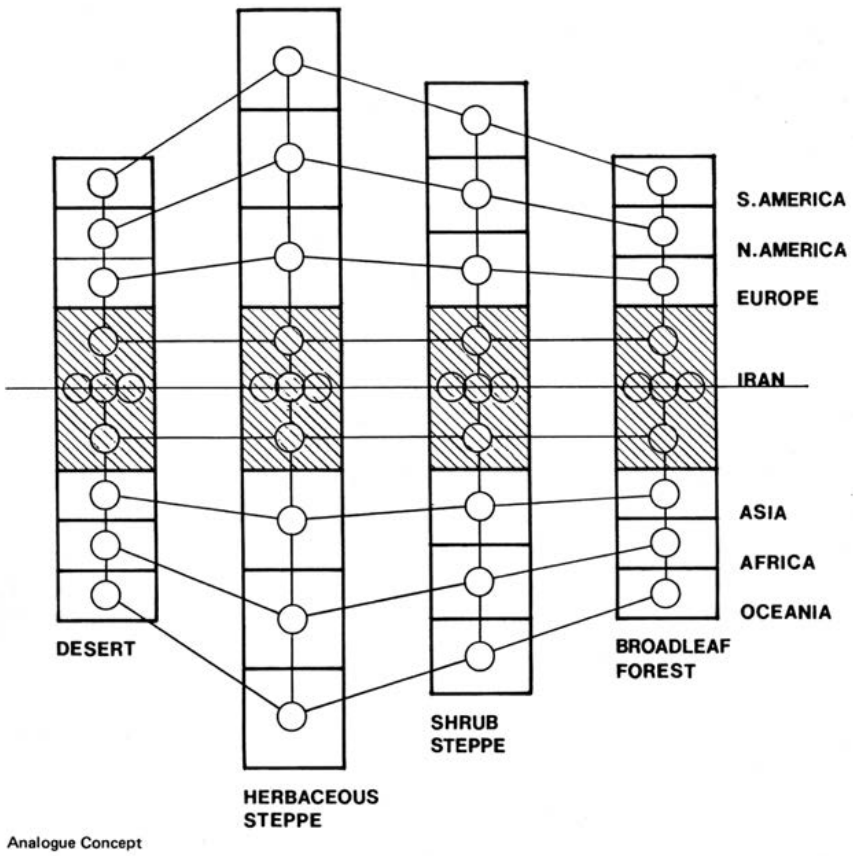


Figure 6.4 Biome systems diagram by WMRT. (Courtesy of Architectural Archives, University of Pennsylvania.)

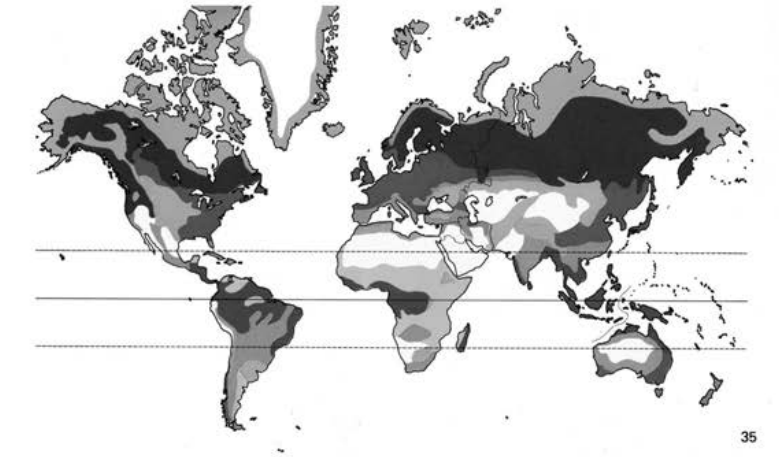
Tehran, Iran, for the Imperial Government of Iran. The study proposed a fifteen-year build-out schedule divided into three five-year stages; its total cost of $45 million included a $2.5 million design fee based upon five percent of the construction cost plus contingency.[51]

Imagining paradise

In May of 1974, after the conclusion of the school year at Hampton College, and shortly after the passage of the Iran Environmental Protection and Enhancement Act that led to the official establishment of the Department of Environment, Sedaghatfar returned to Iran to manage the Pardisan project and supervise its master plan study.[52] A copy of the feasibility study, which Sedaghatfar had received the previous summer, led to his change of heart. Once he realized the project was more than a utopian dream, Sedaghatfar resumed his conversation with Firouz. This time when asked to manage the project, he accepted.[53] Equally important in terms of economic resources, Iran was booming – in sharp contrast to conditions in the United States following the 1973 OPEC oil embargo.[54]

Essentially an expanded excursion through the biome concept, the master plan was exceptionally detailed. It included more thorough studies of topography, solar orientation, water requirements, spatial programming, and circulation, as well as a diagrammatic site plan and numerous charts of proposed plants and animals, details of animal enclosures, and pictorial essays for the proposed instructional displays that emphasized similarities in the adaptive climate strategies of plants, animals, and people (Figures 6.5 and 6.6).[55] The report futuristically positioned Pardisan at the vanguard of science and technology when it recommended that the research done by staff scientists be supported by a US Earth Resource Technology (ERT) satellite. The satellite would provide time-lapse imagery of Iran's urbanization and its impact upon the natural landscape; it would also document the transformation of the initially barren Pardisan site into a green oasis.[56] This information would then be broadcast on television monitors theatrically positioned on a wall of the natural history museum.

The expanded examination of the biome concept also provided McHarg the opportunity to expound upon one of his favorite themes – the biochemical transformation of sunlight into usable form by plants. As he had earlier argued in *Design with Nature*, it was imperative for design to honor the "negentropic" energetics of the photosynthetic process.[57] For McHarg this meant that human action should not, as he reiterated in the master plan report, "interrupt the self-renewing cycle of natural systems." Pardisan, he argued, as an exemplary physical manifestation of this fundamental ecological law, would illustrate how natural energy systems operated at the global scale through its pattern of biomes, and at local or regional scales through its natural history dioramas devoted to the adaptive strategies of indigenous cultures.[58]



	North America	Europe	Iran	Asia
Tundra				
Coniferous Forest				
Deciduous Forest				
Grassland				
Dry Scrub & Woodland				
Desert & Semi-Desert				
Savanna				
Tropical Forest				
Savanna				
Desert & Semi-Desert				
Dry Scrub & Woodland				
Grassland				
Deciduous Forest				
Coniferous Forest				
Tundra				
	South America	Africa		Oceania

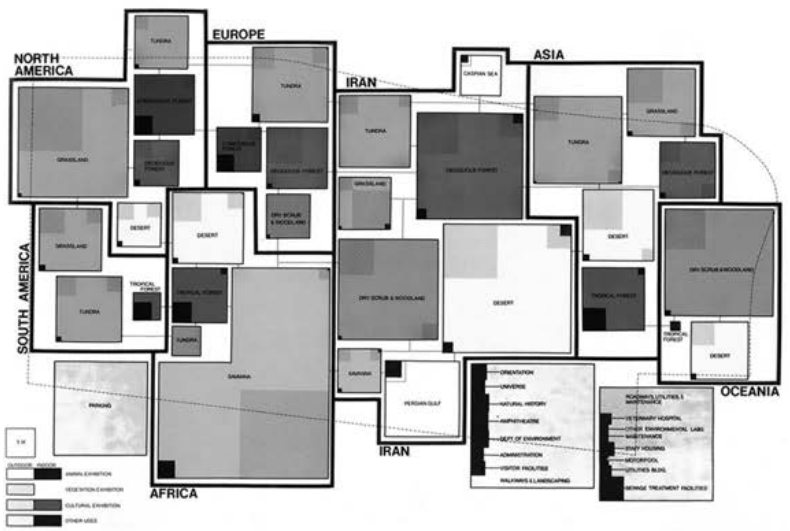


Figure 6.5 Biome studies by WMRT. (Courtesy of Architectural Archives, University of Pennsylvania.)

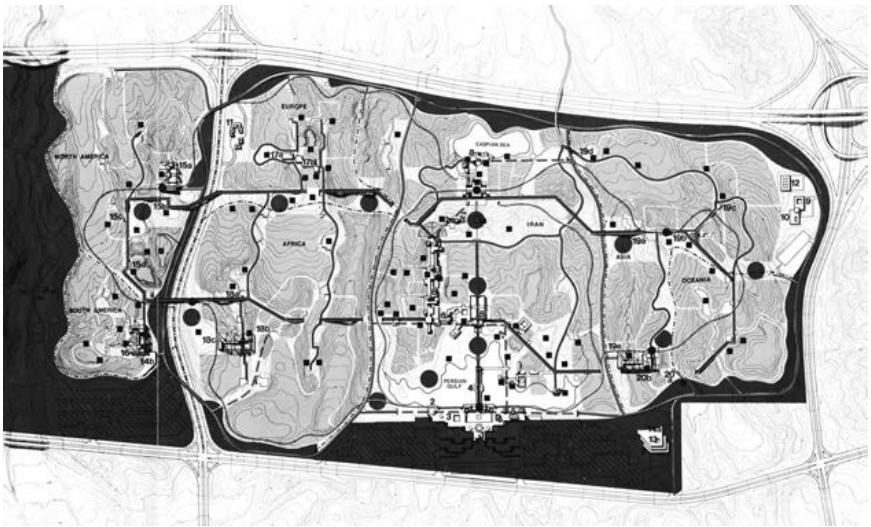


Figure 6.6 Diagrammatic site plan by WMRT. (Courtesy of Architectural Archives, University of Pennsylvania.)

In an attempt to make McHarg's ecological digression into the structure of trophic levels more accessible to project patrons, the report contained a diagram that illustrated how sunlight falling on the park created an energetic pathway that flowed through plants and herbivores to the mightiest predator (Figure 6.7).[59] For example, the lion is described in the accompanying text in a thinly veiled allusion to Iran's hierarchical culture as "filling his role, [pulling] down an antelope" while "the shrew takes a grasshopper." Firouz and his royal clients could hardly find this parallel story line objectionable since the Sun, in conjunction with the lion, was an iconographic symbol historically associated with the Persian and Iranian monarchies.[60]

In addition to WMRT (which was now in partnership with the architect Nader Ardalan and his firm, the Mandala Collaborative), the consultant list for the master plan included Buckminster Fuller and Charles Eames.[61] Their inclusion, as later noted by Sedaghatfar, was a calculated ploy to increase the prestige of the project in the eyes of its royal patrons.[62] McHarg observed in his concept summary that Fuller would provide commentary on "epistemological evolution." Exactly what this meant remained unclear, since members of the project team interpreted Fuller's contribution to the project and theory of nature differently. McHarg, for instance, associated Fuller's work with that of the project's religious adviser, Seyyed Hossein Nasr – in effect juxtaposing Fuller's technological determinism against Nasr's metaphysical study of Sufi philosophy and science.[63] Sedaghatfar, who had heard Fuller speak at Kent State, connected his contributions to geodesic domes. Ardalan, in contrast, later observed that Fuller's patented Dymaxion worldview

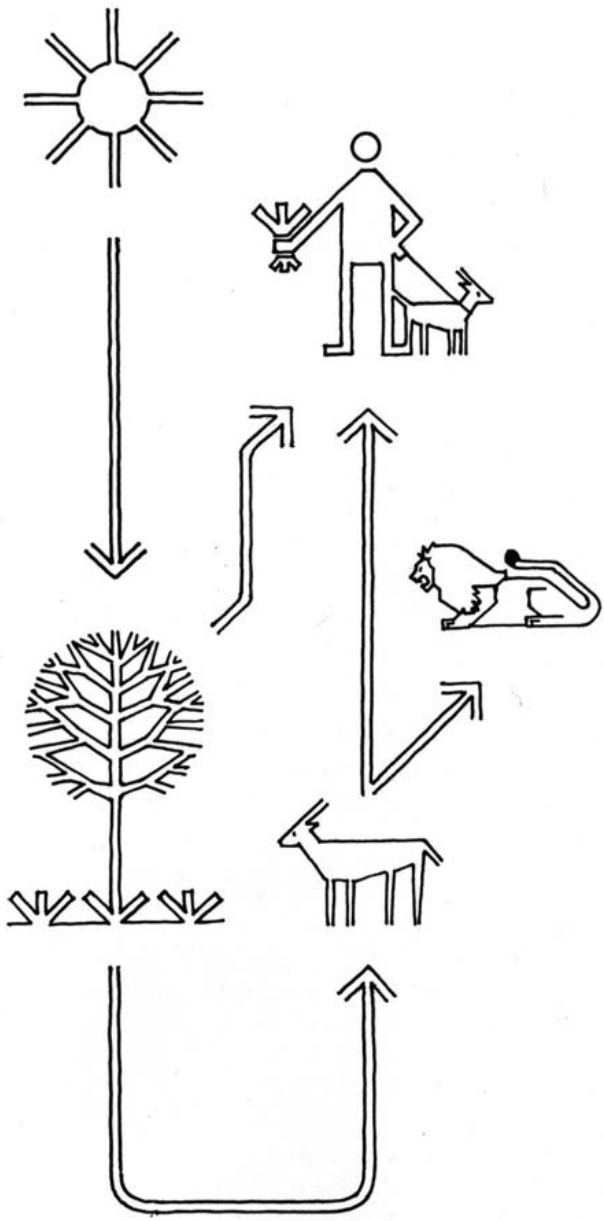


Figure 6.7 Diagram of Pardisan's ecology by WMRT. (Courtesy of Architectural Archives, University of Pennsylvania.)

inspired the creation of a map of contemporary air routes and a map of ancient Persian caravan silk routes for the master plan, both of which situate Tehran at the center of the globe.[64]

While Fuller's "epistemological" contribution remained indirect and situated in the realm of ideas, correspondence between the Eames office and WMRT revealed that the contribution of Eames, though of short duration and essentially assigned to his colleague, Glen Fleck, was critical.[65] Fleck, in consultation with Eames, was tasked to create a short animated film that would, in conjunction with a model by WMRT, explain the park and convince Farah Diba-Pahlavi that the project – now estimated to cost slightly over $106 million – was worthy of funding. The Queen would then present the scheme to the Shah.[66] To that end, Fleck conceived the film as a two-part lesson in decision-making. The first lesson would consider how Iran, in its role as a modernizing society rapidly moving away from traditional constraints, should address "problems of choice." The second lesson would elucidate the knowledge required to make environmentally correct decisions as society moved forward. Fleck's movie would communicate this message with a hypothetical journey through Pardisan that honored both innovation and tradition.[67]

In prototypical Eames fashion, the film, titled *Pardisan*, shunned the minimal, and instead portrayed a lot of information in a short period of time.[68] This was accomplished technically by moving the camera slowly across richly detailed paintings of the proposed landscape. By shifting the focus of the camera and slowly dissolving one image into another, Fleck managed to assemble a continuously unfolding film sequence infused with ideas and promises. Along the way, viewers glimpsed a walled courtyard garden, an intricately patterned carpet, zodiacal signs, a spiral galaxy, a Dymaxion map, computerized display screens, a monorail, a gazelle, a wetland teeming with birds, a tropical rainforest enclosed in a geodesic dome, a diagram of bioclimatic zones, a map of Iran, and a model of the park. Fleck interspersed this imagery with colorful vignettes of Iranian families relaxing over picnic lunches, enjoying sumptuous banquets, and shopping for local crafts (Figure 6.8).

The grand finale of this mise-en-scène took place in the central hall of the natural history museum, which Fleck conceived as an imaginative bricolage consisting of a dinosaur skeleton, glass vials containing chemistry experiments, an airplane, a sports car, a rocket, the handprint of a chimpanzee, hand-controlled industrial robots, digitally displayed photographs of Iran and its people, a satellite, and a view of the planet Earth from space, courtesy of NASA.[69] Indeed, in this purposefully overwhelming but carefully packaged and cleverly arranged presentation, each object advanced a different idea of science, technology, and Iran. Importantly, the film also stressed the fact that Pardisan supported the cultural themes favored by the Queen, referenced the conservation triumphs of the Department of Environment, and honored the "One Earth" iconography beloved by both Firouz

Figure 6.8 Illustrations by Glen Fleck. (Courtesy of Architectural Archives, University of Pennsylvania.)

and McHarg.[70] The conveyed message, though slightly sentimental and overtly nationalistic, was clear. Pardisan would be a relaxed, but stimulating, oasis – essentially an evolutionary adaptation of the traditional walled garden that provided the social values and the knowledge necessary to make informed, traditionally grounded, divinely ordained, environmentally correct, and technologically sophisticated choices for Iran's future.

Architecture designed by Nader Ardalan appeared in the movie, but did not compete with the exhibits. Rather, it provided a neutral backdrop that housed the multimedia exhibition spectacle proposed by Fleck. This is not to say, however, that the architecture was devoid of meaning. On the contrary, according to Ardalan, its form, color, materials, spatial qualities, and surface patterns were designed to symbolically express Islamic spiritual ideas.

Ardalan was born in 1939 into a prominent Iranian family. As a child he moved from Tehran to Washington, DC, following his father's diplomatic assignment to the Iranian Embassy in the United States. Ardalan first studied architecture at the Carnegie Institute of Technology (Carnegie Mellon University) in Pittsburgh, Pennsylvania, where he received a bachelor of arts degree in 1961. At this time he also met and married Laleh Bakhtiar, an Iranian-American attending Chatham College. Bakhtiar would play an integral role in the development of his architectural philosophy. In 1962, he received a master of architecture degree from the Harvard Graduate School of Design, after which he worked for Skidmore Owings and Merrill in San Francisco, one of the teams initially considered for the Pardisan Project. Ardalan returned to Iran in 1964 to work for the National Iranian Oil Company designing homes for oil workers. Two years later, in 1966, he entered into partnership with Abdol Aziz Farman-Farmaian, who, as mentioned previously, was then working on the *Comprehensive Plan for Tehran*.[71]

In 1970, Ardalan and Bakhtiar organized an international architecture meeting in Isfahan, Iran, titled "The Interaction of Technology and Tradition," to honor the 2,500-year anniversary of the Persian Empire. Conference festivities included a tour of the recently excavated archeological remains of the city of Persepolis and the Tomb of Cyrus the Great at Pasargadae. Louis Kahn, Paul Rudolf, Georges Candilis, and Buckminster Fuller were among the invited participants.[72]

Ardalan's politically astute opening remarks, which called for the recovery of the spiritual qualities and transcendent forms of traditional Iranian architecture, set the tone for subsequent discussions on the use of ancient architecture and traditional village plans as models for contemporary practice. Though idealistic in tone, as noted by the historian Talinn Grigor, the discussion of indigenous architecture reflected a populist political agenda promoted by the Pahlavi regime that purposefully usurped tradition in order to co-opt those Iranians who had been left out of the modernization process.[73] Yet, it should also be noted that for Ardalan, who was raised and trained in the United States, the exploration of traditional architecture was likewise a personal attempt to understand himself as both a member of a global architectural community and as an Iranian working within a regional context.

In 1972, the same year that Firouz conceived of Pardisan and Sedaghatfar began his search for the lead consultant, Ardalan founded the Mandala Collaborative and became the architectural consultant for the project.[74] As indicated by the feasibility report, his initial contribution was minimal. Following the publication of *The Sense of Unity: The Sufi Tradition in Persian Architecture*, which he co-authored with Bakhtiar in 1973, he assumed a more prominent role in the project.[75] The increased responsibilities enabled him to explore ideas presented at the Isfahan conference, including the call for a modern, yet indigenous, Iranian architecture.

As explained by Ardalan and Bakhtiar in *The Sense of Unity*, modern Iranian architecture had to take into account local materials, colors, climate, and culture; it also had to integrate these explorations with science, philosophy, art, craft, and technology.[76] The components of this integrated system consisted of eight architectural elements related to motifs derived from their study of traditional Iranian architecture and to their interpretation of Islamic religious symbolism: *garden* (recapitulation of paradise), socle (sacred mountain), porch (transition – the way), gateway (hierarchic demarcation), room (multiplicity), sphere or dome (unity), *chahār tāq* (reintegration), and column or minaret (ontological axis). To further stress the linkages between physical context, cultural development, and architectural expression, Ardalan and Bakhtiar included accompanying drawings and photographs that tied these elements to the Iranian landscape, the archaeological discoveries at Persepolis and Pasargadae, and the urban plan of Isfahan.[77]

In contrast to *The Sense of Unity*, which wrapped modern Iranian architecture in a complicated cosmology, the Pardisan master plan presented the same architectural argument using a typological matrix that consisted of seven of the aforementioned elements, each of which was assigned a geometric shape (the garden was removed, the gateway was replaced by the court yard, and macrons were removed from the spelling). The resultant buildings, which consisted of various combinations of these shapes, followed the additive structural logic made fashionable by the architects Aldo van Eyck, and Louis Kahn and Anne Tyng (Figure 6.9).[78] Thus, the master plan taxonomically rationalized the architectural argument and tied it more closely to the architects and architecture favored by the Queen.

There is, however, another important logic embedded within the Ardalan-Bakhtiar argument – namely, that the elements that comprised their vision of a modern, yet indigenous, Iranian architecture would, in creative combination, inspire new spatial and spiritual associations that transcended the everyday. Following the argument of Seyyed Hossein Nasr, the intent was to actively acknowledge the spiritual significance of the past without negating contemporary science and the functional attributes of modern architecture.[79] This logic clearly positioned the interplay between the past and present as a fruitful subject for exploration. However, and as ultimately

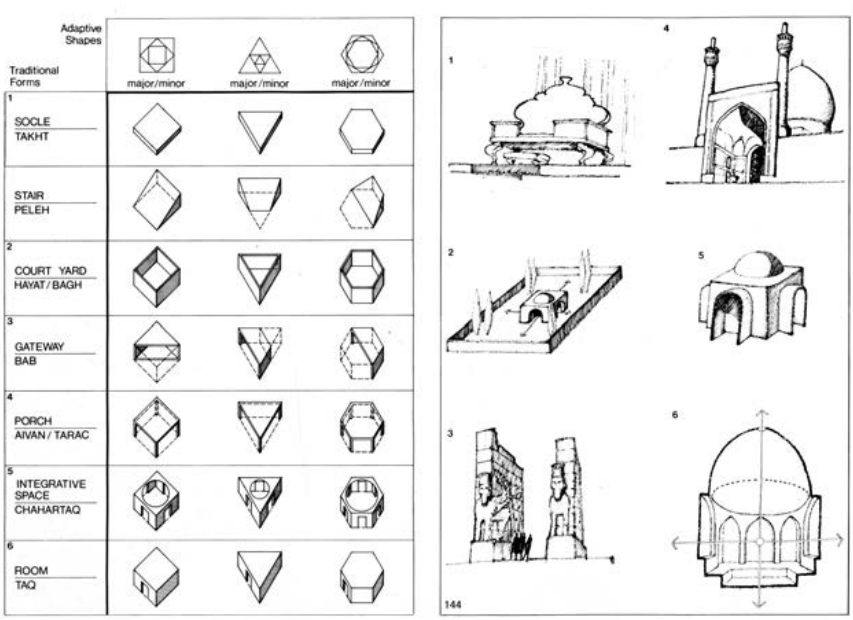


Figure 6.9 Pardisan architectural typologies by Mandala Collaborative. (Courtesy of Architectural Archives, University of Pennsylvania.)

expressed at Pardisan, it was the playful arrangement of the interior and exterior objects, not the modular assemblies of buildings that provoked associative imagination. In this regard, Fleck's cinematic interpretation of the Pardisan architecture is telling. Fleck's narrative emphasized the structural, or generative, logic of Ardalan's architectural elements and their combinatory possibilities. Attendant spiritual meaning was made evident only when the generative logic was juxtaposed against images of Persian gardens, zodiacal signs, and scientific equipment.[80] In other words, the architecture (at least for the US consultant firms) provided the framework that allowed objects and ideas to interact and attendant meaning to emerge – just as the Cartesian grid of biomes proposed by McHarg made the ecological concept of adaptation visible and understandable.

Critical here is the fact that both Ardalan and McHarg employed a regional approach at Pardisan in order to explore archetypal patterns and universal ideals.[81] The basic question each sought to answer was what prototypes, what original inspiration, should all designers (i.e., not just Iranian designers) acknowledge in their work. Both men believed the answer, much like the diplomatic language formalized at the Only One Earth Conference in Stockholm, had to resonate locally before it could extend outward to form larger patterns of behavior. As McHarg repeatedly argued in his discussion of Pardisan, this design approach countered normative, and in his mind more disorderly and less rational, patterns of development by formulating a functional set of rules – natural, social, and aesthetic – that could then be combined and layered to create more complex landscapes with deeper attendant meaning.

As discussed earlier, the central archetype of the Pardisan design was a technologically predicated, politically motivated, and ecologically inspired image of the earth transformed into a bucolic zoological park where people and animals coexisted. The organic pattern of biomes and modular geometric pavilions anchored the tectonics of the scheme, and provided a model for infinite expansion. Regional specifics emerged in the selection of plants and animals to inhabit the park, and in the carefully organized distribution of the pavilions to emulate a traditional bazaar that housed cultural displays and shopping under a sun-protected canopy.[82] Indeed, the design not only borrowed the visual iconography from the crafts and carpets that park visitors could purchase in the bazaar – its grand scale, Isfahan-inspired entry bridge, and visually imposing visitor center symbolically monumentalized Persian culture and Islamic spiritualism. This total environment glorified Iran, but with the added benefit of educational displays that explained the country's progress under the Pahlavi regime as an adaptive and contextually expressive outgrowth of natural evolution (Figure 6.10).

To celebrate the completion of the master plan in March of 1975, Firouz, McHarg, Sedaghatfar, and Ardalan ceremoniously planted the first tree in the park. That same year Firouz became the director of the Department of Environment (DOE).[83]

Figure 6.10 Comparative plans of Isfahan and Pardisan. (Courtesy of Nader Ardalan and Architectural Archives, University of Pennsylvania.)

Confronting reality

Two years later, negotiations for the Pardisan site were completed. The Iranian government purchased the property for the DOE and detailed design work began. Firouz, however, ran into political trouble with the increasingly autocratic Pahlavi regime and resigned from his post. Nevertheless, the support of the Queen ensured the continuance of the Pardisan project. In the absence of Firouz, Sedaghatfar, now a deputy director at the DOE, continued to oversee the project.[84]

On November 12, 1977, WMRT signed a contract with the DOE for schematic design services. The cost of the park was now estimated at $500 million, with design fees of $1.6 million to be paid on an interim basis according to percent completed.[85] In response to the departure of Firouz and the increasing social unrest in Iran, the partners at WMRT (at the urging of David Wallace) required McHarg to sign an agreement that held him solely responsible for any losses stemming from the project.[86] Meanwhile, and although he had recently completed a lengthy management plan for Pardisan, Ardalan moved back to the United States and opened the firm, Mandala International.[87]

The following November, Sedaghatfar informally notified WMRT that they should suspend work on Pardisan due to the uncertain political climate. In December, he formally approved payment for all outstanding WMRT

invoices before going on indefinite vacation leave. Thirty days later, after receiving no clear word regarding payment, WMRT terminated their contract with the DOE. Now facing a huge monetary loss, long-simmering disputes between McHarg and his partners, which revolved around time spent in the office, fee structure, and design recognition, boiled to the surface. The end result was that McHarg was asked to leave the firm.[88] A lengthy legal battle eventually led to the recovery of all monies as mandated by an April 1986 ruling of the Iran-US Claims Tribunal at The Hague.[89] The award totaled $654,644.80 for unpaid fees, plus interest and arbitration costs.[90]

The Islamic Republic of Iran did not implement the Pardisan design developed by McHarg and his collaborators. Instead, they reforested the site following the earlier (and significantly less expensive) reforestation recommendations of the *Tehran Comprehensive Plan*. The park's official name is now Pardisan Forest Park, even though it is commonly referred to as Shahrak-e Gharb Forest Park, reflecting its location south of the upscale community of that name. A small natural history museum, wildlife park, and a recently constructed climate research facility are the only indicators of the original proposal. Numerous Facebook images show people picnicking, flying kites, riding bicycles, and enjoying the open space and the park's magnificent views of the city and the mountains.[91]

In 2013, the government of former President Mahmoud Ahmadinejad proposed selling the park to developers, only to be opposed by Masoumeh Ebtekar, then director of the DOE.[92] In addition to her role as spokesperson for the students who stormed the US embassy in 1979 and took 60 US citizens hostage, Ebtekar is best known in the West for her contribution to the 2010 environmental anthology *Moral Ground: Ethical Action for a Planet in Peril*.[93] Nader Ardalan, whose firm remains active in the Middle East, still hopes to revive the project.[94] Eskandar Firouz published *The Complete Fauna of Iran* in 2005.[95] This authoritative field guide updates research done during his tenure as director of the DOE, and has led to the reinvigoration of his conservation efforts.

Conclusions

Reflecting upon this series of events, perhaps the best way to summarize the early design history of Pardisan Park is to begin by noting that members of the initial design team, though personally motivated by different agendas, shared a progressive vision and the belief that modernization could honor tradition and be environmentally friendly. At Pardisan, these beliefs were conservatively presented as a didactic expression of ecological design, in the 19th-century sense that it could educate and morally uplift its visitors. But the design also couched this progressive thinking within a consumer-oriented sensibility that paid homage to entertainment and shopping. The overall effect was ennobling and forward-thinking, while at the

same time cartoonish and brash – although (or perhaps because) its roots could be traced to natural history dioramas and ecological theory, archetypal symbolism and 20th-century structuralism, and Islamic spiritualism and Persian architectural tradition.

In terms of ambition, Pardisan remains the largest and most inclusive environmental park ever planned in Iran. What is particularly intriguing is the way the proposal was as much a physical design as it was a symbolic gesture, both engaged with and disconnected from reality. McHarg, in particular, remained loyal to his idealized vision of Pardisan – even when confronted with potential monetary ruin, mounting social unrest, and dwindling political support – to the point where his unwavering commitment appears as hubris.

There is, of course, an undeniable irony underlying the project's ambition. The design stemmed from power and money, which are two commodities the Shah had in excess at the start of the project. This power and money actively supported a nationalist agenda that sought legitimacy by embracing and exploiting Iran's rich environmental and cultural heritage. Pardisan entwined this agenda with Western science and a vision of ecological restoration – which is to say, its vision of environmental reconstruction serviced the self-generating and global cycles of nature, as well as the self-generating and nationalist interests of the Pahlavi regime. When the scheme was put to paper, its wishful and willful geography reduced the complexity of the world to a Cartesian grid that radiated outward from Iran – a stereotype of modern rationalism combined with a visual blindness that foreshadowed the events to come.

Notes

1 The Mandala Collaborative/Wallace McHarg Roberts and Todd, *Pardisan: Plan for an Environmental Park in Tehran* (Philadelphia: Winchell Press, 1975).
2 For the purpose of this chapter, *environment* refers to the air, water, soil, plants, and animals that in aggregate create the habitat in which we live, and includes the social and cultural factors that shape people and their lives. *Environmental* and *environmentalism* refer to personal ethics and political actions that advocate the conservation, protection, or improvement of the environment as a means to improve physical, social, and cultural conditions. See Tony Bennett, Lawrence Grossberg, and Meghan Morris, *New Keywords: A Revised Vocabulary of Culture and Society* (Malden, MA: Blackwell Publishing, 2005), 106–109.
3 Personal communication, Jahangir Sedaghatfar, November 11, 2013, and April 28, 2014.
4 Though equally grandiose in conception, in many ways Pardisan, often described by participants as the "Queen's project," was an environmentally sensitive adjunct to Shahestan Pahlavi, the monumental urban core and government center championed by the Shah and concurrently under design. For further discussion of the entwined modernization visions and design projects of the Queen and Shah, see Farshid Emami, "Civic Visions, National Politics, and International Designs: Three Proposals for a National Center in Tehran (1966–1976)," master of science in architecture thesis, Massachusetts Institute of Technology, 2011; Farshid Emami, "Urbanism of Grandiosity: Planning a New Urban Center

for Tehran (1973–76)," *International Journal of Islamic Architecture* 3, no. 1 (2014): 69–102.

5 Personal communication, Jahangir Sedaghatfar, November 11, 2013, and April 28, 2014. Personal communication, Dennis Paulson, project ecologist, March 7, 2014.

6 Talinn Grigor, *Building Iran: Modernism, Architecture, and National Heritage Under the Pahlavi Monarchs* (New York: Periscope Publishing, 2009), 144–173; and Talinn Grigor, "Recultivating 'Good Taste': The Early Pahlavi Modernists and Their Society for National Heritage," *Iranian Studies* 37, no. 1 (March 2004): 17–45.

7 Grigor, *Building Iran*. See also Pamela Karimi, *Domesticity and Consumer Culture in Iran: Interior Revolutions of the Modern Era* (New York: Routledge, 2013).

8 Felix Dodds, Michael Strauss, and Maurice Strong, *Only One Earth: The Long Road Via Rio to Sustainable Development* (London: Routledge, 2012), 11–12. See also Barbara Ward and René Dubois, *Only One Earth: The Care and Maintenance of a Small Planet* (New York: W.W. Norton & Company, 1972).

9 Dodds et al., *Only One Earth*, 6–8.

10 G.V.T. Matthews, *The Ramsar Convention on Wetlands: Its History and Development* (Gland, Switzerland: Ramsar Convention Bureau, 1993), http://www.ramsar.org/sites/default/files/documents/pdf/lib/Matthews-history.pdf.

11 Eskandar Firouz, *Environment Iran* (Tehran: Offset Press, 1974); and Eskandar Firouz, *The Complete Fauna of Iran* (New York: I.B. Tauris, 2005).

12 Firouz, the grandson of the prominent politician and Qajar Prince Abdol Hossein Mirza Farman-Farmaian, was born His Highness Shahzada Iskandar Iskandar Mirza in Shiraz, Iran, in 1926. Before he devoted his energies to wildlife conservation and environmental protection, he served as a consulting engineer for the 1958–1961 Karaj Dam Project, Persia: The Qajar Dynasty (Firouz, Farmanfarmaian, Farman-Farmaian, and Mossadeq), http://www.royalark.net/Persia/qajar9.htm.

13 The United States funded the Karaj Dam project. The dam brought water and hydroelectric power to Tehran, which helped fuel Iran's industrial modernization. See Cyrus Schayegh, "Iran's Karaj Dam Affair: Mass Consumerism, the Politics of Promise, and the Cold War in the Third World," *Comparative Studies in Society and History* 54, no. 3 (2012): 612–643. Bahman Motor Company (August 2011), http://www.bahmangroup.com/en/index.php/companies/list-of-companies/bahman-motor-co.

14 Firouz, *Environment Iran*, 10–11.

15 International Union for Conservation of Nature (IUCN), *Proceedings of a Technical Meeting on Wetland Conservation*, October 9–16, 1967 (Morges, Switzerland: UNESCO and the Commission on Ecology of the IUCN, 1968), 211–213, 239–241. For further discussion of the IUCN (also known as the International Union for the Conservation of Nature and Natural Resources), its connection to the World Wildlife Fund and that organization's royal sponsors Prince Philip of England and Prince Bernard of the Netherlands, see Alexis Schwarzenbach, *Saving the World's Wildlife: WWF – The First 50 Years* (London: Profile Books, 2011), 73–85; Nancy Lee Nash, "Conservation: Bringing Back Wildlife," *Nature* 472 (April 21, 2011): 290–291.

16 Firouz, *The Complete Fauna of Iran*, vi. For further discussion of the social and ecological principles of mid-20th-century conservation, see F. Fraser Darling, "Introduction," in *Future Environments of North America*, ed. F. Frazer Darling and John P. Milton (Garden City, NY: Natural History Press, 1966), 3. Darling argued that human management of the land had to follow the

aristocratic ideal "of being the servant of those less able to care for themselves." For more on the patrimonial heritage of the Farman-Farmaian family, see Firouz, *The Complete Fauna of Iran*, 6–10; and Sattareh Farman-Farmaian and Dona Munker, *Daughter of Persia: A Woman's Journey from Her Father's Harem through the Islamic Revolution* (New York: Anchor Books, 1992).

17 Matthews, *The Ramsar Convention on Wetlands*, 25.
18 Firouz, *Environment Iran*, 18.
19 Ibid., 38–51; and Firouz, *The Complete Fauna of Iran*, pp. 3–38.
20 Wallace McHarg Roberts and Todd, *A Feasibility Study for an Environmental Park in Tehran, Iran, for the Imperial Government of Iran* (Philadelphia: WMRT, 1973), 5. Architectural Archives, University of Pennsylvania, Ian L. McHarg Papers, Folder 109.IV.C.4.
21 Translation graciously provided by Aleksandar Sopov, Tyler Fellow, Dumbarton Oaks, Washington, DC.
22 Wallace McHarg Roberts and Todd, *A Feasibility Study for an Environmental Park in Tehran*, 5.
23 Personal communication, Jahangir Sedaghatfar, November 11, 2013, and April 28, 2014; Personal communication, John Spencer, Chair of the Architecture Department, Hampton College in the 1970s, April 28, 2014.
24 Personal communication, Jahangir Sedaghatfar, November 11, 2013, and April 28, 2014.
25 Jahangir Sedaghatfar, *Entopia* (Kent, OH: Kent State School of Architecture, 1971).
26 Ibid.
27 Ian L. McHarg, *Design with Nature* (New York: Natural History Press, 1969).
28 Personal communication, Jahangir Sedaghatfar, October 28, 2013, and November 11, 2013. As noted by Sedaghatfar, the interview with McHarg occurred over the phone. He was uncertain of the exact date.
29 Ian L. McHarg, *A Quest for Life: An Autobiography* (New York: John Wiley & Sons, Inc., 1996), 290–296. See also David A. Wallace, *Urban Planning My Way* (Chicago: Planners Press, 2004), 191–196; and Architectural Archives, The University of Pennsylvania, Ian L. McHarg Collection, Box 35, 109.III.C.19.
30 Personal communication, Jahangir Sedaghatfar, November 11, 2013.
31 McHarg, *A Quest for Life*, 121–173.
32 McHarg, *Design with Nature*.
33 Wallace McHarg Roberts and Todd, *A Feasibility Study for an Environmental Park in Tehran*, 47. Email communication, Carol Franklin, December 2, 2013.
34 Wallace McHarg Roberts and Todd, *A Feasibility Study for an Environmental Park in Tehran*, 1–11. The Bank of Omran, the financial arm of the Pahlavi Foundation, was 100% owned by the Shah. For further discussion of the Bank of Omran see: Abbas Milani, *The Shah* (New York: Palgrave MacMillan, 2011), 239, 387.
35 Manuscript Division, Library of Congress, Victor Gruen Papers, Box 46, Folders 1 and 14, "The Comprehensive Plan for Tehran First Stage – Concept Development Study and Evaluation – Volume III," III-D-4–13.
36 Eskandar Firouz, "Descriptive Report," in *A Feasibility Study for an Environmental Park in Tehran, Iran, for the Imperial Government of Iran, Appendix* (Philadelphia: Wallace McHarg Roberts and Todd, 1973), 1–11.
37 Ibid.
38 Ibid.
39 Ibid.; "Dr. Brian Spooner Cultures of Iran," in *A Feasibility Study for an Environmental Park in Tehran, Iran, for the Imperial Government of Iran, Appendix*, ed. Wallace McHarg Roberts and Todd, 123–130. Personal conversation Brian Spooner, October 25, 2014. See also Brian Spooner, "Cultural Anthropology in Iran: Beginnings and Prospects," *Expedition* (Spring–Summer 1971): 66–71;

and Brian Spooner, "The Cultural Ecology of Pastoral Nomads," *Addison Wesley Module in Anthropology* 45 (1973): 1–53.

40 Wallace McHarg Roberts and Todd, *A Feasibility Study for an Environmental Park in Tehran*, *Appendix*, 1–11.

41 Ibid.

42 In the fall of 1960, as the host of the television program *The House We Live In*, McHarg praised the physical and social ecology of Middle Eastern Gardens. In this regard it is important to note also that in 1959 the Orientalist, Arthur Upham Pope, delivered a lecture titled "Islam and the Environment" in McHarg's University of Pennsylvania course "Man and Environment." See Architectural Archives, University of Pennsylvania, Ian L. McHarg Papers, 109. II.E.2.57; and McHarg, *A Quest for Life*, 159.

43 Wallace McHarg Roberts and Todd, *A Feasibility Study for an Environmental Park in Tehran*, 8.

44 Ibid., 6.

45 WMRT would have known of *The Comprehensive Plan for Tehran* through Nader Ardalan, the architectural consultant for the Pardisan feasibility study. Ardalan had worked at Abdol-Aziz Farman-Farmaian Associates during the period when the firm was involved in the development of the Comprehensive Plan. See R. Stephen Sennott, *Encyclopedia of Twentieth Century Architecture: Volume 1 A-F* (London: Fitzroy Dearborn, 2004), 62–65. The recommendations enumerated in *The Comprehensive Plan* sought to control urban growth, relieve congestion, modernize inefficient infrastructure, ameliorate rural-urban migration, and mitigate air and water pollution. See Manuscript Division, Library of Congress, Victor Gruen Papers, Box 48, Folder 12, "Major Planning and Development Issues Affecting Tehran's Future," (Plan and Budget Organization Urban Development and Housing Department Tehran Development Council Secretariat, January 1976); Box 45, Folder 13, "The Comprehensive Plan for Tehran First Stage – Concept Development Study and Evaluation – Volume II"; and Box 46, Folders 1 and 14, "The Comprehensive Plan for Tehran First Stage – Concept Development Study and Evaluation – Volume III," Note also that Abdol-Aziz Farman-Farmaian was an uncle of Firouz, http://www.royalark.net/Persia/qajar9.htm.

46 Wallace McHarg Roberts and Todd, *A Feasibility Study for an Environmental Park in Tehran*, 6 and 34.

47 Ibid., 8.

48 Ibid.

49 Ibid.

50 Ibid., 12–82.

51 Ibid., 155.

52 Firouz, "Descriptive Report," 12. As later noted by Firouz in *The Complete Fauna of Iran*, the Department of Conservation became the Department of Environment following the 1974 passage by the Iranian government of the Environmental Protection and Enhancement Act. See Firouz, "Descriptive Report," 12–13.

53 Personal communication, Jahangir Sedaghatfar, April 28, 2014.

54 Ronald Ferrier, "18 – The Iranian Oil Industry," *Cambridge History of Iran from Nadir Shah to the Islamic Republic*, 7 (1991): 639–702, http://dx.doi.org/10.1017/CHOL9780521200950.

55 The Mandala Collaborative/Wallace McHarg Roberts and Todd, *Pardisan*.

56 Ibid., 10. The first page of the master plan report contains a full-page image of Iran taken from an ERT satellite.

57 McHarg, *Design with Nature*, 43–53.

58 Ian L. McHarg, "The Concept of Pardisan," Manuscript Division, Library of Congress, The Papers of Charles & Ray Eames: Pardisan Environmental Park,

Printed Matter, Box 83, Folder 13 (n.d.). This summary of the project by McHarg formed the basis of the narrative summary in the 1975 Pardisan plan report.

59 The Mandala Collaborative/Wallace McHarg Roberts and Todd, *Pardisan*, 45. McHarg's discussion of sunlight, energy, and ecosystem organization reflects his personal interpretation of trophic levels, an ecological concept in which ecosystem productivity is represented as a food chain that extends from producer organisms to consumer organisms. For further discussion from a textbook of that era, see Paul Colinvaux, *Introduction to Ecology* (New York: John Wiley & Sons, Inc., 1973), 129–134.

60 See: Kathryn Babayan, My*stics, Monarchs and Messiahs: Cultural Landscapes of Early Modern Iran* (Cambridge, MA: Harvard University Press, 2002), 491–492.

61 The Mandala Collaborative/Wallace McHarg Roberts and Todd, *Pardisan*, 98.

62 Personal communication, Jahangir Sedaghatfar, April 28, 2014.

63 McHarg, "The Concept of Pardisan."

64 Personal communication, Jahangir Sedaghatfar, November 11, 2013. Personal communication, Nader Ardalan, September 17, 2013.

65 The Eames Office hired Fleck in 1950. Charles Eames would later note that Fleck was a talented designer who possessed the ability to communicate ideas. See Paul Schrader, "Poetry of Ideas: The Films of Charles Eames," *Film Quarterly* 23, no. 3 (Spring 1970), 2–19.

66 Personal communication, Jahangir Sedaghatfar, April 28, 2014. Personal communication, Denis Paulson, project ecological consultant, March 7, 2014.

67 Ian L. McHarg, "The Concept of Pardisan."

68 Schrader, "Poetry of Ideas."

69 Mandala Collaborative/Wallace McHarg Roberts Todd, and Glen Fleck, "Project Film *Pardisan*," 1975. Architectural Archives, University of Pennsylvania, Ian L McHarg Papers, Folder 109.V.B.2.2.

70 For Farah Pahlavi's role in the promotion and popularization of art and culture in Iran, see Grigor, *Building Iran*; Bob Colacello, "Farah Pahlavi," *New York Magazine*, September (2013): 153–161, 188–190; and Robert Gluck, "The Shiraz Arts Festival: Western Avant-Garde Arts in 1970s Iran," *Leonardo* 40, no. 1 (2007): 20–28.

71 Sennott, *Encyclopedia of Twentieth Century Architecture*, 62–65. See also Davar Ardalan, *My Name Is Iran* (New York: Henry Holt and Co., 2007); and Ardalan Associates, LLC, Consultants in Architecture, http://ardalanassociates.com/about/about-nader-ardalan/.

72 For further discussion of the role of Persian heritage in Iranian architectural discourse, see Grigor, "Recultivating 'Good Taste' "; and Grigor, *Building Iran*. For further discussion of the dialogue between Ardalan and Kahn, and Kahn's subsequent commission from the Queen for the new government and cultural center at Abbasabad (Shahestan Pahlavi), see Emami, "Urbanism of Grandiosity," 47–54.

73 For further discussion see: Grigor, *Building Iran*, 164–165.

74 Though not officially recognized in any of the Pardisan project reports, Laleh Bakhtiar, in conjunction with Seyyed Hossein Nasr, developed a document titled "Persian Cosmologies," which McHarg referenced in a letter dated April 10, 1979, addressed to Shahriar Rouhani, the chargé d'affaires of the Iranian Embassy in Washington. In this letter, he notes that the Nasr and Bakhtiar document ensured Pardisan was "consonant with the Islamic concept of God-Man-Nature." See Architectural Archives, University of Pennsylvania, Ian L. McHarg Collection, Box 35, Folder 109.III.C.15.

75 Nader Ardalan and Laleh Bakhtiar, *The Sense of Unity: The Sufi Tradition in Persian Architecture* (Chicago: University of Chicago Press, 1973).

76 Ibid., 3–5.

77 Ibid., 67–75. Isfahan figured prominently in *The Sense of Unity* as a case study in harmonic order and the rhythmic composition. Ardalan and Bakhtiar argued the city's 16th-century urban form, built slowly over time, was comparable in complexity to the pattern of Persian carpets woven by Safavid craftsmen of that same period. They likewise related the city's organic form to human anatomy, thus connecting it to both modernist discourse and Islamic spiritualism. Images from *The Sense of Unity* appear in the Pardisan master plan report.

78 For further discussion of mid-20th-century structuralism, see Claus Dreyer, "Structural Approaches in Architectural Theory of the 1960s and 1970s," in *Structuralism Reloaded: Rule-Based Design in Architecture and Urbanism*, ed. Tomáš Valena, Tom Avermaete, and Georg Vrachliotis (London: Axel Menges, 2011), 40–45.

79 Seyyed Hossein Nasr, a prolific writer and then Dean of the Faculty of Literature at Tehran University, called for a return to the traditional society, yet he likewise embraced Western knowledge as a means to realize this project. For further discussion of Nasr's philosophical position, see Seyyed Hossein Nasr, *The Encounter of Man and Nature: The Spiritual Crisis of Modern Man* (London: George Allen and Unwin Ltd., 1968); Seyyed Hossein Nasr, *Science and Civilization in Islam* (Cambridge, MA: Harvard University Press, 1968); and Tarik M. Quadir, *Traditional Islamic Environmentalism* (New York: University Press of America, 2013). For Nasr's relationship to Ardalan and Bakhtiar, see Grigor, *Building Iran*, 164–165.

80 The Mandala Collaborative/Wallace McHarg Roberts Todd, *Pardisan*.

81 As used here, *regionalism* is a complex term that includes physical and social ecology, science, technology, and vernacular traditions, as well as the institutionalized global vision of modern architecture and mass consumer culture that resides within a particular context and speaks about a particular place. For further discussion, see Kenneth Frampton, "Towards a Critical Regionalism: Six Points for an Architecture of Resistance," in *The Anti-Aesthetic: Essays on Post-Modern Culture*, ed. Hall Foster (New York: New Press, 1998), 17–34.

82 Ardalan and Bakhtiar, *The Sense of Unity*, 89–127.

83 Firouz, *The Complete Fauna of Iran*, Foreword.

84 Personal communication, Jahangir Sedaghatfar, April 28, 2014. See also Persia: The Qajar Dynasty (Firouz, Farmanfarmaian, Farman-Farmaian, and Mossadeq), http://www.royalark.net/Persia/qajar9.htm.

85 M.E. Macglashan and E. Lauterpacht, *Iran-United States Claims Tribunal Reports: Volume 13* (Cambridge: Grotius Publications Ltd., 1988), 286–323.

86 Architectural Archives, University of Pennsylvania, Ian L. McHarg Papers, Box 35, Folder 109.III.C.19, the Pardisan project; See also Wallace, *Urban Planning My Way*, 193–196.

87 Nader Ardalan and Eskandar Firouz, *Management Plan Report for Pardisan. 1* (Tehran: The Mandala Collaborative, 1976). See also Sennott, *Encyclopedia of Twentieth Century Architecture*, 62–65.

88 Architectural Archives, University of Pennsylvania, Ian L. McHarg Papers, Box 35, Folders 109.III.C.17 and.109.III.C.19.

89 Maryam Moradi, "Cooperation and Conflict Between Iran and America at the Iran-United States Claims Tribunal," Ph.D. diss., University of Exeter, 2010. The Algiers Agreement, which led to the release of the American embassy hostages, called for the creation of a tribunal to arbitrate disputes between the United States and Iran, and to ensure conflict resolution by peaceful means. The tribunal will cease to exist when Iran and the United States resume official diplomatic relations.

90 Macglashan and Lauterpacht, *Iran-United States Claims Tribunal Reports*.

91 See Pardisan Forest Park, http://wikimapia.org/1538316/Pardisan-Forest-Park. See also Facebook Pardisan Park, https://fa-ir.facebook.com/pardisan.

92 See Radiozamaneh, "Environmental Official Tries to Halt Sale of "Ecological" Park," September 17, 2013, http://archive.radiozamaneh.com/english/content/environment-official-tries-halt-sale-%E2%80%9Cecological%E2%80%9D-park.
93 Kathleen Dean Moore, *Moral Ground: Ethical Action for a Planet in Peril* (San Antonio, TX: Trinity University Press, 2010). This text also contains contributions from Barack Obama, Bill McKibben, and Ursula Le Guin. See also PBS WHYY, Frontline Tehran Bureau, Muhammad Sahimi, "The Hostage Crisis, 30 Years On," November 3, 2009, http://www.pbs.org/wgbh/pages/frontline/tehranbureau/2009/11/30-years-after-the-hostage-crisis.html.
94 Personal communication, Nader Ardalan, February 2, 2014.
95 Firouz, *The Complete Fauna of Iran*.

7 Aspiring masonry

Design thinking and experimental vernacularism in Ferdowsi Garden

Hooman Koliji

Contemporary designed landscapes in Iran present a blurred relationship with the vernacular landscape and the design tradition of Persian gardens. Urban landscape design, unlike architecture, was not a central focus of the progressive design discourse of the 1960s in Iran. Scattered efforts to revive a notion of Persian-Islamic gardens are seen after the Islamic revolution; hence, most of them remain as formal interpretations of the past. Rebuilding efforts in postwar Iran entailed an extensive reconstruction of the nation's infrastructure, including urban landscapes. Numerous public green spaces were commissioned to design firms, and the result was a flurry of parks – most of which lacked a clear design thinking identity. Among the projects that appeared in postwar Iran, Ferdowsi Garden stands out as an exemplary designed landscape. Due to its impact and popularity, this Garden arguably established a distinct path for design thinking in the field of landscape architecture. This chapter examines this garden and its design underpinnings.

Ferdowsi Garden represents a synchronized rendition of a nature-urban public garden at both micro and macro scales. The garden is located on the northern border of Tehran, stretching along the Alborz Mountains. A recipient of a 2001 Aga Khan Award for Architecture (AKAA),[1] Ferdowsi Garden is considered a landmark in contemporary Iran for its role in enhancing the urban environment of the capital and for restoring public green space in one of the largest cities of the Middle East. Its enduring impact on the design approach of urban landscapes in Iran cannot be overstated.

While some literature has discussed environmental aspects of Ferdowsi Garden, more detailed sociocultural investigations of the design-build process, which ultimately played a vital role in the success of the project, remain elusive. Additionally, few studies exist that examine the design thinking behind Ferdowsi Garden in the larger context of Iranian contemporary landscape design.

This chapter explores the design thinking, which involves multiplicity and the complexity of intervening elements in the conception and realization of Ferdowsi Garden, with particular emphasis on its environmental and sociocultural attributes. The existing literature on Ferdowsi Garden focuses primarily on the environmental aspects that drove the design but pays scant

attention to the social or political contexts of the project.[2] This chapter will address the intertwined nature of the environmental and sociocultural dimensions associated with the realization and success of the project. The study begins by examining the broader context in which Ferdowsi came to be – historical, social, and environmental – and includes understanding the design background, Tehran's evolution over the past few decades, and the city's socioenvironmental dynamics at the time the project was conceived. The study continues with a focus on the site scale while at the same time providing a critical analysis of its design through physical, environmental, and social lenses. This discussion is supported through an examination of original drawings, notes, construction photographs, and the designer's reflections, with the goal of critically examining the design process regarding its strengths and weaknesses. Concluding remarks include how the design of Ferdowsi Garden ultimately exceeded physical and environmental objectives to create sociocultural change. As a reflection of the multiplicity of intervening scales and issues, Ferdowsi Garden emerges far beyond a merely well-crafted stonework on a mountainous landscape; rather, the Garden epitomizes a timely cultural response to an increasingly evolving society.

Although well known for its "imaginary" and "playful" masonry construction, Ferdowsi Garden's conception is a valuable example of the complexities and sophistication of the design process in making public space successful – one that integrates sociocultural and environmental aspects in a unified place. Additionally, in terms of site-context and site-object contingencies, the garden posed an alternative design-thinking avenue to its much more conventional predecessors. These design characteristics have played a significant role in enhancing the social life of Tehran's inhabitants and eventually promoting cultural and environmental consciousness.

Design context

Contemporary landscape design in Iran is still an evolving phenomenon, as evidenced by a range of projects with diverse design attitudes. The Society for National Heritage (established in 1922) initiated a major modernist architectural overhaul in Iran with its oversight of several dozen modernist projects. Among these projects was a series of mausoleum-like tombs for Iran's epic poets and other cultural figures, including Ferdowsi, Khayyam, Hafiz, and Ibn Sina. Although each of these projects had a landscape setting, the design focus was primarily on the monuments themselves and had little emphasis on landscape design.

In later decades, starting in the 1970s, Queen Farah Pahlavi's Court became an influential patron of the art and architecture.[3] With an Iranian-Islamic approach to cultural traditions, the Court commissioned a number of progressive architects to create national cultural centers and museums that would connect modernism with the vernacular architecture of Iran. The modernist/traditionalist circle of designers that flourished during the late 1960s and into the 1970s sought to incorporate subtle allusions

to traditional architecture into a modernist vocabulary. Although this liberal design circle had a significant impact on the built environment, far less attention was paid to landscape design. One reason for this neglect could simply be that landscape architecture, as a discipline and profession, was not well known at the time; therefore, architects had to take a leading role in the design of open spaces.

Grand urban projects such as Shahestan Pahlavi, a grandiose political project for the former Shah to create a new urban center for Tehran, opened up an opportunity for exploration of landscape architecture. The project presented major landscape design challenges due to its intact natural setting in central Tehran and engaged world-renowned architects such as Louis Kahn and Kenzo Tange. The final master plan by British firm Llewelyn-Davies International, while controversial in many ways, still featured an array of open spaces that could have been one of the most prominent designed landscapes of the country.[4] However, the ambitious project was never realized, and the nation continued to lack focus regarding designed landscapes. In fact, in the absence of such major projects, a few completed parks appeared to be the closest precedent as design context for contemporary urban landscape projects.

An example of one of these early projects is the establishment of the first public park in Tehran, Park-e Shahr (literally "city park"), which dates to 1953.[5] The design of the park features a mix of European influence with an dominant north-south promenade that shows a spatial resemblance to the Royal Qajar gardens. Later parks such as Laleh Park (Farah Park, ca. 1966, designed by French and Iranian architects) and Mellat Park (Shahanshahi Park, ca. 1966, designed by British and Iranian architects) feature typical characteristics of mid-20th-century park design with a range of curvilinear promenades weaving throughout the park. Later, Niyavaran Park (ca. 1969, designed by British and Iranian architects) featured more a geometric design, characterized by a strong axis and secondary cross axes. While the majority of these urban landscapes were designed to expand public spaces, they were also intentionally created to convey a more modern image for the prosperous Pahlavi capital. Indeed, one can see a distinct desire for showcasing a more contemporary interpretation of Tehran through modernist park design during the 1960s and 1970s.[6] It should be noted that although the Municipality of Tehran was officially in charge of creating public space, the Queen's Court sponsored several designed landscapes, including Laleh, Mellat, and Niyavaran Parks, as well as the Jamshidieh Stone Garden.

Among Tehran's influential design landscapes is Shafagh Park (Yousef Abad Park, ca. 1969, designed by Kamran Diba). This small park, one of the first urban landscapes to be created by a member of the inner circle of the Queen's Court architects, represents a significant contribution toward reimagining modern Iranian landscape architecture. Diba's design creativity, delicate use of rough-hewn stone, brick and concrete, and meticulous attention to detail distinguish Shafagh Park as an amalgamation of the vernacular, traditional, and modern architectural traditions in one landscape. The distinctiveness of Shafagh Park regarding the creation of human-scale

spaces and imaginative use of stonework seems to have influenced the later design of the Jamshidieh Stone Garden (ca. 1977–1979).

Environmental setting

Today's megacity of Tehran, which became Iran's capital in 1795, incorporates a number of small villages and towns that once spread over the Alborz Mountains and the lower arid lands. Tehran encompasses seven river valleys, one of which is home to Ferdowsi Garden. In the past, these rivers served as critical environmental corridors and provided oasis-like microclimates for earlier rural settlements. Many of the area's rural villages formed urban neighborhoods as the city expanded.[7] This incorporation process occurred in three overlapping stages: (1) the early 20th century, with the burgeoning growth of the capital area; (2) the targeted urban planning from the 1950s to the 1970s; and (3) the significant urban development of the post-1980s.[8] Three "master plans" were prepared for Tehran (in 1968, 1990, and 2004), all of which recognized the environmental role of the river valleys. The last two master plans incorporated public and recreational spaces into these environmental corridors.[9]

Beginning in the 1950s, Tehran's rapid urbanization created demand for buildable lands. New urban planning proposals, aiming at modernizing the capital, resulted in the "deconstruction of many private and public gardens that once graced the city."[10] Following the Islamic Revolution, however, Iran witnessed a rapid and unprecedented migration to the capital, resulting in dramatic population increases. In an effort to limit urban sprawl and to adhere to the environmental guidelines of the 1990 master plan, the Tehran Municipality looked into strategies to protect the natural environment of the capital's northern perimeter, the Alborz Mountains. This effort was undertaken in several stages by restricting the City's limit to certain altitudes – first up to 1,600 meters above sea level, and then 1,800 meters, and most recently up to 2,000 meters in certain areas.[11] Tehran's population growth urged authorities to convert some of the public lands in northern Tehran into mountain parks instead of a typical, uninviting, greenbelt space. Thus was born Ferdowsi Garden.

Ferdowsi Garden is adjacent to the river valley of Kolakchal, featuring steep slopes and rugged terrain (Figure 7.1). With very little water resources, the native plant species (mainly ground cover and shrubs) define the natural landscape of this site. The Garden is also situated near Jamaran, an old urban-village of the pre-20th century that preserved much of its physical identity.[12] One of the main characteristics of these older urban villages on the footsteps of the Alborz Mountains is their cohesive appearance, mainly identified with "garden-alleys" or *koocheh-bagh*. These alleys roam throughout the steep terrain, mediating between orchards and gardens, connecting neighborhoods.[13] Because the site of Ferdowsi Garden is at the northern threshold of the Jamaran, it had much greater potential to embrace this concept of informal passages through gardens, which is a hallmark of its design theme.

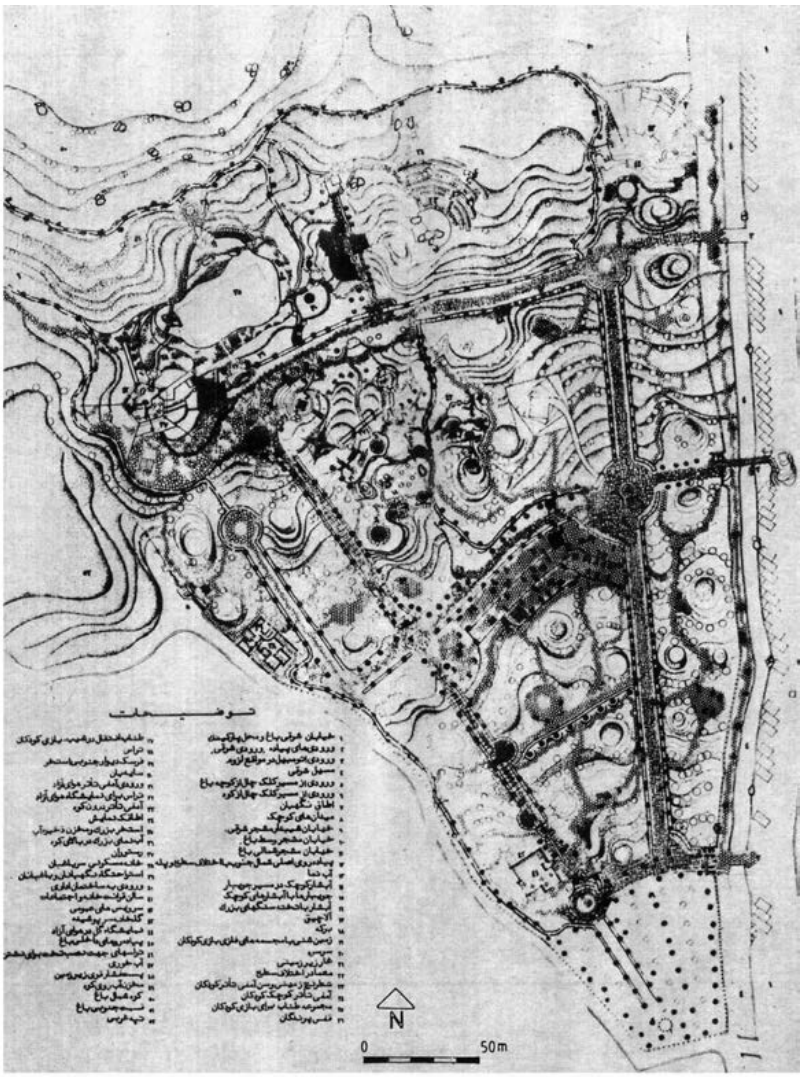
Figure 7.1 Site plan of the Jamshidieh Stone Garden. (Courtesy of Baft-e Shahr.)

Site context

The site of Ferdowsi Garden is an extension of the popular Jamshidieh Stone Garden and is located to its north and west.[14] The design for the new garden was commissioned to the Baft-e Shahr Architecture in 1992 under the design leadership of architect Pasban Hazart – one of the lead designers of the Stone Garden almost 15 years earlier. Jamshidieh Stone Garden was completed just before the Islamic Revolution in 1979, but closed to the public shortly afterward and did not reopen until the 1990s.[15] With the addition of Ferdowsi Garden in 1995, the full site totals 16 hectares and represents a blend of the natural environment of the Alborz Mountains, existing cultivated orchards, and stonework craftsmanship. Because the celebrated

design style of the Stone Garden served as the driving force for the creation of the new Ferdowsi Garden, the notion of "design" becomes a matter of context and requires further examination (Figure 7.2).

The Jamshidieh Stone Garden, commissioned by the Queen's Court in 1977, is built on the site of an old orchard with a series of groves, water pool



Site plan of Jamshidieh

Bagh Sangi Jamshidieh, Tehran, Iran

Figure 7.2 Hand drawings of the site plan of the Jamshidieh Stone Garden. (Courtesy of Baft-e Shahr.)

(water reservoir) on the upper side with retaining walls to stabilize the slopes, and one modest residence on the lower side. Richly vegetated spaces, dense tree canopies, and artful stonework are the main characteristics of the Stone Garden today. In designing the Stone Garden, the architects were tasked to make use of local materials in a vernacular fashion, and with an emphasis on craftsmanship. In grappling with the density of plants and trees in the orchard, the designers were challenged to "visually grasp the entirety of the orchard."[16] Because they were dealing with unfamiliar territory, the design team decided to formulate a plan on-site. "There was no way that we could do the traditional design, meaning sitting in our office away from the site and make progress on design," recalls Pasban Hazrat, the architect-in-charge.[17] The team faced a project requiring them to be more experimental and resourceful compared to anything they had dealt with in the past.[18] Specifically, Jamshidieh's design had to incorporate existing orchards, paths, uneven topography, and waterways, while leaving the dense vegetation almost intact. Thus, the design of the Old Stone Garden was more or less an experiential design. In-situ discoveries and nuanced design responses created a tapestry of distinct stonework woven throughout the harmonious and unified design of the garden.

Shifting grounds: environmental, social, and political attributes

The site of Ferdowsi Garden features two fundamental distinctions that set it apart from the Stone Garden. From an environmental perspective, the main difference was the lack of water, thereby limiting the incorporation of new vegetation in the site. With rugged terrain and steep slopes, the new site features a mountain-scape of stones and boulders with native plant species, mainly various types of ground cover, shrubs, and certain tree species. Additionally, Ferdowsi Garden's site, although adjacent to the Stone Garden, can be identified with a new social and political landscape. Indeed, the greater difference between the two sites can be seen in its new sociocultural context.

A recognition of social attributes as an integral component of the place offers an expanded sense for the site, namely "ground."[19] This integrated outlook considers the notion of ground as a cultural creation. Robin Dripps explains:

> When valued as a cultural product, as well as a natural resource, the processes, connections, stories, and meanings of the ground take on a different cast. The more readily grasped social, political, and physical structures that give culture its unique particularity are brought into relationship with the immense and less comprehensible scale of natural process.[20]

From this standpoint, one can appreciate how the new grounds for Ferdowsi Garden were fundamentally different from its predecessor.

Socioculturally, Tehran of the 1990s was considerably different from that of two decades earlier. In postwar Iran, with an increasing population of youth and minimal public (green) amenities, the northern mountain trails of the capital became one of the most visited recreational destinations for hiking and relaxation. Importantly, this trend occurred at a time when the very notion of "leisure" was in flux. The conservative Islamic Republic in Iran implicitly demeaned leisure and associated it with the monarchical past.[21] Additionally, the new political view did not adhere to a modern definition of leisure as slack time to be filled with personal, enjoyable pursuits. In contrast, officials endorsed a more non-Western and traditional interpretation – one arguing that "a great deal of leisure time still centers around communal, familial, or religious activities."[22]

Nonetheless, given its location at a major mountain trailhead, the site of Ferdowsi Garden had already become a popular recreation area. Additionally, with Tehran's growing population, the city had become more ethnically diverse after the revolution and the Iran-Iraq war. Public spaces and amenities responding to the needs of the ethnic diversity of the capital's citizens were already overdue. In this context, Ferdowsi Garden was commissioned as an innovative environmental design to limit urban development and promote an awareness of conservation and nature. As much as the design challenge seemed reminiscent of the earlier Stone Garden, the intention behind it was very different. The new project, while encompassing significant ecological stimuli, also purposefully addressed sociocultural and political considerations.

Conceiving the garden: design in nature

The study and design process for Ferdowsi Garden began with a premise of environmental consciousness. The unusual site involving a mountainous landscape posed a major challenge: "how to built on the mountain without destroying it."[23] Thus, one of the environmental design principles for the team was to "design in nature,"[24] which led them to many days of exploring the site's natural setting for an in-depth understanding of the natural environment. The designers' guiding principle of designing in nature was simply translated to an emphasis on working with the existing terrain and indigenous species.[25] A second environmental principle was to "preserve the natural heritage," which is evident in the team's mindful preservation and selection of native plants of the Alborz Mountains.[26] In adhering to their design principles, the team also had to become environmentally resourceful. Water, a key element to any landscape and one of the main organizing elements in traditional gardens in Iran, had to be approached with extraordinary care at Ferdowsi Garden: "With no natural source of water available on the site, [they] . . . created water channels that lead from drinking fountains in the public spaces."[27] Environmentally, the designers had to be cognizant of the natural context of the site – a crucial decision at a time when Tehran was experiencing an ecological deficit.[28]

While it is true that the guiding principles set forth by the design team spoke to their vision and laudable aspirations, the interpretation and application of those principles did not necessarily articulate a sophisticated response to the site and its urban context. Basically, the design was hampered by the restrictive use of native plants and minimal disturbance of the mountain-scape. A systematic and cohesive environmental vision as how to contextualize Ferdowsi Garden in relation to the Kolakchal River Valley, which is a natural ecological airway that allows the city to breathe, is not often discussed in the study process. Nevertheless, the outcome seems to be mindful of environmental objectives, both in terms of an integrated design that takes into account the natural physical setting of the mountain, as well as the designer's goal to preserve the existing vegetation of the site.

Cultural enterprise

The second major design objective was to embrace important cultural values, which can first be observed through the symbolic name choice.[29] Given that any form of celebration of pre-Islamic Persian culture, including the work of the epic poet Ferdowsi, was dismissed through official channels (and particularly in the first decade after the inception of the Islamic Republic of Iran), the choice of name can be considered a significant move to coalesce a fragmented society. The new garden seems to have embraced Ferdowsi both figuratively and as a theme. At the garden's entry point, which connects urban alleys to mountain trails, the visitor faces a statue of the epic poet.

As a cultural theme, Ferdowsi Garden seeks to promote the collectiveness of contemporary Iranian society through its design representations of subcultures and ethnic groups. The site's network of pathways "explores a number of themes, both cultural and natural."[30] Along this network of paths, four "cultural houses" serve as recreation and dining destinations, providing ethnic food to visitors. These structures were also thoughtfully constructed of traditional materials and reflect the cultural heritage of the ethnic groups. For example, the Zagros House takes the form of an open-sided nomadic tent, while the Turkmen House includes a series of circular spaces with domed roofs, derived from traditional yurts. Attention to the arts, and in particular sculpture in the design and execution of the garden, is also an important contributing cultural factor – especially given the fact that the government was, at best, ambivalent about any forms of nonreligious art, and certainly the use of sculpture was taboo in the Islamic conservative view. It is noteworthy to mention that there is a clear distinction between the Old Stone and Ferdowsi Gardens in incorporating sculptures into the fabric of the design.

The design of the Stone Garden benefitted from the liberality of the Iranian modernist movement. The garden's patron, the Queen's Court,

promoted the arts and the use of various art forms in many types of buildings. A culture of incorporating sculptural elements into buildings and landscapes, an ethos of 1970s modernism, is also evident in such projects as the Niyavaran Cultural Center or Safagh Park. The Stone Garden seems to have followed that trend. Various sculptures scattered throughout the garden, as well as meticulously handcrafted stonework, make the garden a homogenous, sculpted space. On the other hand, Ferdowsi Garden, while continuing a similar tendency of stonework for the most part, does not feature the use of sculptural elements as homogenous design contributions. Except for the statue of Ferdowsi at the garden's entry and a few sculptured fountains, all other sculptural work is concentrated in the "sculpture garden" at the highest threshold of the site.

While it is clear that the idea of introducing ethnic-cultural houses along the major promenade of Ferdowsi Garden serves as a spine for the design, the significance of a dedicated sculpture garden – even in a periphery location – should not be overlooked. Nevertheless, the garden, through an experimental take, attempts to reestablish a human-centered relationship with the landscape.[31] As a human construct, the entire landscape is transformed into an "open work" for further interactions with visitors. The younger generation embraced the visionary garden with its pervasive use of sculptures that re-legitimized the use of this once-denied art form.

Drawing on the mountain

In-situ operations – study, observation, and drawing – identify the primary design methodology of Ferdowsi Garden. The design process relied on a "lived-experience," with the goal of enhancing visitors' experience with the unfolding of the mountainous landscape. In order to evaluate the site's potential, "the design team camped there for a month, and their design emerged, to a large extent, from the natural topography."[32] In total, "countless hours of sketching from the site, imagining design possibilities, and re-sketching became the main design process for the park."[33] The design team deliberately abandoned so-called conventional design representations, and

> with a general layout in mind, they would start by taking photos of visually interesting boulders and trees that were to be incorporated into the design. Using a transparency on top of the photo, the would then go back into the field and let the boulders and trees speak to them as they made perspective sketches of what was to be built.[34]

This method of "overlaid" drawing, entailing iterative processes and group reviews, seem helpful in creating a common ground amongst the team members with respect to sketches and design proposals. This design process reflected a deliberate emphasis on the "human experience" to conceive the space using iterative and sequential perspectival drawings. Unlike

architecture, which favors orthographic projections for the design process, in landscape design – where one's experience with the grounds holds a bigger stake – transformative sketching sometimes proves to be a much more powerful tool.[35] By adopting in-situ design drawings, the design process established a rich relationship between "site," "sight," and "representation." As such, the spatial experience took precedence over the visual experience, which ultimately enabled the design team to address physical nuances of the place, while at the same time effectively instilling cultural motifs throughout the landscape. This design methodology offers the designer possibility of integrating a semiotic language of culturally significant themes to the site as the landscape is experienced. Therefore, one can infer that the overlaid perspectival drawings uniquely contributed to crafting a "cultural landscape" in terms of visual and cultural motifs that found their way into the designer's sketches, and were eventually realized in the landscape (Figure 7.3).

This method of on-site design has been utilized since the 18th century among European landscape designers. For example, British landscape designer Humphry Repton (1752–1818) used perspective drawings of "before-and-after" conditions of sites.[36] The power of such drawings is that they enable the designer to "see" the site as one would later experience it in the actual field. Repton's design proposals also included reimagining vast

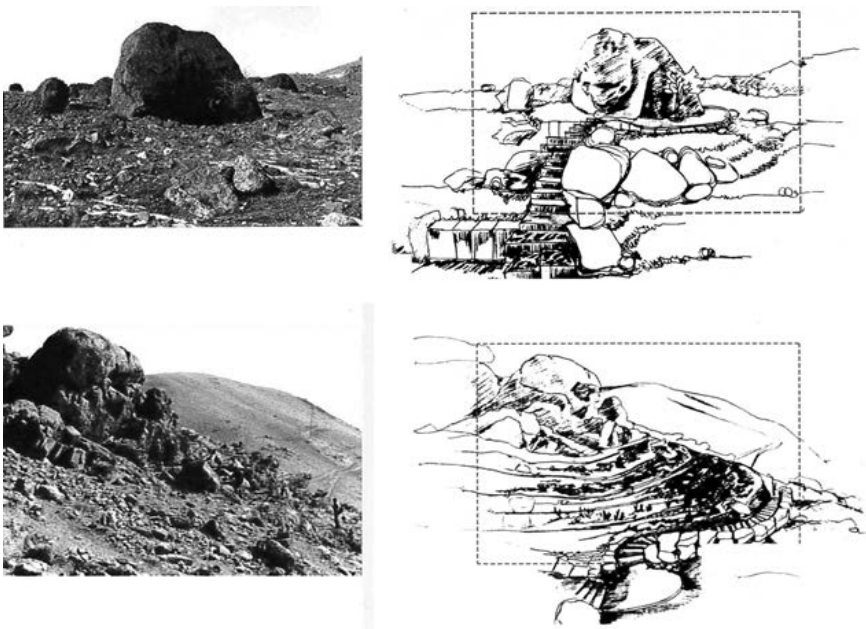


Figure 7.3 Examples of perspectival design drawing on overlaid trace paper, showing the current condition and design proposals. (Courtesy of Baft-e Shahr.)

scenic cultural landscapes. In Ferdowsi Garden, however, the design drawings were mainly focused on small-scale landscapes and involved designing "pieces" of a "whole."[37]

The overlaid sketching seems to have helped the designers to envision culturally significant spaces as a more of a patchwork of tales and discoveries on the mountain that visitors can may experience while on site. For instance, imaginatively sculpted fish on rocks reference the significance of the fish in Persian culture, as well as a symbol of the arrival of the spring season. For the design process, a direct relationship between seeing the site and designing-drawing became a critical methodology, since "sensitively incorporating existing boulders and trees into the detailed stonework . . . was not something that the designers could do on a drawing board in the office."[38] This methodology urged the design to be more intuitive, nuanced, and phenomenological, which certainly contributed to unexpected discoveries and the charm of the garden. Indeed, at times the design seems to be spontaneous and not entirely relating to its adjacencies. This method also requires a particular construction process and calls for skillful craftsmanship to realize the design.

From drawing to sculpting: a handcrafted urban landscape

One can draw an analogy between the use of overlaid transparency drawings and the actual act of sculpting. This mode of design drawing permits an approximation of the landscape as visually experienced, which can then be modified as if one were sculpting and reshaping it by reconstructing the space both spatially and experientially. Through this approach, the designer pays meticulous attention to details (e.g., connecting hardscape and softscape), but can also infuse cultural or other motifs into the landscape by making the art of sculpting a primary vehicle for manipulating and recreating the landscape.

The garden is distinguished by its intricately handcrafted landscape with no particular geometric order. The primary material used in the landscape is rough-hewn stone, amassed on-site or quarried from higher up the mountain ridge and rolled into the place. The stones create a "series of stone-paved paths and steps that rise up the hill, providing views over the city. Along these paths, areas for sitting and vista points have been created within the natural topography."[39] The use of the existing site stones reinforces the resourcefulness of the garden's designers. For instance, larger boulders mark focal points for spaces along the pathways, while smaller flaked stones articulate details such as permeable paving in drainage areas. The garden's network of paths leads the visitor to a sculpture garden and to hiking trails that reach the upper valleys.

Playful interpretation of shapes and forms of existing boulders into animated creatures and animals is a distinctive feature of Ferdowsi Garden. The works of two prominent Iranian sculptors, Nasser Houshmand-Vaziri (b. 1946, thirty sculptures) and Simin Ekrami (b. 1948, two sculptures)

capture the imagination of the visitor, as described by an AKAA Report: "Outcroppings of rock have been imaginatively sculpted into forms such as fish, lizards and bears, creating an environment where respect for nature can be playfully developed among the young."[40] The tangible use of sculptured art forms associates the design with the land art, in which "sculptures are not placed in the landscape, rather, the landscape is the very means of their creation."[41]

In Land Art, the artist uses earth, stone, water, and other natural materials to make, shape and build, change, and restructure the place – the landscape space. However, Ferdowsi's sculpture garden does not entirely fall into the land art category. Land artists' interventions demonstrate "sensitivity and care arising from an awareness of ecological responsibility and as the means of expression of a plastic-weary society,"[42] which is not exactly the intent behind the sculpture garden. However, the in-situ design-built operations had the potential to be associated with Natur-Kunst (Nature Art)[43] regarding sensitivity to protecting native plans and working with the natural terrain. When considering the site in total, it is clear that the entire process of study, design, and implementation was based on the team's intuitive response to the many nuances discovered on the grounds.

Important to note is that in sculpting the garden, the design team brought in over sixty highly skilled stonemasons from central Iran (city of Hamadan), and from the western part of the nation (province of Azerbaijan) – two regions known for traditional stonework craftsmanship. These masons were responsible for the construction of the pathways, cultural houses, and points of interest. They would use the designers' sketches as references and guiding concepts. In many cases, the masons also participated in design concepts and improvised on certain projects; several notable artists and sculptors also contributed to the design and construction process. Such a significant presence of artists and skilled traditional craftsmen working together on a single project was unprecedented, making Ferdowsi Garden the largest contemporary project to have been almost entirely handcrafted. Moreover, Ferdowsi Garden achieved a social goal in democratizing the design and construction processes by including craftsmen and artists as active collaborators (Figure 7.4).

Concerning the design process, the team engaged in drawing and redrawing sketches of promenades, seating walls, sculptured motifs, and so forth on an overlay of photographs or in the field. These drawings later became their "blueprints." They would show the final overlaid drawings to the stonemasons and say: "This is what we are going to build."[44] The final built work was indeed a negotiation between the envisioned drawings of the design team and the craftsmen's or sculptors' contributions – in essence, a collective process reconciling aesthetics and technics. It is not clear whether every single realized design had a reference drawing, or whether some were negotiated on the site intuitively with the master mason. Nevertheless, in either of these scenarios, there is a "space" between the intended design and the construction, in the sense that the drawing did not necessarily

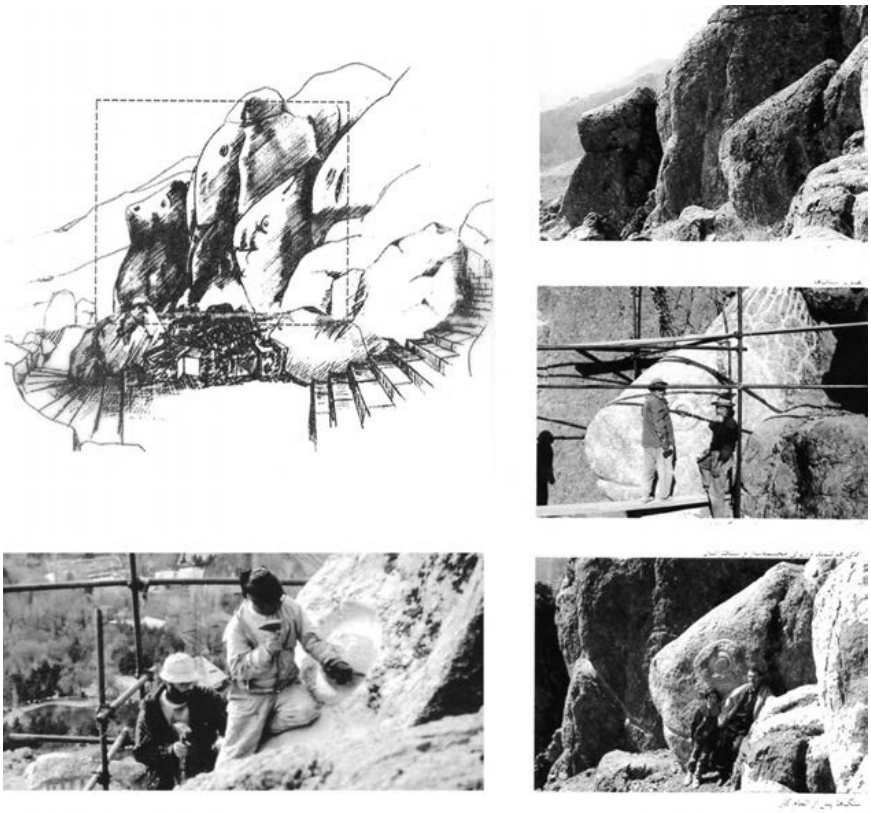


Figure 7.4 Sculptors chiseling boulders on the mountain based on observations and in-situ drawings. (Courtesy of Baft-e Shahr.)

serve as an unyielding directive – one to be followed exactly by the masons. Rather, the opacity of the drawing created a gap, a vital in-between imaginative space, allowing both the design and craftsmanship to wed and become one, enlivening a long-standing notion of *techne* in the modern age. This method offered negotiated territories (between the designer and maker) for a more inclusive and democratic design process – one that gives voice to the maker as an active participant in the conception of space. Given the high number of collaborating masons and artists who ultimately conceived and rendered Ferdowsi Garden, one can rightly claim that the garden symbolically embodies a collective experience and imagination of the society.

This style of design was dissimilar to conventional expectations of designed landscapes in contemporary Iran, and as such put the design at odds with a modern conception of designing built environments.[45] At a regional scale, the stonework of Ferdowsi Garden connects with the vernacular architecture found in the hillsides of the Alborz Mountains, which widely embraces

stone as a building material and plays with nuances of site conditions. For example, many garden-alleys and private residences and gardens feature turquoise-colored stones from Darakeh, a canyon close to Jamshidieh or red-hued stones from nearby Darabad Canyon. Additionally, the past few decades have witnessed a rise in residential villas in the mountains north of Tehran, many of which embracing a quasi-rustic, quasi-vernacular design style with stone being a dominant façade material. The design of Ferdowsi Garden expresses a visual reference to these more recent developments, adding to its pop-culture appeal, making it better connect with the average visitor.

The quasi-vernacular style of the design of Ferdowsi Garden was indeed an evolving experience for the design team. With its distinctive design features, one could label the style of Ferdowsi Garden as "experimental vernacularism" – one

Figure 7.5 Azerbayjan House. Existing large boulder inspired the design team to select the site for Azerbayjan House and integrate it to the main promenade. (Courtesy of Baft-e Shahr.)

that has tendencies to be informed by vernacular architecture yet is not entirely settled. Nevertheless, the combination of novelty and camaraderie in the masonry landscape brings about an intimate feeling, as well as a sense of belonging – both of which are conveyed through craftsmanship and add to the charm of the garden (Figures 7.5 and 7.6).

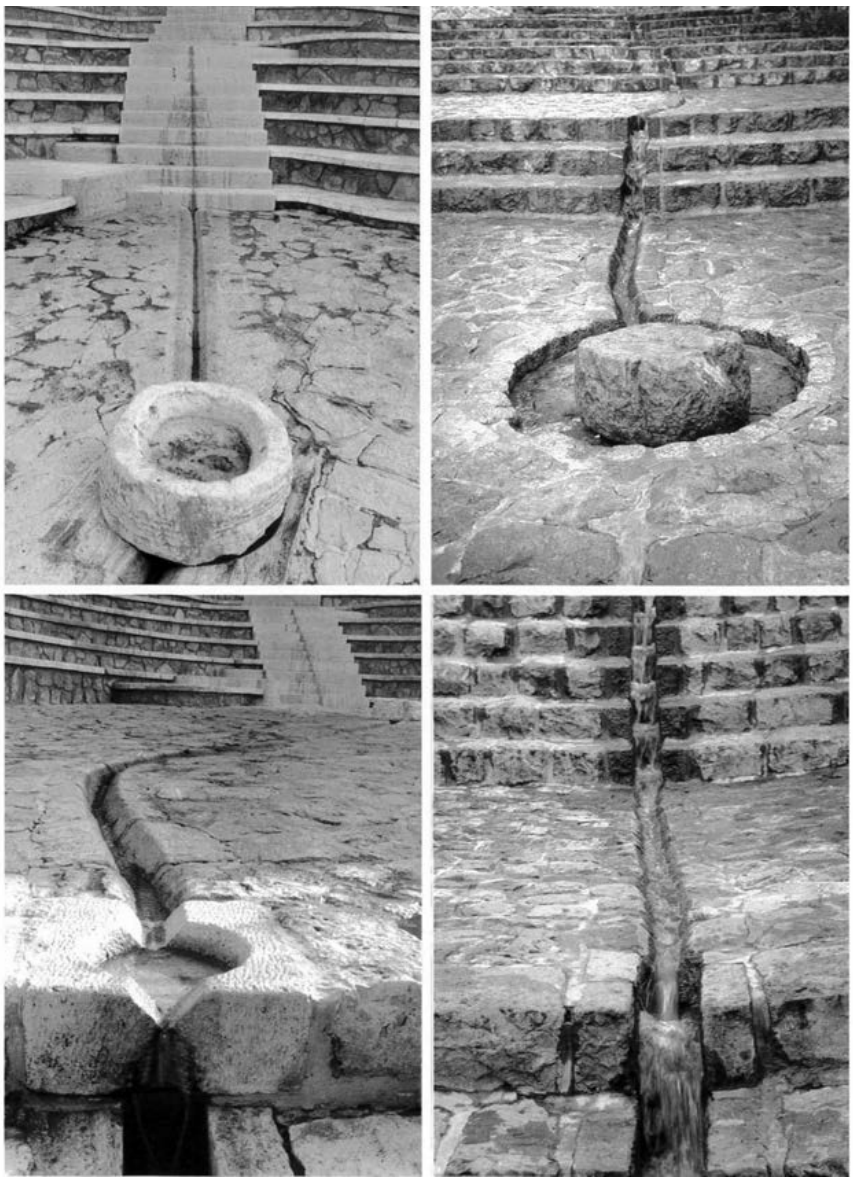


Figure 7.6 Drainage detail. Smaller stones and stone flakes were skillfully used in the drainage paving patterns. (Courtesy of Baft-e Shahr.)

Ferdowsi Garden provides a refreshing public space to the megacity of Tehran. This landscape is of particular importance when looking at the social and economic context of eight years of war, with little budget for public infrastructure projects. Thus, any high-end project (even in vernacular fashion) was deemed to be extravagant and inappropriate to the aspirations of the Iranian Islamic Revolution. The meticulous and artful stonework of Ferdowsi Garden imparted a sense of value and even belated luxury for the city of Tehran (Figure 7.7). The flexible nature of "experimental vernacularism" offered the designers the opportunity to address historic and cultural values while enjoying the freedom of artistic expression,

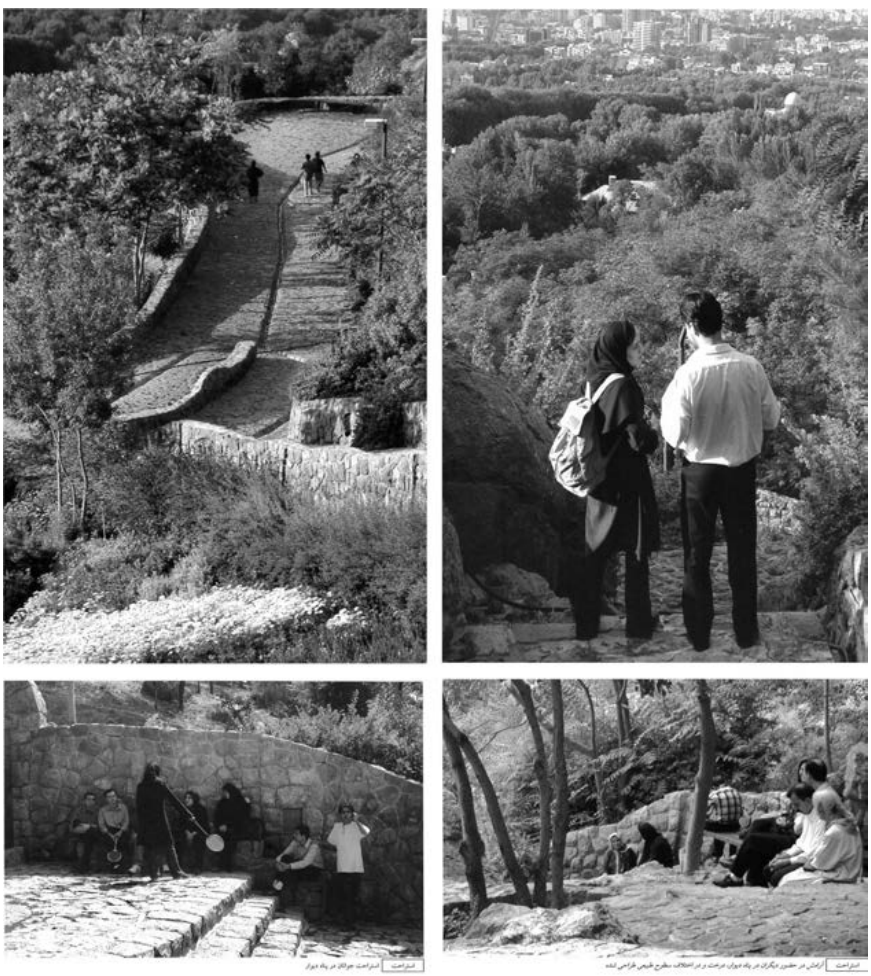


Figure 7.7 The natural setting of the Ferdowsi Garden with limited vehicle access to steep topography provided a secluded place away from the city for visitors. (Courtesy of Baft-e Shahr.)

without being accused of having been influenced by Western art. It also provided an experimental space for people to become involved in identifying new public spaces in postwar Islamic Iran.

Conclusions: from masonry design to social agency

While the primary accomplishment of Ferdowsi Garden can be seen in its artistic achievement of an environmentally driven design, the greater success of this public urban landscape owes to its evolving social circumstances.[46] The sociopolitical context of postwar Iran is a crucial player in the immense popularity of Ferdowsi Garden. The name choice for the new capital's park was fresh and hopeful. After all, the epic poet Ferdowsi had a central role in sustaining the cultural significance of nature for Iranians.[47] The twenty-odd years of the Islamic Revolution, followed by eight years of a distressing war, left a lasting impact on the society.

The new mainstream definition of public spaces and parks propagandized by official channels included Islamic architecture, as well as postmodern interpretations of Islamic gardens with religious references or allusions to the Revolution's martyrs. In marked contrast, this new landscape did not carry religious references, and unlike many Islamic garden–inspired parks (often with formal interpretations and low-quality execution), Ferdowsi Garden offered an organic and informal encounter with the natural setting, one that runs deep in Persian culture. The garden reintroduced a form of interacting with nature that was more humanistic and free from formal Islamic interpretations, echoing the popular existing mountain trails of northern Tehran. Indeed, the garden represents a somewhat radical example of integrating environmental and social issues together in one single project. The informal, intuitive, and engaging design of Ferdowsi Garden offered what was absent in Iranian society for over two decades.

Additionally, the Islamic Republic government promoted a conservative religious view that included strict limitations on people's appearance, dress code and conduct in public spaces. The "social police" was in charge of patrolling public spaces to enforce strict religious laws, particularly monitoring women's dress codes and prohibiting male-female interactions. A considerable part of the society did not welcome such restrictive views. Ferdowsi Garden, due to its rugged terrain and natural setting, offered a more secluded place to young people on the threshold of the city away from the prying eyes of the social police. The garden soon was regarded as an officially built landscape that allowed people to experience and enjoy what was unofficial and unendorsed. In short, Ferdowsi Garden was designed, in part, to bring together an increasingly segregated society in the same way that its namesake spoke to cultural unity nearly two centuries before.

Moreover, the new Tehran had become more ethnically diverse compared to the 1980s, which epitomized a diversified society impatiently awaiting

change – one that included and even embraced both Islamic and pre-Islamic values. Indeed, the courageous inclusion of four underrepresented cultures was among the first public celebrations of the ethnic and religious minorities of the Kurds and Turkmens in a single urban project. In recognizing these ethnic groups, Ferdowsi Garden became a unifying force that acknowledged and welcomed the diversity of Iranian culture as a whole. Ultimately, a terrain with resilient environmental underpinnings successfully tapped into societal flows and created a new ground to foster social change.

Notes

1 The award recognizes "projects that successfully address the needs and aspirations of societies in which Muslim have a significant presence." Ferdowsi Garden was recognized for "its innovative approach to environmental design" and promoting "an awareness of conservation and nature amongst the urban population of Tehran," and for the appreciation of local culture and entertainment" through "imaginative use of materials, playful sculptures and indigenous landscaping draw on the best traditions of garden design in the region." Source: http://www.akdn.org/akaa_award8_awards_detail7.asp

2 There is little scholarly literature on Ferdowsi Garden; most of the existing documents include short descriptive essays prepared by the design team, as well as other secondary studies that are published in Farsi. An English report of Ferdowsi Garden by Miller and Sabri published in the magazine, *Landscape Architecture* (Cyrus R. Sabri and Patrick A. Miller, "Epic Stones," *Landscape Architecture Magazine* (September 2002), 88–95), was perhaps the first source in a highly read international magazine. That account went beyond a description of the design and briefly addressed sociocultural issues associated with the Garden. The most comprehensive literature in this regard is a book by the lead designer on Ferdowsi Park: Golamreza Pasban-Hazrat, *Design in Nature: Ferdowsi Garden, Jamishidieh Garden, Environmental Design in Kolakchal Canyons* (Tehran: Kanji Honar Publishers, 2009). However, there is little critical analysis of the design to be found in this book.

3 Talinn Grigor, *Building Iran: Modernism, Architecture, and National Heritage Under the Pahlavi Monarchs* (New York: Periscope Publishing, 2009).

4 Farshid Emami, "Urbanism of Grandiosity: Planning a New Urban Center for Tehran (1973–76)," *International Journal of Islamic Architecture* 3, no. 1 (2014): 88. Emami explains the role of the Queen associated with green spaces of Shahestan: "Configuration of Shahestan aimed to reflect the roles of the ruling couple on a huge urban scale: the Shah was associated with bureaucracy and government buildings, the Queen with cultural affairs and green spaces."

5 In 1930s, during the first Pahlavi monarchy, the government started purchasing properties and lands around the *Sangelag* district to establish a number of government buildings and a public park. The site for the City Park is an outcome of that movement.

6 Larger scales of urban landscape planning, however, proceeded with more scientific planning processes. Tehran's green belt, as well as the metropolitan's regional parks (e.g., Pardisan), followed principles of ecological planning and design.

7 These centers also identify a concept of "village-neighborhood" in the modern city, and are still widely regarded as such by the public (e.g., Vanak village-neighborhood).

8 Adopted from the Gozineh Consulting Group's research on the Tehran Green Infrastructure Master Plan.

9 Mehrdad Karimi Moshaver, "The Rivers of Tehran: River Valleys Potentials in the City Development," *Manzar: The Iranian Academic Open Access Journal of Landscape* 5, no. 22 (2013): 52.

10 Notes from the design firm adopted from AKAA Report. Source: http://www.akdn.org/akaa_award8_awards_detail7.asp.

11 Tehran's elevation is 1,190 meters (Mehrabad Airport). Tehran's elevation spread between 1,098 and 1,550 meters. The information is generated by NASA's SRTM data. Reference: http://www.floodmap.net/Elevation/ElevationMap/?gi=112931.

12 Samaneh Yarahmadi, "Urban Landscape in a Strategic View: Organization Strategies in Renovating the Landscape of Jamaran Urban Village," *Manzar: The Iranian Academic Open Access Journal of Landscape* 3, no. 13 (2011): 18–23.

> A major reason why Jamaran preserved its fabric, unlike most other urban villages, was that it was a high-security zone due to the location of the former Supreme Leader's residence between 1980 and 1989. As a result, little development occurred during that period, which helped to preserve the urban fabric. Jamaran is a good example of an almost-intact urban fabric from the pre-1970s which has strong traces of the early 20th century.

13 Yarahmadi argues that the concept of garden-alley is central to the integration of the built environment in the northern context of Tehran. Yarahmadi, "Urban Landscape in a Strategic View," 21.

14 The Stone Garden was built on the site of an old orchard, which comprised of a series of orchard groves, one pool (water reservoir) on the upper side with a brick wall to stabilize the topography, and one humble residence on the lower side.

15 After its reopening, the Stone Garden became a popular public landscape; its novel and fresh design, coupled with its secluded natural setting not far from the center of Tehran, made it a well-embraced public space destination. It eventually became a retreat for the increasingly culturally and ethnically diverse new citizens of the capital.

16 Golamreza Pasban-Hazrat, *Design in Nature: Ferdowsi Garden, Jamishidieh Garden, Environmental Design in Kolakchal Canyons* (Tehran, Ganji Honar Publishers, 2009), 23.

> Pasban-Hazrat described the design team's first encounter with the site:
>
> When the design team first arrived at the Stone Garden site in 1977, they were confronted orchards with overgrown weeds, and scattered boulders and stones across the site. Additionally, the designers had to contend with steep slopes and an existing hydrological system for irrigation.
>
> Ibid., 23.

17 Ibid., 54.

18 Ibid., 55.

19 Robin Dripps, "Groundworks," in *Site Matters; Design Concepts, Histories, and Strategies*, ed. Carol J. Burns and Andrea Kahn (New York: Routledge, 2005), 59–92.

> Robin Dripps distinguishes between site and "ground" and provides a sophisticated view the notion of ground that integrates physical and social attributes of the site. Dripps describes ground as "where human artifice and natural process commingle for the benefit of both." Ibid., 88.

20 Ibid., 64.

21 Shanti Jayawardene, "Leisure: Some Observations in Planning Traditions," *Mimar: Architecture in Development* 4, no. 21 (July–September 1986): 15.

> Jayawardene continues: "Most records of leisure activity in pre-colonial society are restricted to those of privileged social classes in a feudal society: the monarchy, land-owning, and the clergy."

22 Hasan-Uddin Khan, "Editor's Notes," *Mimar: Architecture in Development* 21 (July–September 1986): 5.
23 Cyrus R. Sabri and Patrick A. Miller, "Epic Stones," *Landscape Architecture Magazine* (September 2002): 88–95, 90.
24 Hazrat indicates: "The main design method was to work with the site, and 'design in nature.' " Ibid., 90.
25 Hazrat indicates: "One of our teachers was stone and the other was the trees." Ibid., 93.
26 The plant scientist and landscape architect, Farhand Abozzia, who received his MLA from Louisiana State University, was responsible for the plan selection, with a philosophy of being a friend of nature.
27 AKAA Report, http://www.akdn.org/akaa_award8_awards_detail7.asp
28 Tehran Green Infrastructure Master Plan, Gozineh Consulting Group, 2013.
29 Ferdowsi (940–ca. 1020) was a Persian epic poet and is known for his work in unifying Persian culture through his poems, especially at a time when Persian language and culture had been very much influenced by Arabic culture. His magnum opus, *Shahnameh* [*The Book of the Kings*], not only revived Persian language, but also through epic stories and mythologies unified diverse Persian ethnicities. Both in terms of the content of stories and the language, Ferdowsi portrayed a culture with little Arabo-Islamic influence.
30 Sabri and Miller, "Epic Stones," 92.
31 This is in close association with the Land Art that attempts "to win back nature as space which allows sensory perception, space in which a relationship between man and the environment becomes at all possible again." Manfred Smuda, ed., *LandSchaft* (Frankfurt am Main, Suhrkamp, 1986), 8.
32 AKAA Report, http://www.akdn.org/akaa_award8_awards_detail7.asp
33 Pasban-Hazrat, *Design in Nature*, 34.
34 Sabri and Miller, "Epic Stones," 89.
35 Contemporary landscape representation discourse mostly follows architecture, adopting "descriptive geometry." As a result, temporal and phenomenal aspects of the landscape is often left out in the drawings. By acknowledging in-situ drawings, the designers of Ferdowsi attempted to capture valuable qualities of the landscape which is normally eliminated through projective representations.
36 For a study of work and design methodology of Repton, see H. Repton, *The Red Books of Humphry Repton* (London: Basilisk Press, 1976).
37 The design drawings dealt with conditions of problem solving (e.g., incorporating a pathway through boulders, integrating existing vegetation to a seating area) or envisioning esthetic potentials within natural settings (e.g., imagining animal figures on boulders).
38 Sabri and Miller, "Epic Stones," 89.
39 Ibid., 90.
40 AKAA Report. http://www.akdn.org/akaa_award8_awards_detail7.asp
41 Marzona, Egidio, Ulrich Weisner, and Gudrun Wessing. *Concept Art, Minimal Art, Arte Povera, Land Art: Slg [Sammlung] Marzona* (Beilefeld: Kunsthalle Bielefeld 1990), 264.
42 Ibid.
43 The German term Natur-Kunst (Nature Art) was coined to describe ecologically oriented art that worked principally with natural materials; it emerged in

connection with the growing ecological awareness that existed in Europe in the early seventies. Weilacher Udo, *Between Landscape Architecture and Land Art* (Basel: Birkhauser, 1996), 9.

44 Sabri and Miller, "Epic Stones," 94.

45 Perhaps for the same very reason, some visitors have observed similarities between Ferdowsi Garden and the peripheral landscapes of Guell Park (designed by Antonio Gaudi in Barcelona) due to their common approach in employing stonework and handcraftsmanship in addressing topographical changes and making promenades through organic design.

46 Former reformist mayor of Tehran, Karbaschi, relaunched a number of infrastructure improvement projects that had been on standby for far too long and took on new projects. Ferdowsi Garden was the first of a series of environmentally conscious mountain parks intended to leave a lasting mark in terms of environmentally conscious design.

47 Ferdowsi's epic stories also encompassed landscapes and natural settings and are widely respected by all ethnicities in Iran.

8 Cairo's urban parks

Space, place, and meaning

Akel Ismail Kahera

Over the last two decades or more, there has been an increasing attempt to understand the relationship between the modalities of everyday life through the complex cosmopolitan influence of Cairo's urban history. As Ross King has suggested in *Emancipating Space* (1996), "There can be no emancipation without unmasking all the linkages of *spatial meaning* and the kinships between space, knowledge and power . . . in which spatial relations can be represented."[1] Admittedly, *Emancipating Space* provides a novel framework for understanding Cairo's urban experience, but in order to situate *spatial meaning*, it is vital to unmask the linkages that King so poignantly noted. In thinking of the linkages of spatial meaning, the key question for us is, exactly how does the past epoch overlap the present, or how it can be referenced in the urban experience today? Here, for example, the urban landscape of Cairo and the great urban traditions of the past are both evident and ambiguous.

Undoubtedly, sociopolitical precariousness is built into the urban landscape – from the occupation of Tahrir Square (*Maydan Tahrir*, or "Liberation Square") to the informal dwellings of the medieval City of the Dead, these heterotopic spaces cultivate a most telling imagery. Maydan Tahrir, Cairo's principal public space, became engaged with the popular protest movement.[2] Political groups effectively and memorably occupied Maydan Tahrir in order to critique the hegemony of authoritarian power, while at the same time drawing on mass public appeal. Thinking about Maydan Tahrir, it was Pasha Ismail's (the Khedive of Egypt from 1830–1895), visit to Paris for the 1867 Exposition Universelle that influenced his vision to modify the urban fabric of Cairo. Haussmann's model of Paris for the exposition "provided Ismail with a comprehensive model for the transformation and beautification of Cairo and led to the creation of Maydan Tahrir."[3]

In fact, in the era of Ali Mubarak, Cairo's chief city planner, powerful 19th-century concepts of European urban space were applied in his planning strategy; these can be found today, for example, in Cairo's Garden City. So there exists a specific quality in the modalities of everyday life that underlies the philosophical tensions between the production of *space*, *place*, and *spatial meaning*. In this regard, Henri Lefebvre's influential text, *The*

Production of Space (1991), provides us with a framework for thinking of space as a complex and stratified reality, reinstating that reality as an urban phenomenon.[4]

The conceptualization of space, place, and meaning, which will be addressed in this chapter, allows for the reading of the Al-Azhar Park and the Cultural Garden for Children, to consider the extent to which design production has proved influential in enhancing urban life. Toward this end, this chapter makes two critical assumptions. First, our aim is to articulate concisely whether meaningful life depends on the matrix of urban attitudes, beliefs, and practices that are rooted in the qualities of community spaces and images of the city. Second, in this critical analysis we channel disparate facets of architecture, landscape architecture, urbanism, and human behavior into a single category: the efficacy of design production. The argument here is not whether an architect, landscape architect, or urban planner can influence how we experience a city and what meaning the efficacy of design production holds for us – that is already implicit. But I think, correctly, that the question of design is crucial to any urban intervention that embodies psychological, cultural, and social traits. Above all, design and production are linked in that they serve an urban function by freeing the public from the potential anguish of urban life.

Furthermore, the Al-Azhar Park and the Cultural Garden for Children illustrate epistemic urban configurations, but viewing them as an urban palimpsest – an overwritten landscape – opens up a radical new possibility for the reading of Cairo's urban spaces. On the one hand – given its heterotopic preexistence as a derelict, 74-acre garbage dump – Al-Azhar Park is an overwritten landscape that accommodates new psychological and social meaning. On the other hand, the Cultural Garden for Children embodies local knowledge; here the design emphasis is a temporal and spatial nexus that follows a unique set of urban patterns. In addition, the design emphasis is socially meaningful in that it serves to integrate the poor and vibrant residents of Sayyedah Zaynab, an old historic district.[5] In this view, local knowledge is a term used by the anthropologist Clifford Geertz to define the sharply distinctive realms of emotions (belief and faith) and an outer world of shaped behavior – that is, the practices of everyday life.[6] Clearly, the matter of shaped behavior is one experience that demonstrates the kinships between local knowledge and the power of public spaces, in which spatial relations can be represented.

The Cultural Garden for Children

In 1982 the Ministry of Culture sponsored a national competition for the design of a cultural park for children. The commission was eventually awarded to a local architect, Abdelhalim I. Abdelhalim, and the project's first phase was completed in 1989.[7] The *Cultural Garden for Children* (CGC) is a 2.5-acre ensemble of community facilities located in the heart

of the Sayyedah Zaynab, an old and lively community of about 1.5 million people.[8] The site of the cultural park and garden is the remains of al-Houd al-Marsoud garden that dates to the late Mamluk[9] period of Cairo's extant Islamic history.[10] The framework for the CGC incorporated libraries, studios, and activity spaces for video and computer games; the site also included the programming of space to accommodate a children's museum, an open-air theater, a library, playgrounds, and several connected gardens.

On close examination, the idea of design production certainly is meant to exist in dialogue with local knowledge. In other words, the principle of urban form as the imposition of limits is linked to Abdelhalim's design work (i.e., programming space for the aforementioned elements) and by extension with the practices of everyday life. In sum, local knowledge corresponds to the concept of seeking aesthetic equilibrium, and not hastily interpreted due in large part to popular design trends. These imaginative shifts in the dimensions of space and place have profound psychological consequences. Second, the phenomenon of local knowledge touches on the production of space and a particular class of rituals at once; it draws upon the creative energy of the people, their skills, knowledge, and resources. Likewise, "In designing the park, the question became how to re-forge this balance and translate the organizing principle of growth concretely . . . to make the design process itself an accretion."[11] In so doing, the design work has implications for the socioculturally motivated public space as a vehicle for social action, passive recreation, and the reclamation of public space in a chaotic city.

One major aspect of the CGC is to develop a number of possible urban permutations (social practices, public ceremonies, etc.) for the residents of the Sayyedah Zaynab neighborhood and community (Figure 8.1). In this way, design production and local knowledge come together almost systematically, fusing complementary roles in *moulid* ceremonies. These instantaneous forms of contact are consented to or imposed, accepted or not, but they serve to determine the circulating fluctuations that delimit the site and the *moulid* ceremony. The space of a city neighborhood during the *moulid*'s implementation appears to be full of multiple interpretations; it is constituted as an infinity of "little corners," occupied and signified through labile practices – adaptable, recombinable, and mutating during the *moulid*.[12]

The first suggestion of the phenomenon of space, place, and meaning comes from a historical episode that is related to Sayyedah Zaynab, a granddaughter of the Prophet Muhammad. Sayyedah Zaynab is considered by many to be the patron saint of the city of Cairo. Furthermore, oral history has it that Sayyedah Zaynab is buried in a nearby local mosque, which also carries her eponym. The main square in front of the mosque, and more recently the CGC, are reserved for important Sufi ceremonies that are backed by a venerable commemorative tradition in Egypt known as the *moulid*, meaning the birthday of a Sufi saint or martyr (the term *moulid* originated from the birth of the Prophet). Moreover, in Cairo the significance of the *moulid* and its annual repetition extends to the present day as a ceremony

Figure 8.1 The Cultural Garden for Children, Sayyedah Zaynab District, Cairo, Egypt. (Courtesy of the Arch-Plan, Hossam Zayed.)

that has occupied an important place in the popular imagination of most city residents. Despite the sheer number of studies that have addressed these issues, it is rare that an analysis of complex cultural conditions or social or design concerns come together to address 21st-century urban problems. Contemporary architects working in Cairo have continued to raise concerns about the quality of urban life in the service of the urban community.

Abdelhalim's ambition to record what may be considered a "regenerative process of building" for the community can be positioned against nascent architecture research, largely influenced by his mentor Christopher Alexander.[13] Alexander's promotion of *The Nature of Order* is a firsthand account of archetypal forms, pattern languages, and indigenous cultures – all viewed as a living phenomenon, commonly observable, but not easily explained.[14] Above all, *The Nature of Order* seeks a clear binding design prescription that is envisaged for the building typology, and most importantly, for the proximity to the collective range of users/participants and their local traditions. In the plan of the CGC, a similar set of spatial and aesthetic dichotomies appear between site and image, and between the related categories of public spaces as a transformative experience in the city (Figure 8.2). In this sense, the pattern language of the CGC is "the prime mechanism for the sustenance of a healthy environment and maintenance of vital community

life."[15] In fact, the use of repeated forms stands at the center of the CGC, and to a certain extent it is pattern language. The philosophical orientation of the pattern language can be summarized in the following four sets of interacting principles: (1) the symbolic aspects of building, or rhythms; (2) the geometric aspects of building, or patterns; (3) the organizational aspects of building, or coordinates; and (4) the ritual aspects of building, or ceremonies.[16] As such, the symbolism, geometric patterns, design assemblages, and rituals all seek to show how these principles are linked to archetypal forms. Turning toward local knowledge, these principles are certainly meant to suggest that archetypal forms are closely linked to cultural norms and rituals commonly shared by all members of the community.

In this pattern language approach, "the garden is strangled on all sides by buildings. The terrific imbalance in the structure of the community is striking. The plan contained two layers of design thought."[17] A different reflection emerges in that "the first layer is the formal layout inspired by the spiral pattern whereby the components of the project are organized around the palm-tree promenade. The existing trees of the earlier *Al-Houd Al-Marsoud* garden."[18] In the last decade Cairo was flooded with imported Eurocentric nonplaces that did not consider the urban legacy of the city, and these might

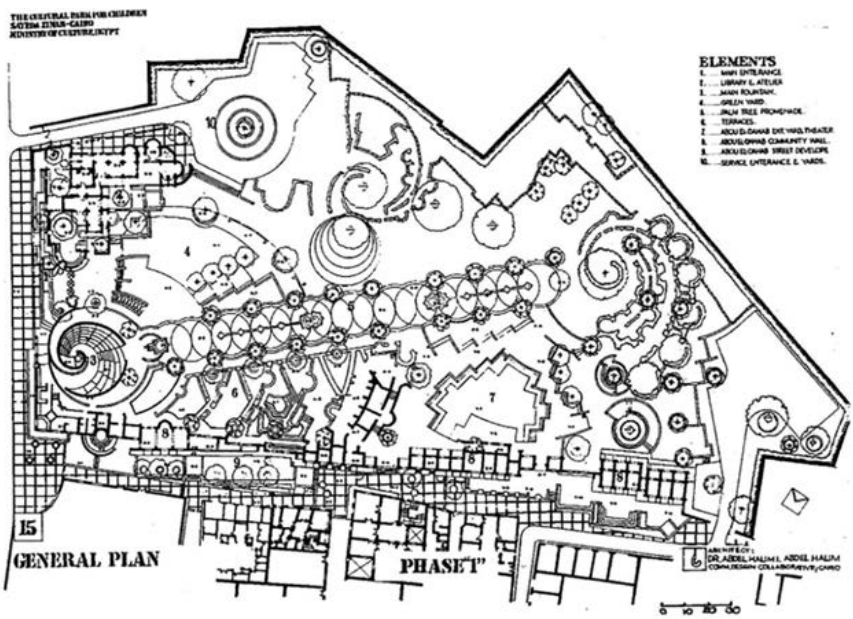


Figure 8.2 The Cultural Garden for Children, Site Plan, Cairo, Egypt. (Drawing Courtesy of the Architect Abdelhalim I. Abdelhalim.)

have seemed impossible for an architect to overcome. In Abdelhalim's work the redefinition of urban space reflects the desire to establish a new cultural identity (Figure 8.3). In citing the Ibn Tulun minaret, "the objective would be double, to reveal the lessons contained by the original symbol of the minaret and to provide an order in the development of various elements and activities of our project."[19]

Such indicators underlie the formal interplay of themes common to Islamic architecture, leading to a point of synthesis. CGC offers a reflection on the interplay of themes emanating from the symbol of the Ibn Tulun minaret, producing and being produced. Repetition, as a device, has played a significant role in the history of Islamic art and architecture. As repetition underlies the very possibility of art and architectural production and as meaningful space and place, it is through repeated acquaintance with the Ibn Tulun minaret that the public gains meaning in the context of the CGC. Moreover, the significance of repetition extends to the present, as the concept has occupied an important place in the CGC design vocabulary. In the development of urbanism in medieval Islamic Cairo – especially in the Mamluk era and in particular the agency of political patronage and its resulting urban institutions – mosques, madrasahs, Sufi lodges, and

Figure 8.3 The Cultural Garden for Children, Sayyedah Zaynab District, Cairo, Egypt. (Courtesy of the Arch-Plan, Hossam Zayed.)

hospitals played an important role. Today, these are commonly regarded as being privileged sites for the display of cultural identity; yet the relationship between space, art, and identity begs further investigation, beyond the realm of mere visual representation. One possible reading of CGC's design vocabulary and the minaret of the Ibn Tulun mosque – a structure that predates the Mamluk era – is perhaps a means of exploring the referential relationship of the highly symbolic spiral minaret structure. It is in this sense that "the spiral of the Ibn Tulun minaret, which moves upward to symbolize the growth of consciousness through the act of prayer has been transposed in our project to a spiral moving horizontally, spreading across the site."[20]

Considering the aforementioned premise, the repetition of architectural forms has been used by builders and masons in all epochs of Cairo's historical development as a way to define common identities, establish order, and inscribe sense and meaning into the world. Another aspect of Cairo's historical development may be understood in terms of "local knowledge." According to Clifford Geertz, the sociological perspective of "local knowledge" is meant to focus on the meaning-giving functions, to public attitudes, emotions, and an inner value system of aesthetics and expression. Take for example the CGC, where the focus on "the second layer is a circumstantial layout resulting from the ceremonial process. The building process was organized in a series of events, each of which combined technical work with cultural aspects of that particular operation."[21]

Understood in this way, the pattern language for the CGC is drawn from local knowledge, which are the architect's sources. Ultimately, the language accommodates everything that surrounds us, thus finding its place in every discourse on the production of space and its meaning. But also as a means of exploring the relationship of center to periphery and the construction of the pattern language, a technical way of interpreting the pattern language could be understood from the fact that the park was built in stages, and the precise shape of each stage was defined as the work progressed. This granted the architect the maneuverability to wed conventional architectural design tools with the active participation of the community.[22] This example serves to highlight the process of building the garden, the human intervention, and the regenerative approach to the idea of repetition as an integral aspect of a series of diverse practices. In more general terms, the urban and spatial elements define CGC's pattern language while regenerating community life with the garden, the park, the theater, and the library, articulated in a renewed and critical way. The architect's approach for the CGC serves to dispel recurring myths and common misconceptions about local knowledge, giving a solid basis for research on this topic and making it possible to preserve the culture and identity of a community as the city disintegrates, or as it becomes entangled in the global hyperspace and the influence of indiscrete radical interventions (Figure 8.4).

Figure 8.4 The Cultural Garden for Children, Sayyedah Zaynab District, Cairo, Egypt. (Courtesy of the Arch-Plan, Hossam Zayed.)

Al-Azhar Park

The 74-acre Al-Azhar Park site, a 500-year-old mound of rubble in Cairo's inner city, is located between the eastern edge of the 12th-century Ayyubid city (*Darb al-Ahmar*) and the 15th-century Mamluk City of the Dead. Although the neighboring district of Darb al-Ahmar was poor, it featured one of the richest concentrations of Islamic art and architecture in the world.[23] Because it was a garbage dump for decades, the site required excavation, grading, and replacement with appropriate fill. A total of 1.5 million cubic meters of rubble and soil were moved – more than 80,000 truckloads.[24] A further 605,000 cubic meters was subjected to geotechnical treatment (sieving, washing, etc.) and was later mixed with 60,000 cubic meters of special sand and topsoil to enable the site to be covered with a layer of "good" soil from one half to two meters deep.[25] The site has three large fresh water reservoirs, each eighty meters in diameter and fourteen meters deep. Two pumps recirculate water for the cascade and fountain system, which is approximately ninety meters long. Water is essential to the cultivation of vegetation; likewise, the fountain and stream/lake create different scenic domains.[26] The interconnecting service buildings are designed to rest on piles or rafts; all have masonry-bearing walls with high sand-content limestone cladding, marble and stone pavements, and marble and ceramic tiles.[27]

The Aga Khan Trust for Culture embraced the unsettling reality of the heterotopic site and imagined its prospects for transformation. It was on the occasion of the 1984 Cairo conference, *The Expanding Metropolis: Coping with the Urban Growth of Cairo*, that His Highness the Aga Khan announced his decision to finance the creation of a park for the citizens of Cairo. In this interaction between public space and the identity of the city, the spaces of "public gathering" take on a strategic dimension. In fact, the extraordinary breadth of Cairo's chaotic canvas also takes account of the fact that Cairo needed more green space – the amount of green space per inhabitant was roughly equivalent to the size of a human footprint.[28] The reported emphasis on the lack of green space in Cairo's urban context – not to mention a host of demographic problems – gives broader recognition of the problem and the urgent need for intervention.

Furthermore, radical intervention is needed as Cairo's aging urban infrastructure continues to disintegrate and its public space fails to keep up with rapid population growth. The program for the Al-Azhar Park is a radical intervention – it is reminiscent of a "paradise garden."

The paradise garden is the model of absolute beauty: a blissful, archetypal garden full of sensations (smell, sound, light) and a source of seasonal experiential admiration. The paradise garden encompasses a vast assortment of landscapes cultivated from a vast vocabulary of flora and fauna, water fountains and reflecting pools, fruit trees, shade and a variety of shade structures. Water is a primary element in the paradise garden. In the Al-Azhar Park design, "The stream and lake are fed directly by raw Nile water from a nearby municipal line; the lake water is then filtered mechanically and pumped throughout the Park's irrigation main line."[29] The Al-Azhar Park design was also based on wayfinding between the various components of the site: the Royal Palm Promenade, the Geometric Garden, the southern lookout, the children's play area and amphitheater/stage, the Citadel View Restaurant (including the external terraces), the northern lookout plaza and kiosk, the water cascade garden, the Lakeside Café, an orchard, playing fields, and a historical wall promenade.[30] The Al-Azhar Park and the revitalization of the Darb al-Ahmar neighborhood provide a wholly transdisciplinary appraisal as a means to evaluate the design and planning process.[31] Nearly all materials used are of Egyptian origin, as is all the furniture, mostly made by local carpenters in Darb al-Ahmar.[32]

Urban Cairo is replete with nonplaces, heterotopic sites that are devoid of material legacy or pride; the memories of such sites are places that local planners and the government seem unable to resolve. Every urban transition is synonymous with a complex design and planning process. There is hardly an urban problem today that does not involve a host of complex entanglements – economic, technical, or otherwise. Understood in this way, the Al-Azhar Park site allows us to confront a series of dichotomies. For example, the labels nonplace and heterotopic site would seem to suggest widespread urban chaos and incredibly rapid urban growth in Cairo. In fact, the

extraordinary breadth of the process has shown that large-scale urban interventions can no longer be assigned to a single practitioner – to the contrary, they must be collaborative undertakings. Making a case for the development of the Al-Azhar Park, a cohort of international consultants – landscape designers, architects, and planners – worked together with local Egyptian consultants.[33] In view of the fact that nonplaces and heterotopic sites reside at the center of the debate, the design intervention for the Al-Azhar Park finds its place in this discourse. In this way, space, place, and meaning have opened new avenues of thought where the landscape is physically presented and experienced; it has the power to construct, reinforce, and deconstruct. Above all, it could be argued that taking into account the cultural or social concerns of space, place, and meaning widens the perspective of the design discourse and the manifold relations to the host city and community.

Trying to embrace a design identity for the Al-Azhar Park is above all a critical reinterpretation of a heterotopia, countering the persistent hegemony of such types of nonplaces. The design intervention can be seen as an antidote to the condition of nonplace. Thus, in this intervention one of the key objectives "was to create a model of development that could be replicated in many other settings, and in particular in the historic cities of the Islamic world."[34] This underlies the very challenge to alter public views of the heterotopic site, but also to allow the site to become a meaningful place through careful design, planning, and redevelopment to gain new social and cultural meaning (Figure 8.5). Above all, "the Park project was therefore

Figure 8.5 The Al-Azhar Park, Site condition before development, Cairo, Egypt. (Courtesy of Sasaki Associates.)

intended to be a case study for a variety of development challenges, ranging from environmental rehabilitation to cultural restoration."[35]

The latter as decisive contributions to the political critique on urbanism, and critically on the subject of sustainability and the predominant discourse on traditional art/architecture historical narratives, is centered in the many writings of Christopher Alexander. Similarly, recent studies on "critical regionalism" and post-structural urbanism have also put forth assertive critiques of landscape design, architecture, and urban planning.[36] Craig Anz notes that critical regionalism "engages broader definitions for architecture within its social community, significantly embodied and epistemologically co-substantiating within a shared, environmental life-place."[37] In cross-disciplinary academic debates, the topic of critical regionalism is a vital part of a deeper restructuring of thought in the process of planning and development that has challenged the system of landscape design, architecture, and urban planning. The city of Dubai is a fitting example of what could go wrong – or the manner in which the false notion of modernity has made landscape design and architecture a primary vehicle for regional dystopia.

It is significant that the apodictic experience of the local craftsmen from neighboring Darb al-Ahmar illustrates the remarkable results that such a collaborative approach made possible in the Al-Azhar Park. The expanded awareness of the role of local craftsmen and the practice of community and economic development also opened the door for a reassessment of interdisciplinary interactions in the Al-Azhar Park project. Toward this end "the challenge was to revitalize this heritage in ways that turned traditional notions about cultural monuments on their head – that rather than being a drain on resources, they could be a stimulus for social and economic development."[38] However, while there can be no doubt that these exchanges have been incredibly fruitful, they also raise significant design and planning issues. Take for example the field of Islamic art and architecture – which is not only an object of study but also a source of technical and artistic inspiration. It is also a model of creativity that although attainable was in any case often difficult for a contemporary architect especially not knowing how to apply the principles with discrete adaptation (Figure 8.6).[39]

In some ways, part of the architectural and Islamic garden heritage placed emphasis on pattern language. Additionally, a careful reading of Islamic art and architecture can enable a broader recognition of a range of practices as worthy of analysis. The expanded awareness of the role of landscape in aesthetic theory and practice not only corresponds with a shift to Persian and Timurid elements reflected in the water channels and fountains in the Al-Azhar Park, but also opens the door for a reassessment of such pattern language in the landscape design of the site (Figure 8.7).

While the history of Islamic gardens is well documented, the nexus of landscape, culture, and modernity remains relatively underresearched, not least in an urban context. Yet the significance of the Islamic garden for

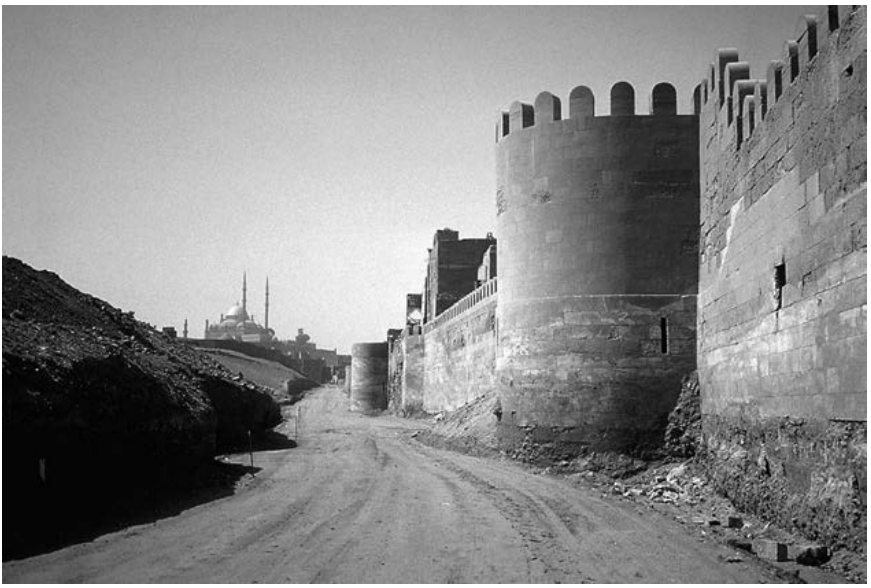


Figure 8.6 The Al-Azhar Park, Site condition before development, Cairo, Egypt. (Courtesy of Sasaki Associates.)

Figure 8.7 The Al-Azhar Park, Cairo, Egypt. (Courtesy of Hala Nassar.)

21st-century urbanism and the practice of landscape architecture remains uncertain, despite the considerable attention paid to the concept by scholars during the past half-century. It would appear that one of the aims of the Al-Azhar Park was to contribute to a clarification of how the Islamic garden as an object of art-historical inquiry can be linked to contemporary urban intervention. This heightened interest was possible via local nurseries that were able to propagate the necessary plants to furnish the park with varieties of trees, shrubs, five sorts of grass, climbers, groundcover plants, and varieties of succulents (Figure 8.8).[40]

Our discussion of the design and planning strategies for the Al-Azhar Park landscape design concludes with a few brief remarks about the different approaches to the development of a heterotopic site. Many contemporary architects and planners working in the Middle East have continued not only to bridge architecture and planning to communal life, but also to consider architecture and planning in the service of life – using local knowledge as a vehicle for social action, alternative economy, and the reclamation of space in the urban sphere. In fact, local knowledge defined the constructional purposefulness toward the redevelopment of the derelict site. By analyzing and comparing these practices of landscape planning and design, we may understand their cultural and historical specificity within a broader context of transformation or production.

Figure 8.8 The Al-Azhar Park, Cairo, Egypt. (Courtesy of Hala Nassar.)

Figure 8.9 The Al-Azhar Park in Cairo. (Courtesy of Khaledah Abdul Muhaymin.)

Figure 8.10 The Al-Azhar Park, Cairo, Egypt. (Courtesy of Hala Nassar.)

Undoubtedly the choice of local materials, pattern languages, marks the architectural landscape and shapes the urban identity of the Al-Azhar Park; this is one example that reflects space, place, and meaning. Yet, the production of the Islamic garden, including elements reflected in the water channels and fountains, is always a reflection on the "center" taken as the archetype, the starting point. In this respect, the activity of recalling the elements of Islamic architecture, linked together with public buildings, appears to be located between two extremes that characterize the concept of the garden, in order to attain the same end result. It is significant that in the creation of the Al-Azhar Park, the designers had planned the site with the citadel mosque (Mosque of Muhammad Ali) as a key focal point so markedly that the citadel stands out in the distance against the backdrop of the Mokhattam Hills. On the one hand, the homogeneous continuity of the structures, which embody and serve the community, seems to be at home; as a place it is not alienated in its otherness from the rest of the site. On the other hand, the Al-Azhar Park is a visible and tangible production of spatial language, which brings out an appreciable process of urban practices – the true workings of social life in all of its discursive aspects (Figure 8.9). In this sense of being a public garden, it may also be understood as a threshold that leads one to the cathartic realm of everyday life.

Conclusion

In citing the CGC and Al-Azhar Park, I had a threefold aim. First, I argued that public space and the garden has "cathartic function" – that is, to free the public from the anguish of urban life. If this assertion is correct, then clearly the notion of design production and local knowledge are dialectically rich with a host of metaphors. By looking closely at design production offers a multitude of insights. But a key question remains: what does all of this really mean to the public? Mircea Eliade's *Images and Symbols* (1991) highlights the agency of images and symbols (local knowledge) to show how symbolic entities shape our world. Eliade writes:

> The most commonplace existence swarms with images and symbols; [these] symbols never disappear from the reality of the psyche. The aspect of them may change, but their function remains the same; one has only to look behind the latest masks.[41]

In an attempt to map the cathartic value that Eliade so poignantly describes, the Al-Azhar Park may be read as being analogous to the paradise garden – an idea that comes to us from Islamic eschatology. The vegetation promotes further discovery of the composition as it ascends each nodal point, extending movement along a water channel – water being a symbol of life. Furthermore, in the Al-Azhar Park we find a set of stylized patterns intersected by rows of palm trees that define the central spine of the

site with rigorous linear placement. In these symbolic gestures each element constitutes an aesthetic trope attuned to the psyche. Yet still, the layering of Al-Azhar Park, the foliage and trees that twist about the pavilions, render a tempered abstraction of the urban landscape.

Second, the idea of repetitive forms and objects has been used by practically all regional cultures in the Muslim world; it is a way to define a common identity, establish order, and inscribe sense and meaning into the chaotic world. Repetition is employed as a stylistic device, especially tessellations, epigraphy, and vegetal motifs; such repetition continues to the present day. Here, too, it underlies the process of composition to display the ineliminable difference between order and disorder. Once again, Lefebvre draws our attention to the notion of order and disorder by asking a crucial question: "What term should be used to describe the division [of order and disorder] which keeps the various types of space away from each other, so that the physical space, the mental space and the social do not overlap?"[42] In other words order and disorder belong to the realm of public space, and above all, "the concepts of production and of the act of producing."[43] The concept explains how practitioners have made the design production plausible; it also explains what aesthetic strategies were applied to make the design production visible to the public. And above all, it explains how design production acts in different ways to create the material and the symbolic to give meaning to the world. In other words, communal practices of the people of Cairo point to the ways that public space can bridge physical, mental, and social spaces.

In Cairo, everyday life is bound up with public rituals and ceremonies, religious festivities, and most notably, the fasting month of Ramadan, which transforms the entire city. During Ramadan, as well as on other public or religious holidays, the CGC and the Al-Azhar Park are filled with people. Like the Al-Azhar Park, the CGC's site plan affords continuous public engagement, and the foliage and the interweaving building spaces are experienced by the multitude of labyrinth twists and turn that celebrates the mark of the place. Once more, if we consider the CGC, we observe the application of four interacting principles: the symbolic aspects of building or rhythms, geometric patterns, the organizational aspects of building or coordinates, and the ritual aspects of building or building ceremonies.

The use of repeated forms in both the CGC and the Al-Azhar Park stands at the center of extant aesthetic practices that are common to the region and, indeed, to the Muslim world. Buildings, landscapes, and a plethora of decorative objects are also distinct strategies in the various Islamic epochs, and they pervade the concepts of aesthetics in the modern world as well. More specifically, local knowledge of architecture, and landscape architecture in particular, has led practitioners and others to theorize the effects of the repeatable images in modern life – often with constructive results.

Third, these two interventions are obviously built to target urban issues, public space and heterotopic sites. Foucault emphatically explains the problem: "The *heterotopia* has the power of juxtaposing in a single real place

different spaces and locations that are incompatible with each other."[44] This juxtaposition appears extremely clear in Cairo's City of the Dead, which borders the Al-Azhar Park; arguably it is a *heterotopia*. The poor have inhabited it for decades, due to their inability to afford public housing; as such they dwell in rooms originally built as medieval Mamluk mausoleums.[45]

The assertion informs a radical new possibility for reading nonsites as obsessive transnational and global metaphors.[46] CGC and Al-Azhar Park are among a multitude of interventions that propose a strategy of legitimation from a sociocultural perspective, making it meaningful to the public. In this respect, the activity of intervention appears to be located between two extremes that characterize the idea of heterotopic sites. Likewise, Foucault seeks to reconcile "the 'heterotopias' that we encounter . . . the 'erosions' that occur there are our prejudices, delusions, ideals but also our disillusionments and negativities . . . and they are specific [urban] spaces."[47] Of course, this is a methodological problem beyond the scope of this chapter; undoubtedly much of the architecture and planning in the Middle Eastern city today is heavily decontextualized, stripped of the historical record, perhaps signaling a heterotopic production that would enable us to place it in the context of public space.

Finally, I argued that there is a need to reflect critically on design production and local knowledge as valid and legitimate methods of intervention. In fact, this argument also generates claims about legitimacy denoting sense of place. What do we mean when we claim the legitimacy of space, place, and meaning? Making a case for the domain of space, place, and meaning, Eliade goes on to explain, "It will depend upon himself whether [s/he] can work [his/her] way back to the source and discover the profound meanings of all these faded images and damaged myths."[48] Above all, what is at issue here is the possibility of asking a host of discursive questions outside the conventional history/theory canon in order to move beyond naive comparisons or popular trends. These two important studies give us a general overview of space, place, and meaning, design production, and their probable public function. In addition, the CGC and Al-Azhar Park are endeavors to unmask the image and beauty that reside in the production of cultural aesthetics. We must also remember that public spaces also compute time, each space is a palimpsest, and this allegory signals our sense of being.

Notes

1 Ross King, *Emancipating Space: Geography, Architecture and Urban Design* (London: Guilford Press, 1996), 220.
2 As Egypt's political, social, and economic systems continue to flounder, mired in the ongoing tumult of dictatorship, the question of how to organize and plan the city will once again come to the fore in the future.
3 Nezar Al Sayyed, *Cairo: Histories of a City* (Cambridge: Harvard University Press, 2011), 206.
4 Henry Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith (Oxford: Blackwell, 1991).

5 Abdelhalim I. Abdelhalim, "Culture, Environment and Sustainability," in *Sustainable Landscape Design in Arid Climates*, *Proceedings of the Symposium Held at Dumbarton Oaks, Washington DC*, ed. William O'Reilly and Robing Oldacre (Geneva, Switzerland: Aga Khan Trust for Culture, 1996), 49–61.
6 Clifford Geertz, *Local Knowledge* (New York: Basic Books, Inc., 1986), 61–67.
7 Jamel Akbar, *The Technical Review, Cultural Park for Children* (Aga Khan Award for Architecture, 1992).
8 Ibid.
9 The Mamluks ruled Cairo from ca. 1251–1517 C.E.
10 Not to be confused with the al-Houd al-Marsoud Hospital that was established by the Ministry of Health under the British in 1902.
11 Abdelhalim, "Culture, Environment and Sustainability," 49–61.
12 Anna Madeouf, "Mulids of Cairo: Sufi Guilds, Popular Celebrations and the 'Roller-Coaster Landscape' of the Resignified City," in *Cairo Cosmopolitan: Politics, Culture and Urban Space in the New Globalized Middle East*, ed. D. Singerman and P. Amar (Cairo: American University in Cairo Press, 2006), 465–487.
13 Abdelhalim, "Culture, Environment and Sustainability," 52.
14 Christopher Alexander, *The Nature of Order*, 4 vols. (Berkeley: Center for Environmental Structure, 2004).
15 Abdelhalim, "Culture, Environment and Sustainability," 51.
16 Halim Abdel Halim, "El-Houd El Marsoud," in *Mimar 8: Architecture in Development*, ed. Hasan-Uddin Khan (Singapore: Concept Media Ltd., 1983), 30–36.
17 Abdelhalim, "Culture, Environment and Sustainability," 56.
18 Ibid.
19 Halim, "El-Houd El Marsoud," 31.
20 Ibid.
21 Abdelhalim, "Culture, Environment and Sustainability," 57.
22 Ibid.
23 Al-Azhar Park, *Cairo, and the Revitalization of Darb al-Ahmar Neighborhood*, Aga Khan Trust for Culture, http://www.akdn.org/publications/2007_aktc_egypt.pdf, 2.
24 Ibid. Over 765,000 cubic meters was taken out of the existing site and 160,000 cubic meters was used as fill elsewhere on site.
25 The Park site has three large fresh water reservoirs, each eighty meters in diameter and fourteen meters deep. Ibid., 3.
26 Ibid., 3.
27 Ibid., 4.
28 Ibid., 2.
29 The total length of the main and lateral irrigation lines within the Park site measures approximately ten kilometers. Ibid., 5.
30 The basic components of way-finding consist of four components: *Orientation* is the attempt to determine one's location, in relation to objects that may be nearby and the desired destination; *Route decision* is the selection of a course of direction to the destination; *Route monitoring* is checking to make sure that the selected route is heading towards the destination; *Destination recognition* is when the destination is recognized.
31 Ibid., 6–7.
32 Ibid., 4.
33 Sites International, an Egyptian landscape architectural firm, designed the park's site. See ibid.
34 Ibid., 1.
35 Ibid., 2.
36 See for example Christopher Alexander, *The Nature of Order: A Vision for a Living World* (Berkeley: The Center for Environmental Structure, 2005); Craig

Anz, *Critical Environmentalism: An Epistemic Framework for Architecture and Urban Development* (VDM Verlag Dr. Müller, 2010).

37 Craig Anz, "Critical Environmentalism: Towards an Epistemic Framework for Architecture," Ph.D. diss., Texas A&M University, 2009: iv.
38 Al-Azhar Park, *Cairo, and the Revitalization of Darb al-Ahmar Neighborhood*, 2.
39 The three buildings (Citadel View Restaurant, Lakeside Café, and entrance building) were part of a competition between seven international and Egyptian architectural firms. The Citadel View Restaurant was designed by Egyptian architects Rami el-Dahan and Soheir Farid. The Lakeside Café project was awarded to Serge Santelli, Paris. Al-Azhar Park, *Cairo, and the Revitalization of Darb al-Ahmar Neighborhood*, 2.
40 Over 655,000 young plants from cuttings and seed were planted; 89 varieties of trees, 51 shrubs, five sorts of grass, 14 climbers, 50 groundcover plants and 26 varieties of succulents. Al-Azhar Park, *Cairo, and the Revitalization of Darb al-Ahmar Neighborhood*.
41 Mircea Eliade, *Images and Symbols*: *Studies in Religious Symbolism*, trans. Philip Mairet (Princeton: Princeton University Press, 1991), 16–20.
42 Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith (Oxford: Blackwell Publishers Ltd., 1991), 14.
43 Ibid.,15.
44 Michel Foucault, "Of Other Spaces: Utopias and Heterotopias," in *Rethinking Architecture: A Reader in Cultural Theory*, ed. Neil Leach (New York: Routledge, 1997), 330–336.
45 Hassan Ansah, *Life, Death, and Community in Cairo's City of the Dead* (New York: iUniverse, 2010).
46 Jeremy Crampton and Stuart Elden, eds., *Space, Knowledge and Power: Foucault and Geography* (Hampshire, England: Ashgate Publishing, 2007), 176.
47 King, *Emancipating Space*, 220.
48 Eliade, *Images and Symbols*, 16–20.

9 Beyond greening

Approaches to the contemporary landscape in the United Arab Emirates

Kevin Mitchell

The harsh desert environment and the scarcity of fertile soils have influenced how arable land has been cultivated and protected in the United Arab Emirates (UAE) and throughout the Gulf region (Figure 9.1). The following passage from a poem by Rsed Ibn To'an's describes a series of early 19th-century tribal conflicts over a fertile area. It illustrates the degree to which arable land was protected, and the importance of the cultivated landscape in maintaining hospitality toward guests in the Arabian peninsula:

> We shall defend tenaciously the shady palm gardens of Rimman; many a bold youth we killed in its defense.
> We spear and are speared in defense of our gardens; we readily give our lives to defend them.
> From the harvest [of the palm gardens] we feed the hungry guests in lean times when others close their doors and eat their food alone.[1]

Although residential neighborhoods incorporated small parks and urban green spaces such as Abu Dhabi's Capital Garden and Dubai's Safa Park, which opened in the mid-1970s, the conscious design of landscapes for purposes that transcend function is relatively new. The United Arab Emirates University established a College of Agricultural Sciences at the beginning of the 1980s and currently offers an undergraduate degree in horticulture; however, as of the start of the 2015–2016 academic year, there was only one accredited degree program in landscape architecture in the country.[2] In comparison to architecture and civil engineering, the discipline of landscape architecture attracts much less interest, despite a body of indigenous knowledge related to plant cultivation in the context of the UAE.

During the early phases of rapid urbanization from the 1970s and into the 1990s, landscape design was largely limited to providing parks with expansive lawns and amenities such as play areas for children. The development that took place from the late 1990s onward expanded the scope of landscape design, resulting in a greater emphasis on both small- and large-scale projects that respond to a range of users. The focus on the design of outdoor spaces has also led to greater use and, in turn, greater expectations

Figure 9.1 Typical natural landscape along the coast of the northern UAE. (Photo by Kevin Mitchell.)

for well-designed exterior landscapes. For example, restaurants and cafes have increased the amount of exterior seating, with their use extending beyond winter into the so-called shoulder season. Since 2000, the expanded use of outdoor space has led to rather significant changes. This trend is consistent with experiences in other cities that have focused on providing pedestrian-friendly spaces; these integrate urban landscapes and buildings even in climates that prohibit the use of outdoor spaces for part of the year.

Focusing primarily on the period from 2000 until the present, this chapter considers two interrelated questions: (1) What are the factors that have shaped the cultivated landscape in the UAE? (2) How have these factors influenced contemporary approaches to landscape design in urban environments?

Contextualizing contemporary approaches to urban landscapes in the UAE requires an understanding of the factors that have shaped the cultivated landscape over time. This chapter provides an overview of how cultivated urban spaces have been viewed in relation to broader development strategies aimed at expanding the built environment and increasing the overall green area in cities. Factors such as the physical challenges associated with "greening" efforts and the symbolic and sustaining role of the date palm (*Phoenix dactylifera*) continue to play a role in landscape design at all scales. In order to explain how factors that have shaped the cultivated landscape in the UAE have influenced contemporary approaches to

landscape design in urban environments, the chapter examines tendencies toward greater integration of the urban fabric, including examples of more refined discipline-specific approaches to landscape design in the UAE.

Greening the UAE: considerations and challenges

In April 2014, a representative from the Dubai Municipality indicated that by 2020 the amount of green space in the Emirates would increase to 12,200 hectares. This would require doubling the amount of landscaped area that had been developed since 2000.[3] As if this plan were not ambitious enough, just over a month later it was announced that over AED 6 billion (US$1.63 billion) would be invested in an effort to transform Dubai into a "green paradise" by 2025.[4] An official from the Dubai Municipality revealed that more than AED 3 billion (US$817 million) would be dedicated to improving and expanding the irrigation network.[5] Commenting on the use of water for landscaped areas, Taleb AbdulKarim Julfar addressed the fact that there would be environmental costs:

> Since we are expanding (landscaped areas), we need to control water consumption as well. Otherwise, we will run short of water in the next two to three years. So we are redesigning and using a lot of materials like special sand and stones to reduce water consumption and prevent the ground water from coming up and spoiling the plants.[6]

Although the announcements of substantially increasing the amount of landscaped areas acknowledged challenges, the responses reported in local media focused on irrigation controls and the impact of overwatering rather than on the use of plant species native to the UAE.

The large-scale greening efforts announced in Dubai in 2014 are neither new nor isolated to any one of the seven emirates brought together to form the UAE in 1971. The newspaper article "Zayed Vision: Transforming Desert into Green Haven" provided an overview of the extraordinary measures taken to alter the country's landscape over the past twenty years: planting lotus jujube, salm, samar, and ghaf trees, which numbered more than five million by late 2008; establishing public parks in Abu Dhabi and Al Ain in 1985, with a total area of fifty-three square kilometers planted with palm trees; and a directive that every farmer in Al Ain plant 400 palm trees in 1997. The article also indicated that approximately 300,000 hectares had been populated with more than 600,000 trees by 2000. And by 2001, the UAE boasted forty-one million palm trees producing forty million tonnes of dates.[7]

Until the global financial crisis halted development in 2008, the UAE, and especially Dubai, developed at a phenomenal pace as the expatriate population increased dramatically and the built area of cities expanded significantly.[8] Although some projects announced prior to 2008 may never

be built, there has been an increase in construction activity and new projects have been announced – perhaps due in part to speculation that the entire UAE economy will benefit from Dubai's successful bid to host the World Expo 2020. Dubai based its bid on three themes: sustainability, mobility, and opportunity.[9] Adherence to sustainability principles is problematic in the best of circumstances, and even more difficult in an arid environment characterized by high summer temperatures, high evaporation rates, low rainfall, and a limited water supply – all of which play a significant role in defining the landscape.[10] Rapid growth and reliance on foreign direct investment to fund grand real estate ventures have also limited the development of comprehensive measures that would mitigate the environmental impacts associated with supporting a large population in arid zones.[11]

Like other countries in the Gulf region, the extraordinary expansion of the built environment in the UAE, following the measures to expand trade in Dubai and the discovery of major natural oil and natural gas deposits in Abu Dhabi, has resulted in a number of challenges, which by necessity include carefully considered approaches to the landscape. The region's extreme climatic conditions, coupled with the particular nature of the relationship between private and public spaces, also reinforce the importance of the UAE and its Gulf neighbors when examining the tensions between severe resource restrictions and attempts to draw from context- and/or region-specific traditions that impact landscape design.

As mentioned earlier, high summer temperatures, high evaporation rates, low rainfall, and a limited water supply are major determinants that impact the landscape. Geological and soil conditions also limit naturally occurring plant species. Ingeborg Guba and Ken Glennie describe four main types of unconsolidated sediments characteristic of the Gulf: (1) quaternary beach gravel and sand; (2) quaternary gravel of limestone and quartz; (3) coastal *sabkhas* (salt flats) occurring along the Gulf and most common in Abu Dhabi; and (4) Aeolian sands extending inland from the *sabkhas*.[12] In *The Flora of the United Arab Emirates: An Introduction*, A.R. Western points out that "in general, biological activity in local soils is very low, and only some three percent of the whole country is naturally suitable for arable farming."[13]

In addition to the severe physical conditions in the UAE, its population growth has stretched resources through increased consumption. This combination has resulted in one of the world's highest ecological footprints, as reported by the *2008 WWF (World Wildlife Fund) Living Planet Report*,[14] and served as the impetus for the *Al Basma Al Beeiya* (Ecological Footprint) program sponsored by the Abu Dhabi Global Environmental Data Initiative, which was especially active following the release of the WWF's report.

The UAE is located within a water-scarce region, yet it has one of the world's highest per capita rates of water consumption. Treated wastewater

has been used for irrigation for large-scale projects, but processing requires energy. Moreover, the region's warm temperatures mean that wastewater cannot be stored for long periods due to problems arising from increased biological activity. The low cost of desalinated water as a result of subsidies provides an alterative, but desalination is energy intensive and the processes most commonly used in the Gulf region result in a discharge of effluent back into the ecosystem.[15] While technological advances in water treatment hold great promise, it would seem that reducing the need for water by using plant species native to the UAE could resolve some of the climatic and resource-related challenges. Some types of vegetation can tolerate the high temperatures and scarcity of water, and there has been increasing recognition of the value of conserving native plant species. A prime example is the effort of environmental groups to bring attention to the ghaf (*Prosopis cineria*), a large, salt-tolerant desert tree that is endangered by excessive extraction of groundwater and overgrazing by camels and goats.[16] The ghaf tree had many uses for the Beduin population, ranging from a source of firewood to the treatment of various illnesses. However, as a potential element to be employed in the design of the landscape, the ghaf tree has been overshadowed by the highly prized date palm.

The significance of the date palm as source of sustenance and symbol

The date palm has played a significant role in sustaining life in the Gulf region and throughout the Middle East. The date palm not only served as a source of nutrition, it also provided the raw material for making baskets, mats, and ropes and for constructing dwellings. As noted in an article by Margareta Tengberg in her history of date palm garden cultivation, the first signs of agriculture in the Gulf region appeared at the end of the 4th and the beginning of the 3rd millennium B.C. With regard to the development of agricultural production in the area, Tengberg states:

> The reason for the relatively late apparition of agriculture in Arabia is most probably linked to the natural conditions of the peninsula. While rivers are present in southern Mesopotamia and Iran, no permanent watercourses irrigate the arid tracts of eastern Arabia. Except for few localities high up in the Oman Mountains where rainfall is sufficient for dry farming, water has to be extracted from the water table in sufficient quantities to assure the success of crop growing in a particularly hot climate.[17]

Unlike other parts of the Middle East, formal garden traditions did not develop in the UAE; however, oases in the form of date gardens, which played a central role in ensuring subsistence, were highly valued possessions. Archaeological records indicate that date palm cultivation at sites in

Al Ain emerged around 3000 B.C.[18] In *From Trucial States to United Arab Emirates*, Frauke Heard-Bay describes the value attributed to oases:

> The value which townspeople, villagers and Beduin alike, have always attached to date gardens was at times quite out of proportion to the value in terms of money and of the crop which could be obtained from them. The gardens of the oases with running water from a falaj or well have always symbolised for people in south-eastern Arabia relief from the glaring sun of the desert, from the scorching summer heat of the barren mountains, and from the hot humid atmosphere which lies heavily over the coastal towns even during the nights in the summer.[19]

Heard-Bay mentions a *falaj* system, which according to the archaeological record, has been used as a method for supplying water in the UAE since the Bronze Age.[20] A *falaj* system consists of man-made water channels that rely on gravity to distribute water originating from a main source well, referred to as the "mother well." In "Natural History of the Date Palm *Phoenix dactylifera*," Geoff Sanderson explains:

> The principal need is water, which, for mature palms, can be as little as 70 litres every ten days in winter and as much as 70 litres every two days in summer. Keeping the irrigation system in good repair is of course, paramount.[21]

Unlike the ghaf tree, which has a taproot that can extend thirty meters to access groundwater, the date palm relies on a broad, shallow root system. Until the time that an infrastructure was developed to ensure a constant supply of water regardless of the location of the source, the date palm was limited to oases, therefore highly place-specific.

Within oases that relied on a *falaj* system, date palms were organized in particular patterns to correspond to the layout of water channels and trees, which were distributed to account for root systems, while at the same time creating canopies that provided shade and limited the amount of water lost to evaporation. Because of factors such as height and the diameter of the canopy, individual date palms are ill suited for providing shade, since the overall area is limited and the position of the shaded area can change considerably as the position of the sun changes over the course of the day. However, due to the relative proximity of trees within oases, canopies overlap to create spaces that are characterized by specific qualities of light resulting from the leaf structure. In terms of thermal comfort, a microclimate can be created as a result of reducing the amount of direct solar radiation reaching the ground surface.

The contemporary use of date palms throughout the UAE indicates that the symbolic associations remain. In the words of one individual interviewed for an article on excessive water consumption in the country, "it wastes

water . . . But these palms are from our ancestors, it's our heritage. If we stopped raising them, it would be like abandoning our own children."[22] In contrast to their historical presence in oases, date palms are currently used as singular objects in the landscape. In many contemporary urban landscapes throughout the UAE, the individual tree has been ascribed a significant representational role in spite of its resource implications (Figure 9.2). The fixation on the figure is clearly evident in the reproduction of the image of the palm tree in a variety of venues, most notably in the artificial island known as the Palm Jumeirah, designed to increase the coastline of Dubai – the only portion of the "Palm Trilogy" to be completed thus far.

Figure 9.2 Contemporary use of the date palm as a freestanding element used to "beautify" a median in Dubai. (Photo by Kevin Mitchell.)

As discussed earlier, prior to the development of an infrastructure to provide an uninterrupted supply of water, date palms were limited to areas with water that was either readily available or accessible through extraction. The development of *falaj* systems resulted in a concentration of plant-created spaces that, in the words of Heard-Bay, provided "relief from the glaring sun of the desert, from the scorching summer heat of the barren mountains, and from the hot humid atmosphere which lies heavily over the coastal towns even during the nights in the summer."[23] Considered in these terms, the date palm was *place specific* and *space defining*. In spatial terms, the column-like trunks supported a light-filtering roof plane formed by the canopy.

When divorced from the oasis and privileged as an independent object isolated in space, the singular palm tree functions as an element to be viewed rather than as an integral part of a habitat made possible by a natural source of water. The dislocation of the date palm from the oases and its subsequent isolation as an object-like figure in space is indicative of what can be characterized as an inversion. In short, bringing date palms from oases to urban areas through "greening" initiatives has arguably resulted in a *distancing* from the natural world and from the material traditions associated with cultivation. Here *distancing* is used in a manner akin to Edward Bullough's notion of "psychical distance," which results from putting an object "out of gear" with "practical needs and ends."[24] Greening efforts in the UAE are often described using terms such as "beautification," and the use of the date palm as an ornamental device divorced from oases results in a distancing from the plant's native habitat and original use.

Approaches to contemporary landscape design in the UAE

Tendencies toward integration

Since 2000, there have been efforts in the UAE to move away from the purely ornamental use of plants like the date palm; instead, landscape designers are increasingly emphasizing comprehensive approaches to creating small- and large-scale urban landscape projects aimed at improving the quality of the built environment. One of the most significant projects is the major land reclamation effort that expanded the space along the Abu Dhabi Corniche, resulting in an eight-kilometer waterfront park. The redevelopment of the Corniche is part of the Abu Dhabi Urban Planning Council's (UPC) "Abu Dhabi Vision 2030," which seeks to achieve an integrated approach to planning and design of the built environment. This initiative includes urban structure framework plans for the cities of Abu Dhabi and Al Ain, a regional structure framework plan for Al Gharbia, and a strategy for Abu Dhabi's marine environment and extensive coastline. The design of the landscape is a core component of Abu Dhabi Vision 2030, and planning documents for the cities of Al Ain and Abu Dhabi include public open space frameworks. Plan Al Ain 2030 identifies four types of public open space that should be

integrated into cohesive network: parks, cultural landscapes, natural landscapes, and agricultural landscapes.[25]

In support of the urban structure framework advocated by Abu Dhabi Vision 2030, the UPC issued the *Abu Dhabi Public Realm Design Manual*. This document comprehensively defines the public realm as

> all exterior places, linkages, and built form elements that are physically and/or visually accessible regardless of ownership. These elements can include, but are not limited to, streets, pedestrian ways, bikeways, bridges, plazas, nodes, squares, transportation hubs, gateways, parks, waterfronts, natural features, view corridors, landmarks and building interfaces.[26]

In addition to providing prescriptive design guidelines for parks, streetscapes, waterfronts, and public places, the document contains a detailed list of plant species and their characteristics. The manual also addresses the issue of water scarcity and provides detailed information related to irrigation.

While Abu Dhabi has led the UAE in developing approaches that seek to treat urban landscapes as an integral part of the built environment, other emirates have also taken steps to create projects that move beyond the isolated parks that were a core component of early urban plans. For example, developments along the Khalid Lagoon in Sharjah illustrate how ideals related to the design of urban landscapes and to the role of parks in the urban fabric have changed considerably since 2000. Since the 1970s, a series of independent green spaces existed along the waterfront and throughout residential areas in the city. During the past decade, there has been a concerted effort to improve the design, increase the range of amenities, and link once-independent parks through an extensive pedestrian network. In 2005, a canal was completed that connected the Khalid Lagoon and the Al Khan Lagoon; this project included the construction of Al Qasba, a mixed-use development that provided landscaped areas for public use and outdoor seating options for restaurants and cafes. A major redevelopment initiative will also enhance Al Majaz Park, which is located at the head of the Khalid Lagoon. The two-phase project will transform the section of the park along the water and create spaces for commercial and cultural use. The first phase, completed in 2012, included ten eating establishments, play areas, a mosque, food kiosks, walking paths, public services, and parking. Other parks are being constructed or redeveloped, and will be connected by a landscaped pedestrian path along the edge of the lagoon.

Perhaps the most striking example of the rapid change in conceiving the role of urban landscapes in the built environment is the transformation of the 500-acre area known as Downtown Dubai, which includes the Burj Khalifa and the Dubai Mall. When initially built, the main road through the development was lined with buildings with blank walls or closed façades facing expansive sidewalks with little pedestrian activity. After several new establishments with outdoor seating proved popular, the developer

recognized the commercial potential and initiated a radical transformation that included reconstructing the ground floor of recently completed buildings and inserting pavilions, kiosks, and landscaped areas between existing buildings. These extraordinary changes to recently completed projects represent the degree to which consideration of the space between buildings has changed in the past decade.

Tendencies toward the future

A survey of projects developed since 2000 indicates that landscape design – as a discipline distinct from architecture and planning – is emerging in the UAE, indicating much greater potential for the design of purposeful landscapes in the future. As discussed earlier, initiatives such as Abu Dhabi Vision 2030 and the increasing recognition of the importance of conceiving the built environment as an integrated whole – not to mention the commercial potential associated with attention to the space between buildings – will likely result in further change.

In spite of the constraints of climate and the scarcity of water, attempts to create drought-tolerant or water-conserving landscapes have been limited. A notable large-scale project is Xeritown, which was proposed by X-Architects and SMAQ (Figure 9.3). Although this development did not move beyond the proposal stage, the stated intent to integrate buildings

Figure 9.3 Proposed Xeritown project. (Courtesy of X Architects.)

with the landscape – as well as the focus on using context-appropriate plant species – presented an alternative that contrasted sharply with other projects being proposed prior to the economic crisis in 2008. The Dubai-based landscape architecture practice, Cracknell, has sought to address water scarcity by introducing measures such as intelligent irrigation systems at Dubai Festival City and the use of water-conserving landscapes in the Arabian Ranches housing development. Similarly, efforts are underway to explore various methods of treating wastewater. Since 2007, the engineering firm of Waagner Biro has been investigating the potential for employing reed beds to treat wastewater in projects like, for example, the Sir Bani Yas Island Hotel. Although public entities such as the UAE Ministry of Public Works and private developers are exploring the potential of this treatment option, reed bed filtration systems have yet to be widely implemented.

During Dubai's rapid development there was a focus on treating buildings as singular objects, with some exceptions. Phase I of the Dubai Marina, designed by HOK, blends hardscape and plantings to create an open plaza that is anchored by a central fountain located along an axis established by the primary entry (Figure 9.4). At a time when the integration of interior and exterior space was not a primary consideration, this project represented an alternative approach that treated the landscape as an integral part of a multi-use development. Subsequent developments that include Phase II of the Dubai Marina and the Jumeriah Beach Residence also incorporated promenades and landscaped plazas, but the expansion does not demonstrate

Figure 9.4 Plaza at Dubai Marina. (Courtesy of HOK.)

the same sensitivity with regard to scale, material selection, and overall design quality. Although one would not expect internally focused shopping malls to be the site of considered landscaping efforts, recent projects ranging from the Dubai Mall to smaller variations have incorporated external spaces to extend commercial potential. Cracknell, for example, designed an entry court and a series of interconnected garden spaces for the Mirdif City Center (Figure 9.5). While still incorporating the ubiquitous palm tree, Cracknell's design for the Dubai International Convention and Exhibition Center represents a tentative turn toward the spatial potential of the landscape through the manipulation of the ground plane and the use of hardscape and plant material as space-defining elements (Figure 9.6).

Sowwah Square in Abu Dhabi, designed by Martha Schwartz Partners, is a prime example of the potential for landscape architecture in the UAE (Figure 9.7). This project forms the center of a new central business district on Al Maryah Island (formerly known as Sowwah Island). Rather than relying on date palms and large expanses of grass, the designers selected drought- and heat-resistant plant species and incorporated strategies to maximize the use of moisture provided by irrigation. The project also employed conceptual strategies intended to make connections to the specificities of place that transcend the use of plants such as the date palm for their symbolic value. Sowwah Square is conceived as a three-dimensional structured landscape that relies on a formal language derived from inspirations such as sand dunes, *falaj* systems, oases, locally available textiles and the

Figure 9.5 Entry court at Mirdif City Center in Dubai. (Photo by Kevin Mitchell.)

Figure 9.6 Dubai International Convention and Exhibition Center entry. (Photo by Kevin Mitchell.)

popular use of formal clipped hedges in the UAE. Martha Schwartz Partners employed water for cooling and planted berms for wind protection to create a microclimate. The Sowwah Square project demonstrates the potential for landscape architecture to create spaces that respond to the context in a novel and sustainable manner (Figure 9.8).

Conclusions

The insistence on green spaces in an arid climate has played a fundamental role in shaping the cultivated landscape in the UAE. Reconciling the desire for green with environmental demands is a challenge, as there are fundamental conflicts between aesthetic preference and ethical approaches to designing and maintaining the labor-intensive landscapes. Whereas the UAE's natural environment is defined by the constraints of an arid climate, the instant appearance of mature palm trees and roll-out lawns conceals both tangible and intangible costs associated with resisting the limits imposed by the context. In "New Axioms for Reading the Landscape: Paying Attention to the Political Economy and Social Justice," Don Mitchell maintains that "to understand any produced landscape thus requires tracing out these networks of capital, commodities, and labor, networks that have long extended across the globe."[27] Certainly, the greening of the Emirates would not be possible without the flow of capital, commodities, and labor to and through

Figure 9.7 Landscape plan for Sowwah Square, Abu Dhabi. (Courtesy of Martha Schwartz Partners.)

Figure 9.8 View of Sowwah Square showing granite benches, dune-like forms covered with heat- and drought-tolerant Indian fig trees, Abu Dhabi. (Courtesy of Martha Schwartz Partners.)

the UAE's major cities. Exports from oil-producing areas of the country and benefits derived from major ports connected to global networks have generated the capital necessary to import the technology, expertise, and labor that can overcome the significant climate-imposed constraints – but this is not sustainable over the long term. Contemporary landscapes in the UAE have

resulted from the complex interplay of factors that often remain concealed behind extraordinary proposals to transform cities into "green paradises."

Additionally, the enduring focus on the symbolic value of the date palm, in spite of the extensive technology, expertise, and labor necessary to maintain the plant, continues to play a significant role in influencing contemporary landscape design. The emphasis on palm trees in the public discourse and in the urban spaces of UAE cities can result in one-dimensional landscapes. Indigenous drought-tolerant plants present in areas where soils support growth result in richer environments characterized by more nuanced shades of green. The value attributed to date palm oases is understandable given the role that they have played in shaping the cultivated landscape in the UAE and in the socioeconomic life of past generations. But the dislocation of the date palm from water-rich oases requires that significant climate-imposed constraints be addressed through technology, expertise, and labor. This complex resource-intensive support system is often invisible. If the short-term but nevertheless substantial costs associated with maintaining the aesthetic appearance remain concealed, then it is unlikely that the ethical consequences that impact current and future generations will be addressed in public discourse and, more importantly, in the design of the landscape.

However, there is hope for the future, as evidenced by the fact that initiatives such as Abu Dhabi Vision 2030 provide a comprehensive framework intended to guide planning and design of buildings and urban space. The urban structure framework plan articulates six key directions: sustainability, a unique environment, an evolving culture, identity and opportunity, excellence and livability, and connectivity.[28] In terms of sustainability, the UPC's *Abu Dhabi Public Realm Design Manual* was developed in accordance with the principles established by Estidama, which, according to its promotional material,

> is not just a rating method or something people do, it is a vision and a desire to achieve a new sustainable way of life in the Arab world. The ultimate goal of Estidama is to preserve and enrich Abu Dhabi's physical and cultural identity, while creating an always improving quality of life for its residents on four equal pillars of sustainability: environmental, economic, social, and cultural.[29]

If implemented and consistently enforced, the guidelines will establish minimum standards that may ensure greater environmental sustainability and a qualitative improvement in the design of the landscape.

As noted at the beginning of this chapter, the conscious design of the landscape for purposes that transcend function is relatively new. However, the rapid expansion of the built environment in the UAE and the attendant challenges that have resulted from the changes have forced a reconsideration of the design of the built environment that is evident in initiatives like

Abu Dhabi Vision 2030. The increasing recognition that the space between buildings is vital for cities is evident in redevelopment activity along Sharjah's Khalid Lagoon and in downtown Dubai. And projects such as Sowwah Square can provide the impetus for looking beyond the date palm to create place-specific landscapes that engage the senses and respond sensitively to environmental constraints and local conditions. As Martha Schwartz Partners has demonstrated in Sowwah Square, if the design of the landscape is defined as more than just greening, there is the potential for developing context-specific landscapes that are both responsive and relevant to the UAE.

Notes

1 As published in Saad Abdullah Sowayan, *Nabati Poetry: The Oral Poetry of Arabia* (Berkeley: University of California Press, 1985), 59.
2 United Arab Emirates Commission for Academic Accreditation, https://www.caa.ae/caa/DesktopModules/InstPrograms.aspx.
3 Sajila Saseendran, "Dubai to Have 12,200 Hectares of Green Space," *Khaleej Times*, April 2, 2014, http://www.khaleejtimes.com/kt-article-display-1.asp?xfile=data/nationgeneral/2014/April/nationgeneral_April14.xml&section=nationgeneral.
4 Sajila Saseendran, "Dh6 Billion to Turn Dubai into 'Green Paradise' by 2025," *Khaleej Times*, May 7, 2014, http://www.khaleejtimes.com/kt-article-display-1.asp?xfile=data/government/2014/May/government_May20.xml&section=government.
5 Ibid.
6 Ibid.
7 Sanya Nayeem, "Zayed Vision: Transforming Desert into Green Haven," *Gulf News*, September 20, 2008, http://gulfnews.com/news/gulf/uae/environment/zayed-vision-transforming-desert-into-green-haven-1.132209.
8 For a discussion of Dubai's growth, see Kevin Mitchell, "The Future Promise of Architecture in Dubai," in *The Superlative City: Dubai and the Urban Condition in the Early Twenty-First Century*, ed. Ahmed Kanna (Cambridge, MA: Aga Khan Program at the Harvard University Graduate School of Design/Harvard University Press, 2013), 148–166.
9 Expo 2020 Dubai, http://expo2020dubai.ae/en/theme.
10 For a description of the factors influencing the climate in the UAE, see Benno Boër, "Introduction to the Climate of the United Arab Emirates," *Journal of Arid Environments* 25 (1997): 3–16.
11 See Kevin Mitchell, "Dubai," in *Architecture and Globalisation in the Persian Gulf Region*, ed. Murray Fraser and Nasser Golzari (Surrey: Ashgate, 2013), 155–172.
12 Ingeborg Guba and Ken Glennie, "Geology and Geomorphology," in *Vegetation of the Arabian Peninsula*, ed. Shaina A. Ghazanfar and Martin Fisher (Dordrecht: Kluwer Academic, 1998), 57.
13 A.R. Western, *The Flora of the United Arab Emirates: An Introduction* (Al Ain, UAE: United Arab Emirates University, 1989), 6.
14 WWF, *2008 WWF Living Planet Report* (Geneva, Switzerland: WWF International, 2008).
15 Sabine Lattermann and Thomas Höpner, "Impacts of Seawater Desalination Plants on the Marine Environment of the Gulf," in *Protecting the Gulf's Marine*

Ecosystems from Pollution, ed. A.H. Abuzinada, H.-J. Barth, F. Krupp, B. Boër and T.Z. Al Abdessalaam (Basel: Birkhäuser, 2008), 191–205.

16 Organizations involved in raising awareness of the ghaf tree include Goumbook (http://www.giveaghaf.com). For a discussion of ghaf tree conservation efforts in Dubai, see David Gallacher and Jeffrey Hill, "Status of *Prosopis cineraria* (ghaf) Tree Clusters in the Dubai Desert Conservation Reserve," *Tribulus* 15, no. 2 (2005): 3–9.

17 Margareta Tengberg, "Beginnings and Early History of Date Palm Garden Cultivation in the Middle East," *Journal of Arid Environments* 86 (2012): 141.

18 Ibid.

19 Frauke Heard-Bay, *From Trucial States to United Arab Emirates* (Dubai: Motivate Publishing, 2004), 223.

20 For an overview of the *falaj* system, see Walid Al Tikriti, "The South-East Arabian Origin of the *Falaj* System," *Proceedings of the Seminar for Arabian Studies* 32 (2002): 117–138.

21 Geoff Sanderson, "Natural History of the Date Palm *Phoenix dactylifera*," 2001, http://www.enhg.org/alain/geoff/date.htm.

22 Erika Solomon, "As Tiny UAE's Water Tab Grows, Resources Run Dry," http://www.reuters.com/article/2010/06/21/us-emirates-water-feature-idUSTRE65K3MK20100621.

23 Frauke Heard-Bay, *From Trucial States to United Arab Emirates*, 223.

24 Edward Bullough, " 'Psychical Distance' as a Factor in Art and as an Aesthetic Principle," in *Art and Its Significance: An Anthology of Aesthetic Theory*, ed. Stephen David Ross (Albany: State University of New York Press, 1984), 461.

25 Abu Dhabi Urban Planning Council, *Plan Al Ain 2030 Urban Structure Framework Plan* (Abu Dhabi: Abu Dhabi Urban Planning Council), 61.

26 Abu Dhabi Urban Planning Council, *Abu Dhabi Public Realm Design Manual* (Abu Dhabi: Abu Dhabi Urban Planning Council), 1.3.

27 Don Mitchell, "New Axioms for Reading the Landscape: Paying Attention to the Political Economy and Social Justice," in *Political Economies of Landscape Change*, ed. J.L. Wescoat Jr. and D.M. Johnston (Dordrecht: Springer, 2008), 38.

28 Abu Dhabi Urban Planning Council, *Plan Abu Dhabi 2030 Urban Structure Framework Plan* (Abu Dhabi: Abu Dhabi Urban Planning Council), 7.

29 Estidama, http://estidama.upc.gov.ae/estidama-and-pearl-rating-system.aspx?lang=en-US.

10 Contemporary landscape as urbanism

Emergent ecologies of the Doha Corniche

Anna Grichting

The Doha Corniche is a seven-kilometer-long public landscape that encircles and defines the Doha Bay, acting as an interface between the city and the sea. The new maritime edge of Doha was one of the most significant initiatives taken by the Qatari State in the 1970s, introducing the concept of recreational and formal space for use by both the State and the public, marking a new era of urban development in the city of Doha.[1] The Corniche was designed both as a beautifying arc to create an urban façade for the emerging metropolis around a semicircular bay and as a structuring element for the subsequent radial urbanization of the city. It was not conceived as a simplistic trim to the sea, as can be seen in other examples of corniche landscapes around the Middle East and Mediterranean, but as a public space and a linkage to a number of modernist public buildings reflecting the emerging state.[2] The symbolic form of the Doha Corniche – a crescent-shaped bay – creates a visual spectacle with dynamic scenarios, shaping an urban amphitheater for motor vehicles, bicycles, pedestrians, and boats. It is a formalized design and a hard edge that replaces what was historically a more fragile, irregular and soft coastline, where boats were beached on the sand, and it represents a very large scale of public works and urban landfill engineering. This "urban edge" that acts as an interface with the sea is where the city of Doha displays its treasures and builds its city image, with a skyline, cultural hotspots, public artworks, and social spaces.

New ecological and sustainability imperatives have induced changes in the approaches to landscape design over recent years. The discipline has evolved to extend beyond its traditional functions and boundaries, encompassing more socioeconomic and ecological functions in the city. Landscape urbanism – which originated with the work of Ian McHarg in the 1960s and has found increased implementation by leading landscape architects such as James Corner, Gilles Clement, Chris Reed, and Kongjian Yu – is one such approach that merges landscape and urban design. It relates to new scales and typologies of landscape that connect landscapes within the city and can go beyond the city to create *ecological networks* with the hinterlands. It also advocates for *new social and economic improvements*, going against the usual gentrification that tends to accompany the beautifying of urban

public space, to become an integrated mechanism for creating green lungs[3] and landscape ecosystems in the city, which includes diverse social groups and cultures. Landscape urbanism also extends to *linear urban infrastructures* that combine public space and landscapes, which either accompany transport arteries or transform them into green corridors that connect public spaces and parks.

The landscape urbanist James Corner underscores how ecology has changed and enriched the field of landscape architecture and displaced some of its more traditional aspects. He argues that given the increased marginalization of the discipline, contemporary landscape architects should look toward the "ideational, representational and material implications of ecology" with respect to cultural process and evolutionary transformation.[4] Corner cites the social ecologist John Clark, who argues: "The flowering of the human spirit and personality is a continuation of natural evolution. Liberation of the human imagination from the deadening effects of mechanization and commodification is one of the most pressing ecological issues."[5] Corner goes on to say that the difficulty for many landscape architects today lies in a forgetfulness of the power that symbolic representation can have in forging cultural relationships, both among one another and between one and Nature. A culturally animate ecology, distinct from a purely "scientist" ecology, has yet to emerge in the field of landscape, according to Corner, and would be "creative insofar as it reveals, liberates, enriches, and diversifies both biological and cultural life."[6]

Another important concept that is central to new approaches to landscape is *emergence*. Landscape architect Rod Barnett describes this term as the way in which complex systems and patterns arise out of a multiplicity of relatively simple interactions. Related to chaos theory and self-organizing systems, emergence highlights the ever-changing and developing urban and natural work, and the need to work flexibly with it. The emphasis is on the *becoming* of a landscape and not on a fixed identity.[7] This concept resonates with theories of identity and image-making and Stuart Hall's argument that "cultural identity is a matter of becoming as well as of being and it belongs to the future as much as to the past."[8] This integrates a concept of identity that relates both to similarity and continuity, as well as difference and rupture.[9]

Recent landscape and urban design projects envisaged for the Corniche include mangrove parks, beaches, and biodiversity biomes – all intended to follow new trends in landscape design that are shifting toward ecological planning, systems thinking, and more holistic and sustainable approaches to designing public spaces and the urban environment. This chapter, therefore, focuses in particular on the concepts of biocultural landscapes ecologies, linear urban infrastructures, social and economic functions of landscapes, and ecological networks.

Through this lens of landscape urbanism, we propose to investigate the emergent ecologies of the corniche – and propose this linear landscape as (1) a *backbone* that ties together esplanades, public spaces, and parks;

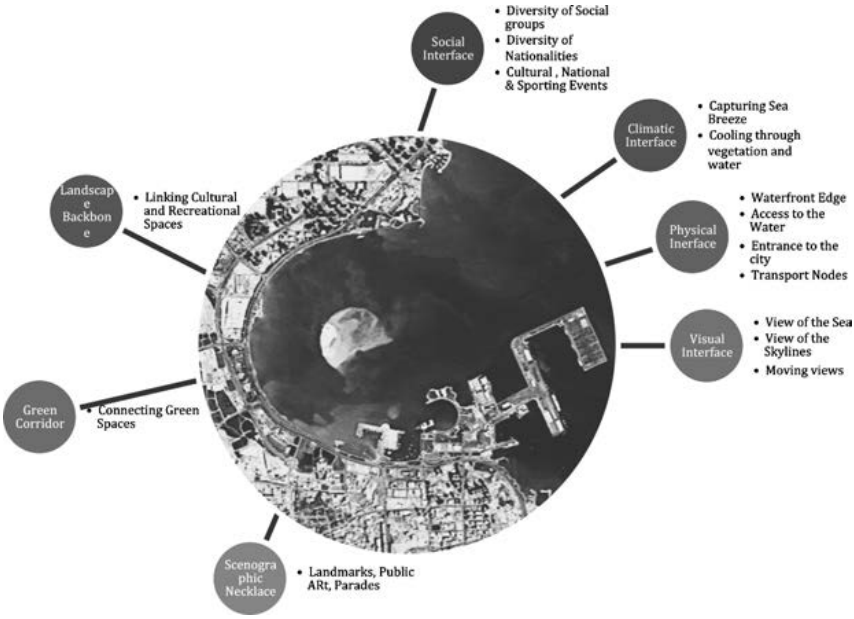


Figure 10.1 The Doha Corniche. Ecological Edge, Urban Interface, Landscape Backbone. (Diagram by Anna Grichting)

(2) a *landscape system* that physically connects the city with the sea; (3) a cultural and social interface for the city's diverse communities; (4) a climatic front that brings the cooling sea breezes into the city; and (5) an ecosystem edge that potentially brings together marine and terrestrial ecosystems (Figure 10.1). What is the becoming of the corniche landscape? Can it become a softer and more biodiverse edge, and can it improve its role as an inclusive and integrated social interface of all the communities in Qatar? How can it fulfill its role as a symbolic landscape for Doha for both local and migrant communities, as well as represent the image of a global city worldwide? How can this landscape participate in the "flowering of the human spirit" and in increasing the health and happiness of the city's inhabitants, creating a belonging that is of both the natural world and the built world, that bridges cultural and urban ecologies?

The Corniche as landscape urbanism typology in the Gulf region

A *corniche* – a loanword from French – is "a road built along a coast or along the face of a cliff."[10] It is derived from the Latin word *cornice*, an architectural term that designates the top edge or rim of a building where the façade meets the roof. As an urban typology, it was widely used in the Middle East and the Mediterranean, where new maritime façades were

designed in major coastal cities – often by French architects and urbanists – as part of the modernization projects undertaken during the colonial period. More recently, it has become a part of most master plans for Gulf cities, such as Abu Dhabi, Muscat, and Bahrain, which are edged or adorned with a Corniches. The Corniche Park in Doha has become a source of civic pride to Qataris, especially as it is said to have been the inspiration for the Corniche of Abu Dhabi. During a visit to Doha by HH Shaikh Al Nahyan, the ruler of the United Arab Emirates, he was very impressed by the Corniche and decided that Abu Dhabi should have its own.[11]

In many historic cities such as Alexandria in Egypt, or Mutrah in Oman, the Corniche has become largely a space for the automobile, and the landscape element is reduced to hardscapes and seating areas looking out toward the sea. With the rapid development of emerging cities in the Gulf, and fueled by the hydrocarbon economies and accompanied by substantial investment in public and urban infrastructures, building a maritime façade was an important aspect of the image-building of the city. Today, many Gulf cities are constructing, extending, and rehabilitating their corniche landscapes. In some cases, a public beach, such as found in Abu Dhabi, also extends the Corniche. In keeping with Dubai's constant search for the superlative in its spatial projects and global projections, the planned Jumeirah Corniche project, at fourteen kilometers, will be the longest Corniche in the Emirates, with over ten kilometers of winding paths, parks, and beaches on the Persian Gulf. The Corniche in Kuwait City is marked at its southern end by the Scientific Center and at its northernmost point by the Kuwait Towers; it also includes many beaches, restaurants, and coffee houses from which to watch the sunset or enjoy the sea breezes.[12]

Abu Dhabi's Corniche Beach is a major landmark and prominent foreground to the city skyline and has seen many improvements over the past years, including better accessibility, improved water quality, a large park, and a beach. Located on the northwest end of Abu Dhabi Island, it spreads across eight kilometers and an area of roughly fifty hectares that includes children's play areas, cycling and pedestrian paths, cafes and restaurants, and the Corniche Beach. Between 2001 and 2005, a stretch of land four kilometers long was added to the top of Abu Dhabi City to form a waterfront park and strategic connections to the city's downtown, which was developed to promote easy access to this celebrated waterfront park (Figure 10.2). The beachfront, which offers three separate sections for families, singles, and the general public, has been awarded coveted Blue Flag status for clean and safe bathing water. This improvement highlights the environmental concern for clean water, as well as a social concern to integrate all communities and genders, including ensuring privacy for local females and dedicated spaces for single male expatriates.[13]

A recent project commissioned to restore the Corniche as a landmark of Abu Dhabi incorporates the existing beach and new reclaimed beaches, and includes designs for a promenade, a park, and a sandy beach. Designed by landscape

Figure 10.2 The Abu Dhabi Beach Meander Project by Martha Schwartz Partners Landscape Architects and Urban Planners. (Courtesy of Martha Schwartz Partners)

architect Martha Schwartz, this project uses a meandering pattern language to weave its way down the stretch of the beach through a shaded landscape of vantage points to sea and city, leading down to beachside plazas, sports areas, and beaches with multiple options for occupation and flexibility for seasonal use at different times of the day. The design maximizes the visual connections to the city and out to the sea, while mitigating the impact of the road by using a raised landscape that enables views and provides seclusion for beach users.[14]

In Dubai, the historic Deira Corniche, constructed in 1975, consists of a broad pedestrian walkway that extends to the Dubai Creek. It borders the larger Deira central business district and acts as a spine connecting with a series of traditional markets, including the Fish and Vegetable Market and the Gold and Spice Souks. As noted earlier, in keeping with its constant search for the superlative in its spatial projects and competitiveness in global image making, Dubai is planning a new "mega-corniche." The Jumeirah Corniche is being promoted by the ruler of Dubai, Shaikh Mohammad Bin Rashid Al Maktoum, as a contribution to the quality of life for nationals, expatriates, and visitors – and to promote a fit, healthy society. At a time when the Gulf countries are experiencing alarming rates of obesity and diabetes, this marks a shift from the role of the Corniche as an element of prestige and image-making for the rulers, to an inclusive space that improves the quality of life for all residents and also contributes to a healthier society through sports and activities. The walkways and jogging track are a major feature of the project that will facilitate a variety of sports, including jogging, walking, swimming, rowing, and other activities that suit families and contribute to enhancing physical fitness. In addition to the recreational and

entertainment functions, it also represents a crucial contribution to public health and to developing social infrastructure in Dubai (Figure 10.3).[15]

In response to the natural conditions of the site and its constructed topographies, the Corniche manifests different spatial forms. Abu Dhabi and Dubai's Cornices are linear, while Doha's has a distinct crescent shape. This crescent model has been replicated in a series of mini Cornices in the city, including the Museum of Islamic Art Park and the circular walkway of Porto Arabia on the Pearl Island. The form and biological concept of the pearl – a circular shell with a pearl in the center – or the concept of the pearl necklace (which was used by Martha Schwartz in her design for the Doha Corniche competition) have left their mark on the formal shaping of the maritime landscapes of Doha (Figure 10.4). It is apparent in many new schemes to

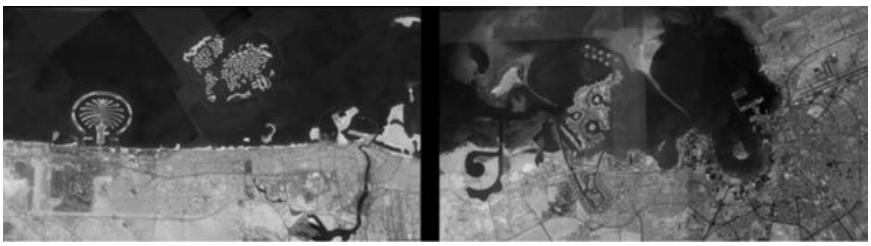


Figure 10.3 Linear and Crescent Corniche typologies, Dubai and Doha. (Google Earth Image. Montage by Anna Grichting.)

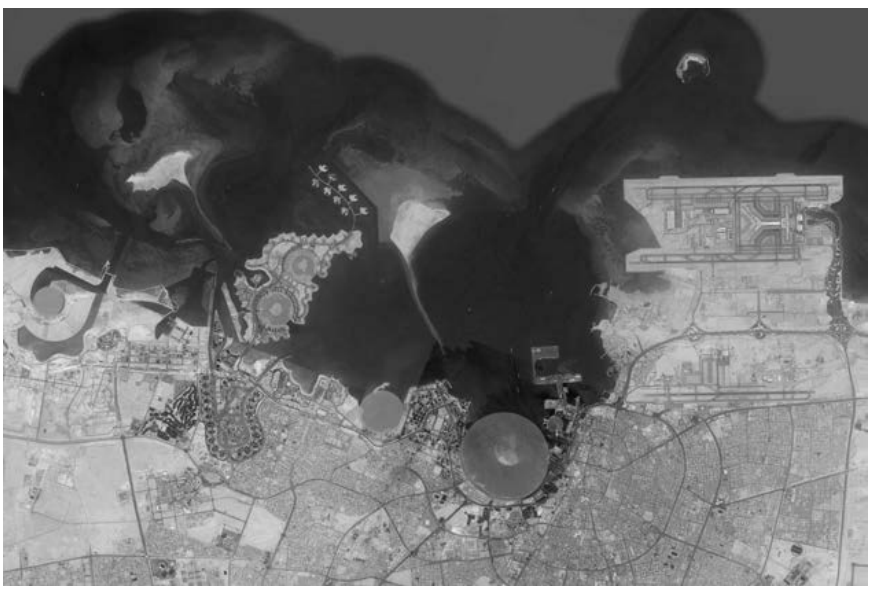


Figure 10.4 View of the Doha Coastline and the constructed Crescent Corniche typologies. (Google Earth Image and Map by Anna Grichting.)

extend the Corniche that complete or replicate the circular forms. The form of the crescent in urban landscapes could be seen as a specific feature of the Gulf region, and in Doha is strongly related to the image-making of the metropolis. The crescent is not only a powerful symbol in Islamic culture, but its form also creates a dramatic scenography of movement and allows a vast urban display.

Background: social and ecological context of Doha

Located halfway along the western coast of the Gulf, the State of Qatar consists mainly of a flat, low-lying rocky desert and coastal salt flats or *sabkha*. The peninsula has a 563-kilometer sandy coastline with numerous small islets, dunes, and reefs; its various habitats include sand dunes, *hammada* (or barren) desert of rocks and gravel, rocky ecosystems, mangroves, *sabkhas*, wadis and runnells, and depressions called *rowdat* that collect fine sand. Qatar benefits from year-round sunshine, with temperatures ranging from 25°C in winter to 50°C in summer. During the second half of the 20th century, Qatar witnessed its first modern urbanization period accompanied by rapidly increasing oil production and lucrative oil export contracts. Today, new development strategies have been initiated and implemented to diversify its economy; these have led to a second major urban transformation process. Doha, the capital city of Qatar, has seen rapid growth from a small fishing village community in the middle of the 20th century to a vibrant emerging regional urban center with more than 1.7 million inhabitants.[16] Qatar imports over 90% of its food, and seawater desalination counts for 99% of water sourcing, which presents a high factor of food and water "insecurity," with a large dependence on technology and imports.

Qatar has the highest ratio of migrants to citizens in the world. In fact, Doha is representative of many Gulf cities (Abu Dhabi, Dubai, Riyadh), as well as other global cities, that rely on a dual labor market characterized by both highly skilled and unskilled migrants. The unskilled workers, who come mostly from India, Pakistan, Sri Lanka, the Philippines, Nepal, and Bangladesh, make up approximately 94% of Qatar's workforce and 70% of its total population.[17] Their daily lives are strongly conditioned by the multiple divisions they encounter, and this separation from the Qatari population is monitored by the Qatari government and private company policies.[18] Dubai and Qatar, as many Gulf States, still adhere to an archaic sponsorship system in which workers are forbidden from leaving a company without its permission.[19] Based on the fact that over 86% of Doha's population consists of migrants and foreigners, urban governance is being increasingly challenged to preserve local traditions and cultural values, while defining a new urban image for an internationally connected hub.[20] The main landmark projects, such as sporting venues, museums, and major real estate developments, do not reflect the various social groups, and are often not accessible to a major part of the population.

This diverse population generally has not been taken into account by local planners and developers, and this trend is generally true in most Gulf countries, except perhaps Oman. El Sheshtawy, an architect and academic who practices in the Gulf region, notes that despite "a happy merging of cultures . . . no real effort is made to resolve social problems, address concerns of the lower class, or try to make the urban environment more 'livable.' "[21] Despite the fact that by 2022 more luxury hotels will be open in Qatar – catering to Westerners and westernized Arabs who can afford to enjoy exclusive services including spa treatments, gourmet restaurants, and fancy bars or pubs serving alcoholic drinks – issues such as spatial segregation, gentrification of redeveloped areas, and affordable housing still remain unresolved.[22] Without access or participation in the public spaces of the city, there is little or no sense of belonging. Ashraf Salama and Florian Weidmann, architects and academics who have carried out extensive urban research in Qatar's public spaces, argue that the development of a distinct urban identity for the city will rely on the establishment of a coalescing society that sees Doha as its current and future home and a more holistic urban development vision.

The FIFA World Cup is acting as a catalyst for the implementation of a number of public infrastructures, including a public transport system. A good transit-oriented design and regeneration will, it is hoped, be able to remediate many of the negative effects of unplanned or poorly planned developments. Particular attention should be placed around the transit nodes so that they can be used as opportunities to encourage many modes of transport, at the same time creating new public spaces that can help to create a new public realm and to connect soft mobility networks, reweaving the disparate fragments of the city. Reweaving the public realm is one of the major potential legacies of this mega-event, with the likely outcome that the Corniche Park and Promenade could become more integrated and accessible, with improved connections to the city and surroundings, as well as increased social and cultural diversity.[23] Another potential legacy of the FIFA World Cup is that the social conditions of migrant workers and their quality of life will improve now that the spotlight is on Qatar; in fact, nongovernmental organizations (NGOs) such as Human Rights Watch are disseminating information on the conditions of workers building the stadiums and infrastructures for the global mega event. With this, it is hoped that the workers can increasingly become more integrated in public life and the public realm, leading to a real social and cosmopolitan integration of all the populations inhabiting the city of Doha. Such an outcome would contribute to achieving the four pillars of the Qatar National Vision for a Sustainable Future: Social, Economic, Environmental, and Educational Development.

In a city that is spatially divided and socially segregated, the Corniche remains one of the few places where all the communities of the city come together. Therefore its role as a social interface is extremely important, and

it needs to be accessible even for visitors without cars. With the future development of public transport, and the improvements in the Corniche Road and its crossing, the promenade will become even more reachable.

Designing, digging, and dredging: the emergence of an urban spectacle

From a soft and irregular shoreline on which the pearling and trading boats were beached during the pre-oil years, to the rigid, crescent-shaped engineering of the Doha Bay that resulted from urban expansion due to the hydrocarbon economic boom, the Corniche can be seen as the first modern landscape of Qatar and remains the largest public and pedestrian space in the emerging global city. Created from the first major landfill project, and a precursor to the more elaborate and themed landfill projects in the region – the Pearl (Doha), the Palm, and the World (Dubai) – its singular shape has prompted uninformed sources and social media to speculate upon the fact that the circular form was created by a meteor impact.[24] Evidently, its origin is not quite so cosmic, and is rather the result of landfill policies over recent decades.

The Corniche was constructed under the new Emir Sheikh Khalifa bin Hamad Al Thani who undertook the planning of a capital city for the new independent State of Qatar in 1972. By the 1970s, Qatari officials were accustomed to the idea of soliciting suggestions and assistance from foreign professionals, and land reclamation – already practiced in several other Gulf countries – was proposed by Llewellyn-Davies as an alternative to acquiring land from private landowners. Beginning in 1974, waste from dredging the deepwater Doha Bay was used as landfill for the adjacent salt marshes and shallow sea areas. William Periera Associates, a Los Angeles architectural firm, was hired to develop the concept design for the West Bay area and the Corniche with the total project covering 2,000 hectares, which included the waterfront promenade and park overlooking Doha Bay.[25]

The mechanism of land reclamation and the creation of Doha Bay was presented as a beautification project, turning shallow, unattractive salt flats into a turquoise deepwater bay, creating an attractive central and visible location for real estate investment, public institutions, and cultural and leisure spaces for the new independent capital. This ambitious and high-prestige project for the Corniche and the West Bay was the first large-scale, image-making project, designed to reflect Qatar's new economic circumstances. This successful project became the locus for the articulation of social, spatial, and symbolic structures of the new state and remains today the most significant, central, and popular public space in Doha. As observed by Nagy, it is perhaps the female Qatari population that is the least present in this public space, and many of the women interviewed in her research were dissuaded from using the park by the presence of many male foreigners.

Resulting from a modernist master plan, the Corniche seems to generate the genetic code of modern Doha (Figure 10.5). The crescent form has

Figure 10.5 The Doha Corniche as a genetic code for urban development. (Diagram by Anna Grichting)

clearly influenced the structure and macro form of Doha City, giving rise to a planning design based on a transport network of parallel ring roads and radial arteries. A number of projects, be they urban or landscape designs, seek to replicate, duplicate, or mirror the crescent curves of the Corniche (MIA Park, the Pearl, West Bay), and the city has developed as a radial expansion of this central landscape. The numerous projects and competitions in this space and its adjoining land underscore the symbolic and spatial importance of this central public landscape, and the future developments of Doha help maintain it as the city's main façade.[26]

The Corniche is an urban and landscape design that contributes to a spectacular waterfront scenography, creating a strong visual relationship between the historic core of the city and the emerging business district at the West Bay. The Corniche can be likened to a vast amphitheater that surrounds Doha Bay – like a moving stage that is crisscrossed by the passing dhows, commercial tankers, cruise ships, and pleasure boats. Extending for several kilometers along the Doha Bay, the Corniche is a linear landscape of movement, animated by the joggers, walkers, and cars along its streets and walkways. Aside from its perfect and dramatic geometry, the Corniche does not have any salient design features. Originally, the "Corniche" referred to the properties and roadway adjacent to the Doha, and consisted of three subareas – the Corniche Park and Promenade, the Corniche roadway, and the strip of government buildings overlooking the park and the bay. It was intended to become the social, spatial, and symbolic center of Doha, with the system of ring and radial roads extending outward from the bay to the east. It continues to play this central role in the ever-expanding multicentered city. On National Day and other special occasions such as religious and civic holidays, and during visits from foreign dignitaries, the roadway is decorated with elaborate lighted arches, decorative lightings, flags, and temporary landscaping.

The Corniche road itself consists of a six-lane roadway lined with palm trees, flowerbeds, and sculptures that symbolize the Arab culture. The roundabouts that previously punctuated the Corniche road (recently replaced by traffic lights) functioned as important landmarks in the cityscape of Doha

with public art, usually sculptures, at their center, representing scaled-up or abstracted elements of Qatar's past heritage (Beduin coffee pot, abstraction of Qatari fabrics), or symbols of Qatar's new global position (a monument of a globe, depicting Qatar's membership in the Gulf Cooperation Council). The Corniche has few cafes and restaurants, but there is one restaurant on the water more or less midway along the promenade as well as a number of small kiosks that act as people-hubs along the promenade. More recently, a number of contemporary public art sculptures have been installed by the Qatar museums, namely a calligraphy sculpture by Iraqi artist Sabah Arbilli, and sport-related figures to announce the Asian Games and the handball championships that were held in Doha. Contemporary art is gradually replacing the traditional symbolism used in public art such as the coffee pot, pearl and oyster, arches, and so forth.

The perfect crescent shape embraces the Bay of Doha, and is framed by two architectural landmarks: the icon of Doha's first steps toward modernization, the Sheraton Hotel; and the masterfully located Museum of Islamic Art by I.M. Pei, which marks the beginning of an intensive phase of urbanization that reacts to the global condition by introducing knowledge, economy, cultural institutions, and state-of-the-art building interventions. Between the historic city and the new West Bay towers, the landscape is punctuated with narratives of the city's development and with postindependence buildings such as the Emiri Diwan, the National Theater, the general post office, and other government buildings. While the skyline continues to expand and densify, both horizontally and vertically, in the northern part of the Corniche, the southern part preserves a more modest and conservative silhouette, comprised of architectural and artistic offerings at different urban scales – from the iconic and singular Museum of Islamic Art, to the monumental sculpture "7" by Richard Serra.

The Corniche is also a "Green Corridor" and the backbone of an urban park system. The Al Bidda Park runs parallel to the Doha Corniche inland, while two new parks – the Sheraton Park and the Museum of Islamic Art Park – are situated at the extremities of the Corniche; both are connected with the two major iconic buildings of the Corniche. The Sheraton Park – featuring basins, water fountains, children's playgrounds, cafes, and restaurants – includes a two-story underground car park, a tunnel connecting the Corniche with the new convention center (also under construction), and service buildings for Doha's future light rail passenger transit system.[27] The Museum of Islamic Art Park is a 70-acre public park formed by landfill, creating a new arc-shaped pier – sort of a mini-Corniche lined with palm trees – and a landscaped peninsula with dune-shaped hills covered in grass, which offers spectacular views of the Doha Bay and skyline (Figure 10.6). The focal point of the park is a site-specific public artwork entitled "7" by the internationally acclaimed American artist Richard Serra, his first work in the Middle East.

Figure 10.6 Doha Corniche and Mini-Corniche with the Museum of Islamic Art. (Courtesy of Wahyu Hidayat)

Projects, scenography, and future visions

As one of the most central and spectacular landscapes of the city of Doha, the Corniche has been the site of numerous projects over the forty years since its construction. A number of urban and landscape designs have been developed through competitions and commissions, but to date none has been implemented. In 1998 the Doha Corniche Project Competition was launched to solicit designs from leading landscape firms worldwide, including renowned architects and landscape architects (e.g., Jean Nouvel, Martha Schwartz, and Zaha Hadid); in the end, the designs were not implemented.[28] In the 2007 Qatar National Master Plan (QNMP), an important component of Doha's redevelopment projects was the Doha Corniche Enhancement Plan.

This plan foresaw an upgrading of the Corniche to confirm its role as the symbolic landscape of Doha – as a monumental destination and ceremonial corridor – to serve both Qatar's residents and the increasing number of expatriate professionals, visitors, and tourists. The plan, which included new parks adjacent to the Corniche, was part of a strategy to increase the number of parks and open spaces in response to a rapidly rising population and to develop more tourist attractions, including gathering places for arts, culture, and recreation. The project involved the expansion of the pedestrian promenade, doubling it to around fourteen kilometers and extending it beyond the crescent in the north direction toward the historic city and Doha International Airport. It included plans to enhance the existing spaces and

create new functional areas, to increase waterfront activities, and make the Corniche more accessible to vehicles and pedestrians.

A project commissioned in 2009 to the architecture firm Wilmotte & Associés proposed some innovative ideas focused on a new ecological identity for the Corniche (Figure 10.7).[29] The project separates the Corniche into North and South Shores. The North Shore is envisioned as a primarily natural sandy beach, an extension of the desert coming into the city from the north, and is proposed as an "Open Ecological Museum" celebrating the environmental and human ecology of Doha, where buildings reverse their traditional selves and become nodal green parks reminiscent of oases and a humanly sustainable functionality unique to Qatar. The buildings use pylons to offer a clear view out to the sea and to create shaded public space; they can also straddle the edge, stitching together both land and sea, or are even positioned in the water.

This "Open Ecological Museum" includes a Recycling Museum, Birds Life Museum, Desert Ecology Museum, and an aquarium. There are also buildings that celebrate human cultural ecology such as an International Calligraphy Museum, Children Museum, and Natural Fabrics Museum. Some buildings include green public garden follies where visitors can interact in shaded areas, as well as enjoy water features, art-scapes, and localized themed landscapes. Moreover, many creatively evolve into unique building typologies merging essential public parking space with socially, culturally, financially, and environmentally sustainable aesthetic urban fabric.

Figure 10.7 Master Plan Proposal for the Corniche by Wilmotte & Associés Architectes. (Courtesy of Wilmotte & Associés Architectes)

In contrast, the South Shore is envisaged as an airport gate area to the city and is an extension to the Corniche beyond the Museum of Islamic Art. The proposal is a one-kilometer-long "green" building – an elevated structure that offers parking on one level and a shopping strip on the upper level – both engulfed within an interactive steel and green screen skin with permeable quality that offers outward views.

In another project by the architect office KannFinch, the project is focused on pedestrian accessibility (Figure 10.8). The architects' intent in their redesign of the Doha Corniche district is to provide a pedestrian-based community in an area currently dominated by cars. The design proposal virtually closes the circle of the Doha Bay and divides the Corniche into five key sites offering different opportunities and design outcomes. A new light rail line with its adjacent walking canopy is integrated into the entire ring of waterfront land, encouraging pedestrian activity and offering an alternative to cars. One of the major design challenges, the sustainability of green landscaped areas, was achieved by water reuse strategies. The KannFinch proposal was shortlisted by the Urban Planning Department Authority as one of three designs formally presented to the former Emir of Qatar, Sheikh Hamad bin Khalifa Al Thani.

An equally interesting and ecologically oriented project is the competition entry entitled White Necklace by Martha Schwartz Partners. The design

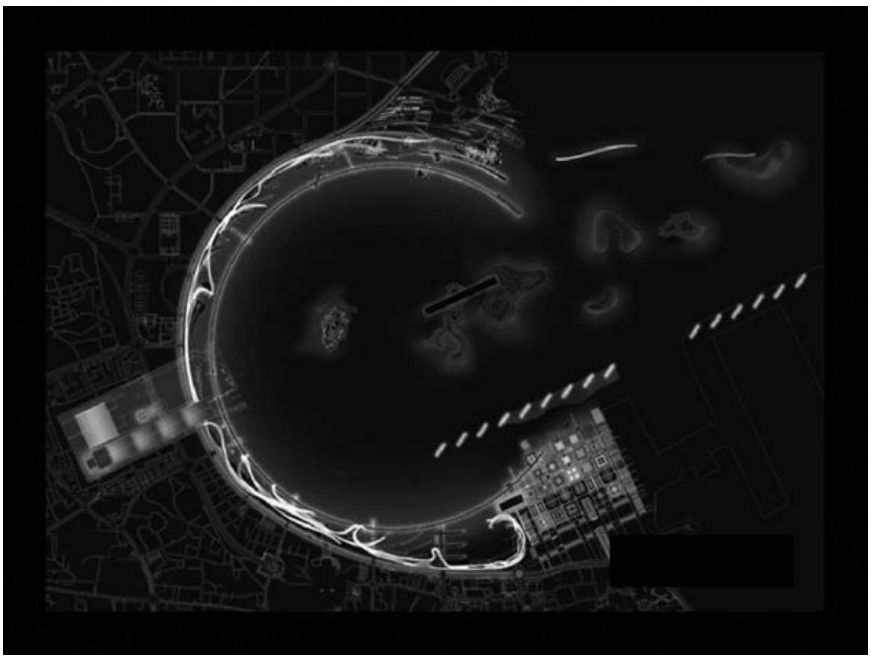


Figure 10.8 The White Necklace. Night View. Doha Corniche Competition entry by Martha Schwartz Partners Landscape Architects and Urban Planners. (Courtesy of Martha Schwartz Partners)

extends the existing Corniche walkway into a series of boardwalks that also include mangrove plantations, creating a new marine ecosystems along the Corniche. A series of islands extends into the Gulf, providing stepping stones and visual anchors, as well as a new perspective on the large bay.

A number of large projects planned in the Doha Bay will visually affect the Corniche. The Sharq Crossing, designed by the architect and engineer Santiago Calatrava, is a set of three interconnected bridges with tunnels spanning almost ten kilometers across the Doha Bay. This "engineering masterpiece of design"[30] will bridge the city's cultural district in the north to Hamad International Airport, as well as to the central business district in West Bay.[31] It will improve accessibility to the city's disparate centers, providing an important new artery to Doha's existing road network. At the same time, it will create a new maritime façade for the city that will host the 2022 FIFA World Cup. Designed not only as a sculptural transport infrastructure, the project also creates new public spaces. The double-decked West Bay Bridge, which incorporates a recreational park that can be accessed by public transport and an elevated walkway, will create new perspectives and offer spectacular views of the city. While the bridge is designed to accommodate the traffic of the rapidly expanding city, it is also one of the many complex projects – including carbon-neutral football stadiums, museums, and the new Doha Metro – that the city is undertaking for the World Cup.[32] As was the Doha Corniche Bay and Promenade project in its day, the Sharq Crossing is, according to its architect Santiago Calatrava, an "architecture for public works (that) humanizes the natural landscape and serves the community [. . .] a great opportunity to develop an exceptional and grand piece of public work."[33]

To complement the Doha Bay Crossing, Italian architect Stefano Boeri proposes a new ecological centerpiece for the bay: a series of islands each showcasing one of the world's ecosystems as part of a project that he argued would make Qatar's capital a global "epicenter of biodiversity." These climate-controlled biomes seek to create natural environments such as forests, deserts, and coastal regions, enclosed in architecturally appealing greenhouse-like domes, similar to Singapore's Gardens by the Bay (Figure 10.9).

Figure 10.9 View of the Corniche from the Biosphere by Stefano Boeri Architects. (Courtesy of Stefano Boeri Architects)

Recreational and leisure landscapes for residents and tourists, they will also serve as a living laboratory for academic researchers. The project could also showcase new water desalination and solar power technology. "This is not just preservation. This is producing nature," Boeri said. "I cannot imagine a city of only skyscrapers and streets. We need a place where people can experience a new way of life." The architect proposes the possibility of integrating his project with the Doha Sharq Crossing, giving a new ecological dimension to the city's waterfront façade.[34]

The Corniche landscape: edge and interface ecologies

In regions where the climate is extreme, such as the Mediterranean and the Persian Gulf in the summer months, the seafront is a space that benefits from sea breezes and thermal winds that cool the air. This space creates a *climatic interface* for the city that offers some respite from the scorching temperatures of the summer months, which are amplified in densely developed urban areas where the urban heat island is accentuated by glass façades, impermeable surfaces, and the lack of greenery. In cities where public spaces are increasingly privatized, the Corniche is also a landscape that is used by all social classes, and therefore it can be described as a *social interface* for the city. In Doha, from the early morning expatriate joggers and walkers, to the midday construction workers building the towers in the West Bay business district who rest in the shade of trees, to the Qatari families who bring their chairs, blankets, and Arabic coffee to relax in the setting sun, it remains an open and welcoming space for all. Aside from being a public space for humans, the Corniche could also become a habitat for an increasingly diverse community of plant and animal species, with a more ecological, moving, and evolving edge that connects terrestrial and marine habitats.

The Corniche is a *physical interface* that gives inhabitants access to the waterfront. It is evident today that most corniche projects – whether they are the landscaped edges of new developments or the urban reformatting of existing corniche promenades – are designed and marketed to promote "deep walkability," purposefully designed to focus on the needs and rights of both pedestrians and, increasingly, cyclists. Deep walkability describes a city in which a person can walk to almost any destination along great walking routes, where walking is a viable means of getting from any one neighborhood to another, or even all the way across town.[35] This idea of deep walkability should also contribute to the quality of life and to the sense of community.

The Corniche landscape has the potential to fulfill these visions of deep walkability, but first it is necessary to address a number of shortcomings of present landscape designs. The Doha Bay offers the best scenic amenity of the city with continuous pedestrian connection from the south to the north providing views of the city from the traditional to the modern. However, the Corniche landscape is not well connected to the surroundings and is currently not served by public transport. Since it is accessed mainly by car

or taxi along the Al Corniche Road, the traffic is dense at peak times and on weekends. Safe pedestrian linkages need to be defined strategically along its entire length, leading to other important open spaces of the city, and connected to important transport nodes. A metro and light rail system is now being implemented, with a major station under the Sheraton Park; others are planned along the Corniche and traffic lights are being installed that will facilitate the pedestrian crossing to the Corniche Promenade.[36] Cycling paths and networks are also planned, which should help to make the Corniche and open spaces more accessible.

There have also been proposals to bury the Corniche Road (similar to the "Big Dig" project in Boston, Massachusetts) in order to create greater continuity of the open spaces with West Bay and the historic center. The connection to the water also needs to be improved, since there are very few areas with access to the water, with the exception of a very small beach where small watercraft can be launched during competitions and events. The outer edge of the maritime walkway is designed as a seating area, which also acts as a guardrail, preventing access to the water. There are no pontoons or jetties for access to pleasure boats or the tourist dhows; instead, the boats extend their gangplanks directly onto the walkway to pick up passengers.

As mentioned earlier, the Corniche is one of the rare public spaces in Doha that allows the presence of all social groups in the city and it attracts a diverse crowd. In the early morning it is popular for jogging, while late at night it shows a different cultural view of the city. During the day, workers from the surrounding construction sites in West Bay can be seen sitting in the shade, resting or eating their lunch. The presence of free Wi-Fi is an added attraction for lower income workers who don't necessarily have easy access and can benefit from this service to contact families back home. The Corniche has also become a meeting place for a new generation of Qataris who congregate in the area, with motorcyclists and other non-traditional-looking youngsters meeting in the area to meet up or make noise. There are also a number of seasonal and temporary activities, which include open-air exhibitions, water sport competitions, the National Day Parade, and the Dhow Parade every December 18th.

A recent behavioral mapping study of a space near the planned Sheraton Park elucidates the reality of use and activities and how it is actually used by a wide spectrum of people of different age groups and from different ethnic backgrounds.[37] Specifically, the results show that the Corniche caters more to lower- and middle-income groups, with a strong presence of male visitors on weekday evenings. Maintenance workers and gardeners were strongly represented in the mornings when they are on duty during hours where they are less likely to disturb visitors. Indeed, observations by the author confirm that the Corniche is used by Qataris and expatriates of all social classes – with the exception of higher-income Qataris. There are, however, some notable exceptions to this general usage pattern. For example, the president of Qatar University, the aunt of the former first lady, regularly

Figure 10.10 Walkability and Seating with Improved Connections to the Water. Design by Wilmotte & Associés Architectes. (Courtesy of Wilmotte & Associés Architectes)

walks on the Corniche Promenade in the early morning. Understandably, use of the Promenade is greatly influenced by the seasons; in the hot months it is visited only in the early morning and evening. On holidays and weekends there is an increase in visitation, and although there is a lack of sufficient outdoor seating, it is common to see families, groups, and couples bringing their own chairs, blankets, coffee, and picnics, which is the custom in Qatari and Middle Eastern cultures. The children's playgrounds along the Corniche are a major attraction for families, and recently installed exercise machines are being used by groups and individuals who use the Corniche for physical training (Figure 10.10).

Conclusions: new landscape ecologies for Doha's Corniche

While projects are now being envisioned to extend the Corniche landscapes and cultural spaces, the discussion here is limited to the seven-kilometer crescent bay waterfront promenade, as well as the adjoining waterfront parks and public spaces.[38] Currently, the surrounding parks are not well networked, and overall, Doha does not have a connected green network of public spaces and parks. Despite the relative success at the social and urban diversity level, physical aspects related to access and connectivity present important challenges to effective and efficient use. These shortcomings need to be considered as integral components of immediate plans undertaken by MMUP, the Ministry of Municipality and Urban Planning. Hopefully, the new master plan for Doha (not yet published) will better integrate landscape networks into the overall planning of the city.

In social terms, the Corniche can be seen as the only public space in the city where people from different socioeconomic strata and cultural backgrounds have access to all parts of it. Yet, accessibility and connections to the city are problematic and will require significant improvements to integrate the landscape into the city fabric. In addition to inefficient access and connectivity, many of the spaces and gardens lack sufficient outdoor seating

and umbrellas or other forms of shade, which could potentially enhance its use and social role within the city. The Museum of Islamic Art Park is a successful landscape, both through its design and programming, but does not cater to a very diverse social group and excludes migrant workers. It features three kilometers of lighted pedestrian pathways shaded by native palm trees that connect it to the main shoreline of the Doha Corniche. Year-round public activities at the Museum of Islamic Art Park include film screenings, jazz concerts, sports events, storytelling programs, and art workshops.[39]

Future developments of the Corniche will be affected by the regeneration of the old Doha Port for an Olympic bid, cruise terminals and art venues, the Doha Bay Crossing, the Doha Biome, and the new public transport network. Future plans for the Corniche could take inspiration from two other landscape projects being implemented in Doha, which, importantly, have taken a more ecological approach to design. The Doha EcoWadi Park by French landscape architect Michel Desvignes, located in the new city of Lusail in Doha, aspires to restore some of the country's natural and cultural heritage and to connect the city, the desert, and the sea while providing a key community and infrastructure amenity. The design strategy proposes the restoration of an existing wadi system that once flowed through the site, and the EcoWadi Park's design success relates to its ability to exist in a constant state of flux. Spaces can expand and contract with water volumes, climate, changing population, and resources.

Another project, the Agricultural Gardens surrounding the new National Museum of Qatar – both designed by Jean Nouvel and currently under construction – transposes the rigorous desert agriculture of northern Qatar. Although mainly ornamental, the gardens will also produce herbs, fruits, and vegetables for use in the Food Forum of the museum. Such venues also serve a vital educational purpose and have an experimental dimension where cultivation techniques can be developed and tested. The agricultural gardens are composed according to permaculture principles to reduce the use of water and pesticides, and the shade and irrigation create an attractive microclimate for visitors.

These two projects could bring new ideas to make the Corniche landscape more dynamic, water efficient, and also productive for food growing. Currently, there are date trees that produce fruit, but a more "edible" landscape is possible. Moreover, "sweet water" from desalination is used for irrigation in the Corniche Park, since children use the lawn turf and it is not hygienic to use recycled water from sewage effluent. Not surprisingly, a large volume of water is lost during the hot months due to evaporation. In response, strategic water design was included in the KannWest proposal, with the implementation of mangrove forests, and an integrated recycling and storage system using grey wastewater from the surrounding buildings. Another ecological landscaping improvement related to efficient water use could include more halophyte plants, a sea water system for watering, and other ecological water features (Figure 10.11).

Figure 10.11 Workers on the Corniche removing the sculpture of "The Headbutt" by artist Abed Abdessemed representing Zinedine Zidane and Marco Matterazzi during the 2006 World Cup. The statue was displaced to the Mathaf Museum of Modern Art due to protest by local residents. (Source: http://dohanews.co/qma-installs-five-meter-zidane-head-butt-statue-on/. Photo by Gazanfarulla Khan.)

A softer edge, which would include more accessibility to the water, an urban beach, as well as halophyte habitats and marine environments (e.g., mangroves), would contribute to improving the ecologies of the Corniche, including increased biodiversity (Figure 10.12). The Urban Beach proposed by Wilmotte Associés architects and graduate student Ahood Al Maimani,[40] as well as the mangrove parks designs by Martha Schwartz for the Corniche Competition, create an integrated urban edge and a more ecological interface (Figure 10.13). Schwartz's design for Abu Dhabi Corniche beach represents an interesting and relevant precedent, since it proposes the beach as an interface between the sea and the city. It would include marine transport nodes, shaded landscape vantage points, beachside plazas, and sports areas – all orchestrating a multiplicity of spaces, rooms and experiences, with spaces to picnic, sunbathe, play, and read while still being inside the city.[41] To complement professional design projects, students at Qatar University have also been designing Doha's Edge to include a maritime museum, ecological research centers, mangrove parks and nurseries, and a new urban beach – all integrated within a productive landscape for producing food for the city. The master plan by Wilmotte Associés includes an aquarium located off the Corniche and proposes a whole series of new marine related activities along the bay.

Figure 10.12 The Aquarium on the Corniche Promenade. Design by Wilmotte & Associés Architectes. (Courtesy of Wilmotte & Associés Architectes)

Figure 10.13 The Corniche – West Bay Beach with Pedestrian overpass. Proposal by Ahood AlMaimani, Student in the Masters Program in Urban Planning and Design, Qatar University. (Diagram by Anna Grichting and Ahood AlMaimani)

Although the original plan for the Corniche was as a "beautification project" for real estate development and investment, new public institutions, and cultural/leisure spaces for the new independent capital, it has evolved and expanded in significant ways. Indeed, the plethora of projects and visions for the Corniche underscores its continuing importance and its future role in providing integrated social spaces and increased ecological landscapes toward future urban developments that are oriented toward "deep livability." Its evolving importance is also strongly related to a healthy society. For example, the Dubai "Mega-Corniche" is presented by the ruler of Dubai as

a way to improve the quality of life for nationals, expatriates, and visitors by promoting a fit and healthy society, serving all sectors of the community, and representing a crucial contribution to public health and to developing social infrastructure in Dubai.

Today, with innovate ecological approaches to landscape design, and new imperatives promoting healthier lifestyle choices, landscape is no longer merely viewed as a beautification element. Through the lens of landscape urbanism, it is increasingly viewed as an important element of sustainability in a city, contributing to health, climate, and biodiversity, and to the social integration of its citizens. Demographic factors should also be considered. An inclusive society consisting of many different races with different languages, customs, traditions, and belief systems should make sure that all of these groups' unique characteristics are taken into account and are symbolically represented in urban design and buildings. Such considerations have been slow to emerge in current developmental plans in the Arab states, where a large percentage of migrants have lived for decades and whose needs have clearly not been addressed. Unless inclusive, sustainable development becomes a priority, social problems may emerge that will affect the future stability of these countries.[42] In fact, in considering the Qatar National Vision 2030 plan, social sustainability has been only minimally addressed in plans and strategies for the nation's future. With all the social unrest in the region, perhaps the more holistic and integrated ecological approaches of landscape urbanism will see the emergence of a future Corniche landscape that associates the sustainable "becoming" of the Qatari nation with the social "belonging" of all its inhabitants.

Notes

1 John Lockerbie, http://catnaps.org/islamic/planning.html.
2 Sharon Nagy, "Dressing Up Downtown. Urban Development and Government Public Image in Qatar," *City and Society* 21, no. 1 (2000): 142.
3 Urban green belts are considered the lungs of the cities as they act as a sink for some of the harmful gases released by vehicles and industries operating in the city area. http://edugreen.teri.res.in/explore/forestry/urban.htm
4 James Corner, "Ecology and Landscape as Agents of Creativity," in *Ecological Design and Planning*, ed. T. Steiner (New York: John Wiley & Sons Inc., 1997), 86.
5 John Clark, "Social Ecology Introduction," in *Environmental Philosophy: From Animal Rights to Radical Ecology*, ed. Michael E. Zimmerman, J. Baird Calliot, Karen J. Warren, Irene J. Klaver, and John Clark (Englewood Cliffs, NJ: Prentice Hall, 1993), 351.
6 James Corner, "Ecology and Landscape as Agents of Creativity," 86.
7 Rod Barnett, *Emergence in Landscape Architecture* (London: Routledge, 2013), 6.
8 Stuart Hall, "Cultural Identity and Diaspora," in *Identity: Community, Culture, Difference*, ed. Jonathan Rutherford (London: Lawrence & Wishart, 1990), 225.
9 Ashraf Salama and Florian Wiedmann, *Demystifying Doha: On Architecture and Urbanism in an Emerging City* (Surrey: Ashgate Publishing Ltd., 2013), 138.
10 Merriam-Webster's Collegiate Dictionary, 11th ed., s.v. "corniche."

11 Nagy, "Dressing Up Downtown," 141.
12 Gordon Robinson, http://www.lonelyplanet.com/kuwait/kuwait-city/sights/other/al-corniche#ixzz34pffniC9.
13 Brune Jatsch Partners, http://www.brunejatsch.com/projects/master_planning_abu_dhabi_corniche_beach.php#.
14 Martha Schwartz, http://www.marthaschwartz.com/projects/civic_institutional_adcb.php#.
15 Emirates News Agency, WAM, http://www.uaeinteract.com/docs/Mohammed_bin_Rashid_endorses_Jumeirah_Corniche_Development_Project/57901.htm.
16 Salama and Wiedmann, *Demystifying Doha*.
17 Anna Grichting, "Scales of Flows: Qatar and the Urban Legacies of Mega Events," *Archnet-IJAR* 7, no. 2 (July 2013): 188.
18 Sharon Nagy, "Making Room for Migrants, Making Sense of Difference: Spatial and Ideological Expressions of Social Diversity in Urban Qatar," *Urban Studies* 43, no. 1 (2006): 119–137.
19 Khaled Adham, "Rediscovering the Island: Doha's Urbanity from Pearls to Spectacle," in *The Evolving Arab City*, ed. Yasser Elsheshtawy (London: Routledge, 2008), 218–257.
20 Salama and Wiedmann, *Demystifying Doha*, 33.
21 Yasser Elsheshtawy, ed., *Planning Middle Eastern Cities. An Urban Kaleidoscope* (London: Routledge, 2004), 172.
22 Agatino Rizzo, "Metro Doha," *Cities* 31 (2013): 541.
23 Anna Grichting, "Scales of Flows: Qatar and the Urban Legacies of Mega Events," *Archnet-IJAR* 7, no. 2 (July 2013): 173–191, 188.
24 Qatar Living website, Posted by Climbhigh, http://www.qatarliving.com/qatar-living-lounge/posts/did-meteor-impact-form-doha-bay-corniche.
25 Nagy, "Dressing Up Downtown," 137.
26 The definition of corniche, a term taken from the French language, is "a road built along a coast or along the face of a cliff," and it is derived from the Latin word *corniche*, an architectural term that designates the top edge of a façade, where it meets the roof. It is widely used in the Mediterranean and the Middle East, where new maritime façades were designed in major coastal cities – often by French architects and urbanists – during or following French decolonization.
27 Qatari Diar Vinci Constructions, http://www.qdvc.com/en/?a=projects&action=view&id=16.
28 The seven architecture and landscape firms were Atelier Jean Nouvel, Kamel Louafi Landscape Architects, D Paysage Architects and Landscape Designers, Martha Schwartz Inc., Patrick Berger Architects, and Zaha Hadid Architects. See *Design Brief for Doha Corniche*. ArchNet: Islamic Architecture Community, http://archnet.org.
29 Wilmotte & Associés, http://www.wilmotte.com./en/project/400/Development-of-the-Corniche-of-Doha.
30 Ashghal president H.E. Eng. Nasser Bin Ali Al-Mawlawi.
31 Katherine Allen, "Calatrava's 'Sharq Crossing' Planned for Doha Skyline," *ArchDaily*, December 24, 2013, http://www.archdaily.com/?p=461793/calatrava-s-sharq-crossing-planned-for-doha-skyline.
32 Pradodesign.com blog, http://pradodesign2.wordpress.com/2013/12/24/calatravas-sharq-crossing-planned-for-doha-skyline/.
33 Allen, "Calatrava's 'Sharq Crossing' Planned for Doha Skyline."
34 Peter Kovessy, "Architect floats biodomes proposal for Doha Bay," *Doha News*, February 20, 2014, http://dohanews.co/architect-floats-biodomes-proposal-for-doha-bay/.
35 Alex Steffen, *Carbon Zero. Imagining Cities that Can Save the Planet*. Creative Commons, 2013.

36 Water taxis are also envisaged, and the FIFA 2022 mega-event will ensure that all these will be implemented in time for the World Cup in order to accommodate the millions of football fans and tourists.
36 Ministry of Municipality and Urban Planning (MMUP), QNMP (Qatar National Master Plan), Study Report, No. 1, Qatar, 2008, p. 13.
37 A. M. Salama, F. Khalfani and A. Al Maimani, "Experiential Assessment of Urban Open Spaces in Doha," *Open House International* 38, no. 2 (2013): 47–57.
38 The Al-Bidda Park, which is situated along Corniche Road, will not be considered here, as it is on the landward side of the major axis, and not physically connected with the waterfront promenade. (Nevertheless, it is recommended in the future that a series of urban and landscape interventions be implemented to better connect this park to the waterfront.)
39 I. M. Pei, http://www.peipartnership.com/wp-content/uploads/MIAP_panels_web.pdf.
40 Ahood Al Maimani, Project for Doha Corniche Regeneration for Design and Regeneration Course. Qatar University, http://blogs.qu.edu.qa/designregenerationqatar/regeneration-projects/retrofitting-of-west-bay/.
41 Martha Schwartz, Abu Dhabi Corniche Revitalization, http://www.marthaschwartz.com/projects/civic_institutional_adcb.php.
42 Ahmad Zohadi, "The Challenges of Sustainable Development Around the Persian Gulf," Special issue, *Urban Design in the Middle East* 124 (Autumn 2012): 12.

11 The sovereign global city

Omani post-traditional landscape urbanism

Hala F. Nassar and Robert Hewitt

Underlying assumptions of landscape creation in the Middle East for much more than a century have relied on the premise that much of the Middle East, including the Sultanate of Oman, has been influenced by Western design ideology, which accompanied the expansion of European trade in the early 19th century and reflected the conscious efforts by regional rulers and professionals to adopt Western design philosophy. These assumptions have been increasingly interpreted as implicit hypotheses of historical landscape globalization, often alluding to the adoption of European colonial planning and design philosophy throughout the Middle East in the 20th century as early effects of globalization that continue in contemporary landscape architecture to this day.[1] The extent to which this occurs as an essential process of modernization is supported by historians describing economic globalization as a component of internationalization originating in the Industrial Revolution.[2] This appears, however, to be a historically ancient process evidenced through the diffusion of culture, technique, and information well beyond national boundaries for millennia in all parts of the world, as well as associated with the spread of religion, military hegemony, agriculture, and technological innovation.[3]

Discourse relating both modernization and globalization processes to contemporary urbanization during the last several decades offers worthwhile insights into the broader context of this collection of chapters that addresses the role of urban landscape across the Middle East. While the published literature relating modernization and globalization to urbanization is extensive, several streams of discourse are relevant to both this broader context and to the narrower focus of this chapter: the contemporary urban landscape of Oman. Perhaps most prominent within these several streams of discourse are issues surrounding the emergence of new political space, political loyalties and governance, the relevance of traditional nation-states, nation-state transformation, and the role of sovereignty and cosmopolitanism within the ascending global order.[4] Foundations of the published discourse surrounding issues associated with social and cultural reflexive responses to globalization and modernization are particularly useful to understanding the kinds of countervailing influences shaping landscape change in the Middle East – and particularly those issues closely related to ecological modernization.[5] Because we are most intently interested in manifestations of these processes

and the resulting form and organization of landscape change in Oman and the region, we are equally interested in issues within the globalization discourse addressing cultural identity, cosmopolitan culture, the transformation of urban space, and placelessness.[6]

Manifestations of these processes are clearly differentiated across various nation-state contexts within the region. This differentiation is well recognized in the broader globalization discourse as multiple modernities, the notion that modernization conforms not to a singular, uniform trajectory, but to one from which others deviate or diverge. It is a notion suggesting that "tradition" and "modernity" are mutually supportive phenomena, facilitating variations in traditional forms and constellations of new institutions.[7] And it is especially useful in understanding an Omani globalizing landscape in consideration of traditional state typologies within the broader globalizing region – particularly those associated with "praetorian monarchies" (as in the case of Jordan), "monarchies of tribal conquest" (as in the case of Saudi Arabia), multiple monarchies (as in the case of the Gulf states), and "traditional" monarchies (as in the case of Oman).[8]

Describing the contemporary urban landscape of a country at the crossroads of ancient trading routes and the confluence of global seafaring routes during a period of systemic global change certainly presents an opportunity of sweeping scope and complexity. Such an endeavor also certainly rests on means of interpretation capable of integrating both continuity over very long periods of time and clarity over much shorter periods of examination. To these ends (and because more immediate concerns for compelling relevance grounded in Oman's immediate context have shaped our thinking about this extraordinary urban landscape), the concept of an analysis in contemplation of globalization processes offers great appeal. In the following chapter we approach these considerations through an examination of historical literature and a survey of relevant scholarly literature associated with landscape globalization and Omani regional urban and political contexts. To better contextually situate Omani landscape urbanism, we offer a reconsideration of Steinitz's overlapping scales of globalization, and suggest the use of graduated scales to differentiate the forms and structures of Muscat's extended landscape, the landscape of the Sultan Qaboos Grand Mosque, of Muscat's historic core and Mutrah, and the landscape of Muscat's global coastal venues. Among other things, the following analysis and elaborations of these scaled relationships, literature reviews, and descriptive narratives support the idea of a post-traditional Omani urban landscape unique among its neighboring monarchies – one that emphasizes both local and regional influences while balancing modernization in a globalizing region.

Omani post-traditional statism

To this point, Peterson offers valuable insights concerning the placement of the Omani monarchy in this context in his description of intersecting

Omani traditions and modernization processes as a form of post-traditional statism[9] – that is to say, a state that seeks modernization as a goal, but continues to insist on traditional political values and structures associated with premodern states, can be viewed in this light. Omani enunciation of this "post-traditional condition" is evident in the current Sultan's 2020 Vision for Oman, suggesting a kind of modernization for Oman based on the adoption of creative ideas from throughout the world, capable of maintaining harmony between development and tradition.[10]

A contemporary contextual narrative of Omani post-traditionalism would certainly describe its origins in modern-era globalization processes dating to early 16th-century Portuguese occupation. Facilitated by a resurgent cultural renaissance in the mid-17th century and by the subsequent expulsion of the Portuguese, Omani global trade extended through the Western Indian Ocean through the 18th century. Muscat's strategic importance as an entrepôt in global trade expanded and supported the emergence of the Al Bu Sa'id dynasty with the British acquisition of India following the Seven Years' War (1756–1763). This co-operation between Muscat and London strengthened well into the 19th century with a series of international agreements facilitating mutual economic prosperity based on global trade and security.

At the end of Sultan Seyyid Sa'id's reign in 1856, the governance of Omani global territory was effectively divided between Zanzibar and Muscat, diminishing Muscat's trading relationships with Britain. Oman's role in trade and its participation in ongoing processes of modernization diminished throughout the 20th century until the 1970s as a result of internal political policies, economic crisis, and civil wars. This process of increasing international isolation was reversed in 1970 with the ascendance of Sultan Qaboos and the current period of Omani modernization featuring economic reforms and the establishment of modern health, education, and welfare systems.[11]

Omani post-traditionalism and its globalizing regional context

Correlations between Omani post-traditionalism and its regional contexts are clearly evident in a more detailed elaboration of contemporary Omani statism. For example, Peterson characterizes Omani post-traditionalism in terms of specific elements: (1) an underlying state identification with benevolent monarchies; (2) the personification of state sovereignty through named support of extensive developments including ports, infrastructure, housing projects, sports complexes, and mosques; (3) the role of the state as principal public employer, definer of propriety, and arbiter of Omani cultural, social, and political values; (4) the state creation of socioeconomic infrastructure, raising the standard of living, improving the status of women, and gradually improving private sector and private interests; (5) the recent

codification of the state responsibilities; and (6) state acceptance of complementary tribal, regional, and communal identities.[12] These underlying characteristics of post-traditional statism can be seen as clear evidence of Omani reactive responses to globalization processes, as well as its attempt to reverse the negative aspects of globalization under a rubric of reflexive modernization.[13] The extent to which these reactive responses are used to legitimize a benevolent Omani state, in turn, surely speaks to the role that post-traditionalism serves to balance Oman's deglobalization objectives, especially related to landscape development as part of its modernization efforts.

Measures addressing the scope and scale of Omani globalization are clearly evident in the concept of the "global city."[14] And as one might expect, the effects of a post-traditional globalization reflected in Omani urban landscape might be better understood through comparisons with global city urban landscapes of certain other regional cities – specifically those of its surrounding monarchies in Riyadh, Saudi Arabia; Amman, Jordan; Doha, Qatar; and Abu Dhabi, United Arab Emirates. Comparisons between the urban landscapes of these monarchies are possible through a review of several reputable global city indexes, including the Globalization and World Cities Research Network Inventory (*GaWC*),[15] the Global Cities Index (*Foreign Policy Journal*),[16] and the Global Cities Competitive Index (the *Economist*).[17] These indexes identify comparative rankings of global cities based on their global influence, global integration, advanced service sectors, and their ability to attract capital, international businesses, and tourism. By inference, these indexes suggest the value of a broader comparative context for understanding Omani post-traditional urban landscape within the region.

In combination and individually, the GaWC, the Global Cities Index, and the Global Cities Competitive Index suggest similar global city groupings among Riyadh, Doha, and Abu Dhabi. Their rankings correspond with second- and third-quartile rankings among other global cities, such as Seattle, Rio de Janeiro, Vancouver, Manila, and Karachi. Amman ranks within second- to third-quartile cities in the GaWC index along with Doha, Riyadh, Abu Dhabi, and Muscat; however, its ranking among the other indexes suggests lesser degrees of globalization. In comparison, neighboring Dubai is ranked among the first quartile of global cities, including Amsterdam, Montreal, Buenos Aires, and San Francisco. Oman's capital city, Muscat, ranges among the third quartile of global cities in both the GaWC and the Global Cities Competitive Index, but is not ranked within the Global Cities Index, which suggests a scope and scale of globalization greater than Amman, but less than Riyadh, Doha, and Abu Dhabi. These global city rankings are, however, perhaps more useful when combined with more detailed descriptions of the cities' historical urban development, as well as characterizations of their respective responses to globalization and deglobalization.

Comparing the regional global city landscapes

Contemplating the development of more detailed descriptions in a region especially thick in descriptors, with the capacity to both differentiate and correlate relevant urban features associated with globalization and deglobalization, necessarily depends upon analytical criteria identifying its most cogent indicators. Such an endeavor certainly rests on identifying significant periods of the cities' urban landscape change related to modernization, globalization, and the formation of the region's sovereign states, as well as characteristics associated with regional economic development, such as energy sector growth, trade, finance, education, real estate, and tourism. In further differentiating the urban landscapes of Riyadh, Doha, Abu Dhabi, and Amman, we also clearly contemplate their historic urban fabric, types and scales of urban change, infrastructure, and unique phenomena associated with their distinct urban identities. It is also imperative to consider their reflexive responses to globalization, and particularly their individual relationship to broader global processes.

Inferences of globalization manifested in the urban landscapes of the region are evident in Riyadh as early as the first half of the 20th century. The development of Riyadh, for example, illustrates some of the earliest efforts in regional modernization through Aramco projects after the kingdom's unification in 1934. Subsequent planned urban expansions in Riyadh from 1944–1960 supported automobile-oriented traditional housing districts in grids, the relocation of government agencies from other cities, the establishment of a national university, and a growing sense that Riyadh was becoming increasingly divided between internationally influenced contemporary areas and more traditional districts.

Inferences of globalization and reactive responses to globalization (i.e., deglobalization) in the urban landscapes of the region are more broadly evident among most of the four cities in the second half of the 20th century and particularly through the early 21st century. In Riyadh, increasing public concern that Western-built forms degraded traditional values and diminished traditional identities prompted the development of a new traditionalism in Riyadh's urban landscape; in fact, by the 1980s Riyadh was considered among the most active Arab cities in developing regional design vocabularies and reviving traditional architecture. Large urban projects to revive its historic urban core were developed in the neo-traditional style – namely, as contemporary mixes of Islamic principles and values, of Saudi societal values, and of modern technology.

During the last several decades, Riyadh has embarked on global-scale urban development projects, including the King Abdullah Financial District, envisioned as a regional and international financial center identified with symbols of an architectural global presence, including the Alfaysaliyyah Tower and the Al Rahji Tower. Current planning ideology suggests that contemporary Riyadhi is interested in the creation of a global

identity associated with technologically advanced economic development and neo-modern urbanism – all the while tempered with great caution concerning the adoption of global cosmopolitan culture in a very conservative global capital city.[18]

Comparable measures applicable to the scope and scale of Riyadhi's globalization are clearly offered in the globalization literature addressing modern vernaculars. For example, a critique of the vernacular as a form of resistance to modernization might suggest an interdependence of the vernacular, globalization, and the regional in Riyadh's urban landscape, arguing against the idea of stable identities, and conceptually consistent with the concept of multiple modernizations.[19] The idea that Riyadh can envision leadership in developing regional design vocabularies, reviving traditional architecture, and adopting the urban settings and imagery of a global city, speaks to key principles of the modern vernacular: (1) that globalization can be understood as both benefit and a threat; and (2) that in global markets cultural distinctness is an asset.

In contrast with Riyadh, while Qatar was effectively established as an independent sheikdom shortly before the opening of the Suez Canal in 1867, a long-standing pearling industry shaped Doha's socioeconomic structuring until the vast reduction in trade accompanying Indian independence in 1947. As the pearling industry declined, relatively unplanned Doha development followed nascent energy sector growth evidenced by new housing, infrastructure, hospitals, schools, hotels, and apartments for the rapidly expanding Qatari and expatriate populations. Inferences of globalization increased dramatically with Qatar's independence in 1972. Doha's first urban plan fostered urban redevelopment within its historic core, incorporating commercial, government office, residential high-rise, and new road infrastructure. The 1974 redevelopment of Doha Bay, its new Corniche, and corresponding concentric ring roads transformed Doha into a modernizing regional center as the city accommodated urban growth with the expansion of Qatar's energy sector development. Doha's desire to become part of a newly ascendant global system politically, culturally, and economically has been evident in its urban landscape since the ascendance of its new Emir in 1995 – particularly in its explosive urban growth, proliferation of corporate towers, extensive malls, gated communities, iconic museums and cultural facilities, stadia, and peripheral island development. Familiar signs of globalizing urban landscape are evident in Doha's culturally oriented tourism, its lifestyle and entertainment destinations, and the development of its global sports venues.[20]

As with Riyadh, comparable measures of Doha's expanding urban landscape are available in the globalization literature addressing phenomenology, place, natural resource conservation, landscape imagery, and cultural identity.[21] Speaking to issues of landscape globalization and the origins of energy landscapes, a critique of globalizing entertainment, shopping, financial, and recreational landscapes, which are comparable with those of

Doha, might suggest an underlying reliance on branded landscape imagery supporting globalized resource-consumptive and touristic environments.[22] This critique suggests a sense of placelessness originating from perceived differences between branded landscape imagery, simulated landscape experience, and the natural resource landscapes that support their development. In the sense that Doha represents a much more assertive blend of contemporary globalizing urban landscapes, energy-producing economics, and the kind of cosmopolitan mega-development upon which globalizing landscape is created, the scope and scale of Doha's globalization offer clear contrasts to Riyadh's vernacular modernism, and ultimately to an Omani post-traditional urban landscape.

Among the other regional capital cities, Abu Dhabi's urban development began without the presence of a real historic center or substantial historic merchant sector. Inferences of globalization appear with Abu Dhabi's early energy production in the 1960s and increased after independence in 1971. Expressions of modern urban development since independence can be observed in its relatively uniform central core, wide gridded street networks, stereotypical building forms (averaging twenty stories on block peripheries), and segregated-use commercial areas along major roadways and in distinct districts. While it is well recognized that Abu Dhabi's symbiotic relationship with Dubai has supported globalizing economic and real estate development strategies, Abu Dhabi historically has appeared more reluctant to engage as fully with globalization. Inferences of deglobalization have accompanied several large-scale projects, such as the Palace Hotel and the Grand Mosque, intended in part to differentiate Abu Dhabi from Dubai through the architectural imagery of an Islamic Renaissance.

Approaching its current context, since the death of Sheikh Zayed in 2004, Abu Dhabi has begun more nuanced approaches to development, balancing assertive globalization with the cultivation of unique cultural and environmental identities perhaps more associated with deglobalization and reflexive modernization. Assertive symbols of Abu Dhabi's globalization include mega-projects like Norman Foster's scheme for central Abu Dhabi with hotels, shops, restaurants, a souk, and signature towers akin to those in Dubai, like its new Corniche, and plans for new residential districts, for cosmopolitan tourist venues, malls, town-sized commercial and industrial development, and for the development of peripheral island destinations and a new airport. Perhaps most indicative of Abu Dhabi's recent nuanced references to deglobalization is its stated intent to encourage contemporary expressions of Arab urbanism, its desire to promote measured growth, a sustainable economy, and respect for its coastal and desert ecologies. Indicative of what might be described as this more nuanced approach to landscape globalization, Abu Dhabi's master plan for Saadiyat Island emphasizes environmentally sensitive global tourist destinations and a unique combination of culturally branded destinations associated with international museums and performing arts institutions by globally recognized architects.[23]

In comparison with Riyadh and Doha, Abu Dhabi's urban landscapes might be perceived as better aligned with globalization literature related to ecological modernization. For example, our previously published examinations of political organizations, markets, and culture in landscape modernization processes have emphasized the reversals of the negative aspects of landscape in favor of more inclusive and sustainable societies, as well as reverse environmental damage.[24] In the case of Abu Dhabi, such a reading is indeed plausible, suggesting an intent to place itself more reflexively within the global system, and in that sense align itself more closely with deglobalization processes, creating urban landscapes reflecting the ambiguities of a nuanced globalization, which are clearly more assertive than Riyadh, but less so than those of Doha.

Unique among the regional global cities, Amman has been described – and certainly unfairly until the mid-20th century – as lacking a historic urban identity, despite broader Jordanian identification with ancient Nabattean civilization,[25] its rich tribal heritage, and an extraordinary demographic history of migrations from the Caucasus in the 19th century by Syrian, Palestinian, and Lebanese merchants, to more recent diasporas from Palestine, Lebanon, Iraq, Kuwait, and Syria. Unlike the other cities, Amman has not, however, benefited to any comparable degree from the development of a significant Jordanian energy sector. Defined more by waves of migration and settlement, many of the city's districts have suffered from various degrees of demolition as part of Amman's modernization processes. Threats of its continuing redevelopment have supported periodic heritage management and public space initiatives to protect Amman's distinct urban attributes in places like Faisal Street, its period residential districts, and its pedestrian passages to the surrounding hills. During the 1990s, Amman's shopping malls were promoted with enforced exclusivity and privatized public space, introduced as "urban island planning areas," to a large degree ignoring their surrounding contexts. This process of what Sassen describes as "the quartering of urban space" clearly references globalization efforts in Amman focused on a continuing accommodation to ascendant generic lifestyle spaces, catering to global consumer markets, with branding targeting concomitant elites and an increasingly upper-middle class identity.[26]

The extension of globalization discourse to issues associated with urban concentrations of economy, to continually changing urban cultural contexts, to social dislocation, placelessness, and spatial segregation seems especially relevant to the case of Amman.[27] In some sense, the juxtaposition of Amman's historic multiethnic heterogeneity with its desire to cultivate globally competitive business climates, cosmopolitan financial entrepôts, and lifestyle tourist attractions, speaks to its status as a "globalizing landscape" in search of new waves of cosmopolitan immigrants. While clearly on the periphery of globalization in comparison with the energy-rich global cities of the region – and surely more dependent upon attracting flows of international capital to its internal districts – Amman's globalizing urban

landscapes necessarily speak more to a presence founded on past modernization efforts, a continuing restructuring of its historic districts through redevelopment, and what might be described as shifting place identities.

Assessing regional global cities and urban landscape in context

In assessing these regional urban landscapes, the beauty of the two methods elaborated upon earlier (ranked compilations of three global city indexes and the differentiated criteria assessment of the urban landscapes of Riyadh, Doha, Abu Dhabi, and Amman in broader regional context) rests in their combination. To great benefit, Steinitz's work is particularly useful in differentiating the effects of these measures of globalization at overlapping global, regional, and local scales, offering interpretive conclusions, for example, which suggest that an expanding global influence in conjunction with contracting regional/local influences might multiply the negative effects of globalization.[28] The accompanying graph illustrates the two combined methods expressed in terms of their scaled global relationships (Figure 11.1).

Consistent with these two methods, the graph illustrates what might be described as the relative global context of the four regional cities, with Doha's cosmopolitan mega-development identified as perhaps most aligned with the chart's globalization indicators, followed by Abu Dhabi's nuanced globalization and Riyadh's vernacular modernism, what we are suggesting

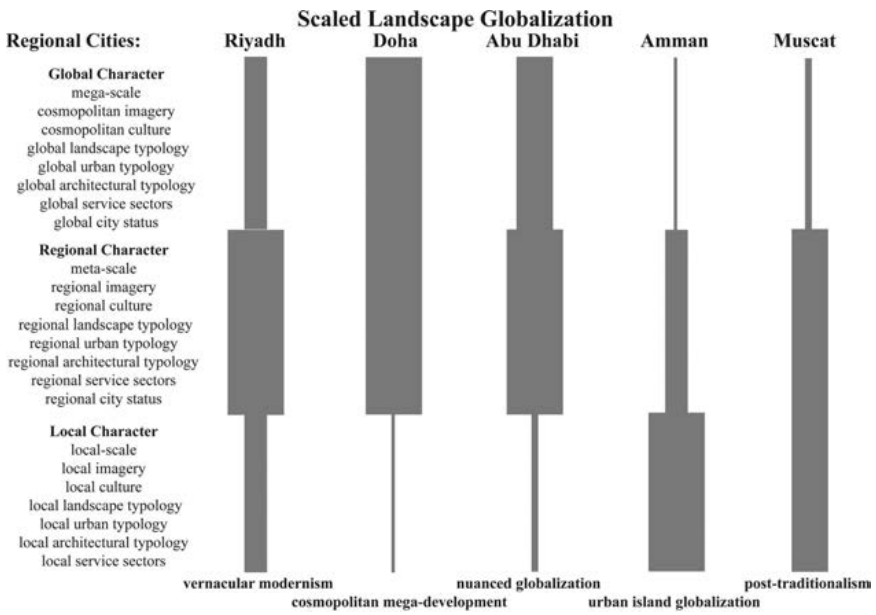


Figure 11.1 Scaled diagram of regional cities illustrating global, regional, and local character. (Diagram by Robert Hewitt.)

is an expression of Muscat's post-traditional globalization, and with what might be described as least aligned with the chart's globalization indicators – Amman's urban-island phenomena. Conversely, the graph illustrates the relative regional and local expressions of the cities' urban landscapes – for example, placing the relative strength of Amman's local historic urban landscape and its intertwined regional origins in a more prominent position within the larger context of globalization, suggesting an inherently deglobalizing condition despite the city's efforts to join the new global system. Similarly, the graph illustrates the relatively prominent strengths of Doha's and Abu Dhabi's global and regional influences; Riyadh's inherent regionalism balancing globalization with its emphasis on the local; and finally what tentatively appears to be an Omani post-traditional urban landscape, placing somewhat equivalent regional and local emphases in balance with a contextually modest globalization.

Given this tentative post-traditional status and its regional context, an extrapolation of the foregoing approach to more carefully differentiate contemporary Omani landscape seems clearly reinforced by a more specific review of the landscape globalization discourse, which is broadly related to ecological sociology, environmental justice, and globalization.[29] Emphasizing democratic processes, for example, suggests multiple avenues of stewardship, incorporating democratic participatory processes to redress the effects of globalization-influenced climate change, economic exploitation, loss of culture, degraded biological diversity, social division, and loss of community. This approach is equally relevant in assessing democratic and participatory societies within political cultures originating outside Western liberal traditions, including those in the broader Middle East and Oman.

More careful consideration must certainly extend to landscapes within the urban fringe, including their formulaic environmental mitigations around infrastructure, abandoned agricultural landscapes, and environments that are increasingly vulnerable to climate change.[30] These considerations should also clearly include the phenomenological contexts of a globalizing landscape, referencing culturally transformative digital media, increasingly homogenous touristic space, globalizing consumer markets,[31] and places for reflective landscape experience to counteract the effects of globalization.[32]

Specific streams of thought in the landscape globalization discourse associated with private capital and landscape change should also certainly be contemplated in any careful examination. Relevant aspects of this discourse identify three useful areas of landscape assessment: (1) global risk management and innovation; (2) "glocal" aggregated change related to international tourism, loss of local identity, political devolution, and socioenvironmental distress; and (3) land use/cover change from greenhouse warming.[33] Further assessment should also bear some relation to the economic and geographic processes influencing distinct urban spatial organizations,[34] particularly the transformation of landscapes associated with internationally distributed organizations, global supply chains, and commercial functions related to consumption and disposal.[35]

Seven topics within this discourse are perhaps more relevant to a careful reading of Muscat's urban landscape: (1) Sassen and Castells's notions of distinct urban spatial organizations; (2) Waldheim, Berger, and Sarlöv-Herlin's work on landscape infrastructure and planning; (3) our work on political organizations, markets, culture, and deglobalizing landscape typologies; (4) Tzonis, Lefaivre, and Frampton's examinations of architecture and critical regionalism; (5) Appadurai and Featherstone's work on culture, cultural imagery, identity, cosmopolitan culture, the transformation of urban space, and placelessness; (6) Thayer's and Hester's work on landscape imagery and touristic environments; and (7) Wescoat and Bowring's work on tourism, the loss of local identity, the homogenization of touristic space, and the globalization of consumer markets.[36]

While we recognize that the use of this assemblage in concert with global cities indexes and comparative descriptions of regional capital cities may on its face seem complex, we believe it necessarily addresses the complexity of this discussion. The following detailed readings of Muscat's urban landscape and references to its significant related themes in the globalization discourse anticipate a scaled reading of Muscat's urban landscape and concluding remarks capable of comparison with its global urban counterparts.

Muscat's broader landscape

In their assessment of Muscat's urban strategies during the last several decades, Amrousi and Biln identify three basic areas of development: Muscat's historic core, the Grand Mosque of Sultan Qaboos, and the city's coastal touristic enclaves.[37] While these three areas clearly represent principal components of Muscat's globalizing urban landscape, the form and structure of the city's extended landscape serves as both broader environmental context and source landscape infrastructure of Muscat's post-traditional development. In comparison with even the largest of Muscat's proposed mega-projects, the scope and scale of its broader urban landscape is challenged only by the imagery and experience of its surrounding coastlines, volcanic and plutonic mountains, and its coastal plains scattered with remnant wadis and agricultural districts.

Extensive engineered infrastructure projects over the last four decades have served Muscat's sprawling urban fabric, occupying large areas of the coastal plain, spreading along the coast primarily in the direction of the UAE from its historic core. Like many newer automobile-oriented cities, Muscat's urban fabric follows primary transportation corridors – in this case running in parallel corridors between the coast and surrounding mountains. In many places throughout the city, the scale of these transportation corridors (often lined and subdivided with lush contemporary Mediterranean-style parkway landscape) dwarfs or otherwise obscures the surrounding urban fabric (Figure 11.2).

These transit corridors surrounding the city fabric often contain significant voids of remnant wadis, hills, dunes, and undeveloped parcels. In contrast, urban Muscat is comprised predominantly of low-rise villas, multifamily housing types of one to four stories, commercial shopping malls,

Figure 11.2 Dominant low-rise, whitewashed architecture of Muscat's urban fabric. (Photo by Robert Hewitt.)

and mixed-use buildings up to twelve stories, often clustered around primary and secondary transit corridors. Much of this urban fabric recognizes, in varying degrees, neo-Arabian architecture employing Arab/Omani and Islamic architectural styles using modern materials.

Architecturally significant buildings, parks, and engineered infrastructure – often monumental in scale and associated with the patronage of the Omani state – assume visually prominent positions along Muscat's primary transportation corridor: Sultan Qaboos Street. These include Sultan Qaboos University, Muscat International Airport, the As-Sahwah Public Garden, the Sultan Qaboos Grand Mosque, the Royal Hospital, the As Sultan Qaboos Sports Complex, the Royal Opera House, and Al Qurum Park. Visually prominent global tourist destinations also line prominent portions of the coastal corridor dedicated to the birthday of Sultan Qaboos, running between Mutrah and the International Airport; these include the Wave, the Almouj Golf Course, the Chedi Muscat, the Grand Hyatt Muscat, the Inter-Continental Muscat, and Muscat's diplomatic and embassy quarters.

Perhaps most relevant to an understanding of Muscat's urban landscape is the juxtaposition between its broader landscape, its coastal global destination venues, and the prominent state buildings sited along interior transportation corridors – on its own merits, representing a formal basis for interpreting

Omani post-traditionalism, and balancing landscape globalization and deglobalization. The pervasive nature of this juxtaposition is evident in its replications at smaller scales, specifically in the Sultan Qaboos Grand Mosque, Mutrah and Muscat's historic core, Muscat's global coastal destinations, and in site-specific characteristics of these smaller scale replications. Juxtapositions such as these are fundamental to prominent arguments within the globalization discourse associated with critical regionalism, authenticity and place, globalizing consumer markets, and the technological imperatives of globalization.[38]

Manifestations of these juxtapositions position the state as an interlocutor between Omani values and global landscape values related to the built environment and landscape experience, global consumer imagery, and the speed of technological integration supporting landscape globalization. These are evident in the neo-Arabian monumental state buildings expressing preferred sovereign urban imagery (Figure 11.3), and in the Sultan Qaboos Grand Mosque complex, symbolically representing official Omani cultural, religious, social, and political values expressed through traditional and universal aesthetics. It is also evident in the juxtaposition between its proposed coastal mega-projects on the city's periphery (including the Blue City and the Al-Salam Yiti Development), its coastal global destination projects (including the Barr al Jissah Resort, Chedi Muscat Resort, the Wave and

Figure 11.3 Prominent "neo-Arabian" architectural style juxtaposed against the Al-Jalali Fort. (Photo by Robert Hewitt.)

adjacent Almouj Golf Course, and the proposed Mutrah Harbor redevelopment), and the state's height, density, and zoning controls, which protect the experiential quality and visual significance of the broader Omani landscape and the urban landscape in particular.

The Sultan Qaboos Grand Mosque

The Sultan Qaboos Grand Mosque was commissioned by Sultan Qaboos bin Said in 1992 as the largest central place of worship for the Sultanate; it also serves as a center for education related to Islam as a religion, to science, civilization, literature, and culture. Financed with the Sultan's personal funds, the Diwan of the Royal Court sponsored an international design competition, inviting nine international firms to participate and submit design proposals. Mohammed Saleh Makiya (an Iraqi architect and urban planner) with Quad Design (based in London and Muscat) authored the winning design. The construction of the $160 million complex began in 1995, and the building was inaugurated in March 2001.

The site, located in Muscat's Bawshar district, extends approximately one kilometer along Sultan Qaboos Street and is 885 meters wide from north to south (Figure 11.4). The developed part of the site, including the mosque,

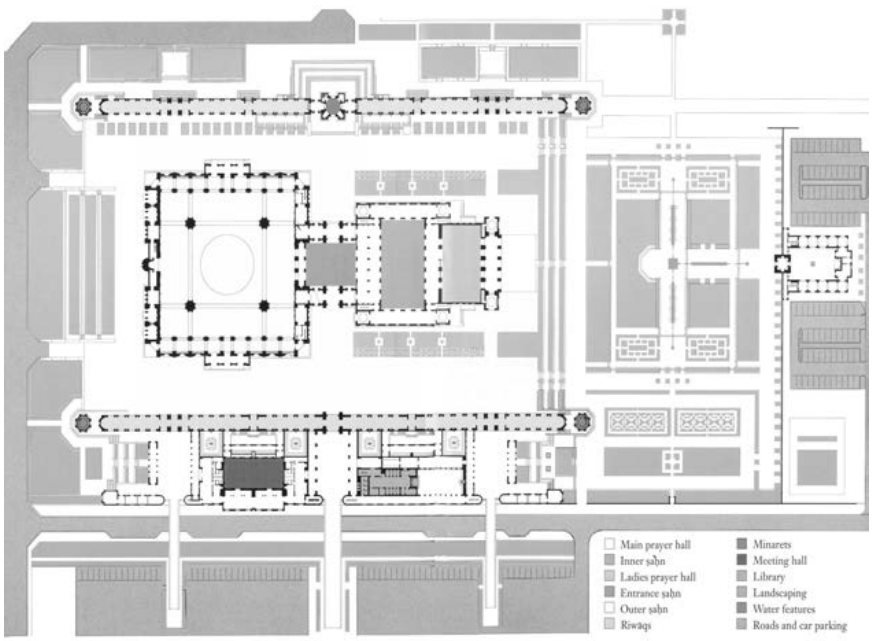


Figure 11.4 Master plan of the Sultan Qaboos Grand Mosque and its landscape. (Courtesy of Mohamad Makiya Archive, Aga Khan Documentation Center at MIT.)

gardens, and landscape, covers 416,000 square meters. The mosque building complex is constructed on a raised podium, in keeping with Omani mosque tradition, and covers a built area of 40,000 square meters.[39] Site-specific characteristics related to Omani "post-traditional" statism find form and expression in the mosque's landscape through symbols of both universal aesthetics and Omani landscape precedent. While only fragments of a historic landscape remain in Oman, Omani landscape traditions are perhaps best found in its courtyard houses, estate gardens, and orchards. Smith, in his description of traditional Omani designed landscapes, defines significant emblematic features found in the 19th-century Omani gardens and estates, specifically at Bayt Peyton, Bayt Nadir, Bayt Sa'id Shehab, and Bayt Sayyida Almoozna.[40]

In these landscapes, whitewashed exterior walls surround courtyard gardens with fountains and raised planters, creating internal privacy and comfortable micro-climates in settings reminiscent of the Paradise Garden. Central to the existence of these gardens and the often extensive agricultural lands surrounding them was the availability of reliable water distribution for irrigation, predominantly in the form of *afalaj* – Omani water-channel systems devised to tap natural sources of water for transport. Smith includes examples of large-scale orchards associated with historic Omani estates, including the plantations at Na'man on the Batinah Coast, the palace of Imam Bilarab bin Sultan Al-Ya'aribi at Jabrin, and the estate of Masjid al-Luqta located at the northern edge of Hajar Bowl. In these estates, intricate *afalaj* systems supported date and coconut palm orchards, incorporating channels, pools, and occasionally small aqueducts to sustain extensive gridded orchards and their under-plantings, including a wide variety of fruit trees and produce. Smith describes the visual and sensory qualities of these orchards:

> The irrigated gardens that join the groves are a refreshing sight for travelers from sandy waste, which form the greater part of Oman, and for a time they are intoxicated with the fragrance of the fruits and flowers. The whole air is filled with the weird musical creakings that come from the wooden rollers at the well-heads, where water is raised in a skin and poured into the [falaj] channels that run around the gardens.[41]

Smith's descriptions of the Masjid al-Luqta estate and the hidden garden at al-Bustan offer perhaps the most definitive Omani landscape precedents for the Grand Mosque's forecourt, building complex, and surrounding grounds. The al-Luqta estate, also known as al-Khadra, was laid out in two distinct sections: (1) a regular-gridded orchard with planting basins; and (2) a building complex, which included mosque, madrasa, courtyard, and ornamental pool. The hidden garden at al-Bustan was organized according to formal characteristics of a *chahar bagh* (Figure 11.5). Its quadripartite subdivision was formed by two intersecting runs of *falaj*, which like those of the Grand Mosque's water feature are laid out on a north-south axis with rectangular basins on the main channel.[42]

Figure 11.5 Islamic garden style reminiscent of the paradise garden leading to the entrance of the Grand Sultan Qaboos Mosque. (Photo by Hala Nassar.)

The main approach to the predominantly white Sultan Qaboos Grand Mosque complex is from the south. Like the traditional Omani estate landscape, the mosque site is walled with an arrival area to the site within. Three passageways lead to an expansive landscape surrounding an Islamic Paradise Garden designed as entry forecourt to the Grand Mosque, and serving as a transitional, reflective, and meditative space for spiritual preparation before entering the Grand Mosque and Prayer Hall. Like the hidden garden at al-Bustan, water channels intersect at the center of the garden representing four rivers of paradise: rivers of honey, milk, wine, and purified water. Just as in historic Omani gardens, characteristics displayed in the mosque's forecourt reference verses in the Qur'an and Hadith describing features of paradise gardens, including water pools and runnels, and expansive shade trees.[43]

Walkways constructed of polished white or various sand-toned granite and marble, which are placed in decorative geometric and floral patterns, border planting beds and form the largest part of the forecourt garden and significant pieces of the building complex (Figure 11.6). Like the walkways, its bordering plantings often reflect geometric forms, and at times resemble the raised planting areas of historic Omani gardens. Like historic Omani estate orchards, mosque planting areas incorporating trees often include

Figure 11.6 Marble walkways and traditional planting design reflecting historic Omani gardens. (Photo by Robert Hewitt.)

extensive under-plantings. Like historic Omani estates, large portions of the mosque site are devoted to orchards organized in the form of regular grids and rows with irrigation basins, to the extent that the mosque complex appears surrounded by irrigated orchards.

Site-specific juxtapositions such as these are echoed in prominent arguments within the globalization discourse related to critical regionalism, cultural identity, authenticity, and place, and to the integration of universal aesthetics.[44] As with the larger landscape, manifestations of these site-specific juxtapositions intentionally recognize the state as interlocutor between Omani values and global landscape values. As such, the Grand Mosque's use of nonvernacular architectural forms is associated more with Ottoman mosque architecture than with the traditional Ibadi mosque architecture of Oman. Moreover, the rejection of more comprehensive native plant palettes in favor of global plant palettes, which represent the universal aspects and global reach of Islam, stand in juxtaposition with the Grand Mosque's landscape organization, which references Omani estate and garden traditions under the auspices of Sultan Qaboos. As perhaps the most significant religious cultural symbol in Muscat, the Grand Mosque landscape complements the wide range of political, cultural, and public monumental state buildings and landscapes sited along Muscat's interior

transportation corridors, embodying the range, scope, and scale of Omani sovereign urban imagery and suggesting the importance of site-specific landscape to the state's post-traditional image of urban landscape.

Muscat's historic core and Mutrah

Like the Grand Mosque and the broader Muscat landscape, site characteristics related to Omani globalization, deglobalization, and post-traditional statism find expression in Muscat's historic core, including Mutrah, its traditional port. Restoration strategies for Muscat's historic core in the late 20th century envisioned the demolition of portions of the city's existing adobe vernacular fabric and its replacement with a monumental government quarter comprised of neo-Arabian/Omani-style state buildings, organized around a large plaza and boulevard fronting the Palace of Sultan Qaboos. This new urban political center, designed and developed to project state identification with Omani cultural heritage, was intended to serve as a significant component of a larger cultural district that would transform the historic core into an urban museum. Official museums displaying local culture repurposed from 19th-century buildings (previously used as foreign consulates and diplomatic residences) were intended to contribute to district identity as a cultural expression of Arab/Islamic/Omani values.

Located a short distance from the new cultural-political district, historic Mutrah served as Muscat's traditional port and commercial trading district, as its principal bazaar, and as the residential setting for its traditional Hydrabadi merchants. Frontage merchant buildings and the principal mosque were restored with the development of Mutrah's Corniche in the 1980s. As part of this effort, Mutrah's interior al-Lawatiya quarter was restored to separate it from newly created tourist spaces and to encourage the return of the quarter's original families. Since the 1990s, Mutrah's new developments have made greater efforts to express Arab/Omani and Islamic architectural styles using modern materials. Mutrah's most recent redevelopment master plan extends its planning areas to district peripheries, providing needed infrastructure retrofits and utilities, improved road networks, and expanded development of public space. The goal of the plan is to promote environmental improvement, sustainability, cultural heritage preservation, and tourism development – while maintaining the district's dense urban fabric and narrow street network, conserving its open space, improving the livability of its street networks and public space, providing a mix of housing, and protecting the natural environment.[45]

While clearly much smaller in scale than Muscat's extended urban fabric, Mutrah and Muscat's historic cores still broadly juxtapose coastal global tourist destinations with prominent state-supported buildings along their primary transportation corridor located between its coasts and surrounding mountains. These prominent monumental state buildings similarly personify sovereign neo-Arabian urban imagery, as do prominent landscape features

in the Sultan's palace complex and the siting of the Sultan's monumental yacht in Mutrah Harbor along the district's primary transportation spine. Characteristics of globalization and deglobalization finding expression in Mutrah and Muscat's historic core are referenced in the globalization discourse more specifically related to critical regionalism, identity, authenticity and place, globalizing consumer markets, and context sensitive design.[46] The scope, scale, and grain of the Mutrah and the historic core offer an important context for local and regional expressions of urban landscape compared to Muscat's coastal global venues.

The coastal global venues

Landscape references to Omani globalization are perhaps most evident in Muscat's planned coastal mega-projects and coastal global tourist destinations. Two new planned satellite communities illustrate two poles of Muscat's broader globalization strategies intended to attract global investment, advanced service sector economies, global real estate development, and a highly educated mobile workforce. Norman Foster's Blue City on Muscat's northern peripheral coast is global in scale, and could accommodate up to 200,000 new residents and tourists if built as planned. It would provide educational facilities, business centers, police stations, post offices, electricity and water departments, housing and transportation centers for its inhabitants and tourists – all largely in conformance with the scale and grain of Muscat's "neo-Arabian" architectural character. The mega-development's entertainment destinations, sports venues, globally competitive education districts, green infrastructure, resorts, branded commercial areas, and open space are intended to promote lifestyle destination tourism within an apparently authentic urban cultural landscape. The extent to which the development projects an image of Omani cultural authenticity and local heritage is evident in: (1) the incorporation of a renovated existing fishing village within its boundaries; and (2) its use of neo-Arabian/Omani architectural vocabulary consistent with Muscat's other coastal global venues, such as the Al-Bustan Intercontinental Hotel, Barr al Jissah, Chedi Muscat, and the Wave (Figure 11.7).

The proposed Al-Salam Yiti project on the southern peripheral coast of Muscat serves similar rationales for Omani globalization. The project provides forms of global, culturally oriented, lifestyle destination tourism in culturally authentic settings. Beach, marina, golf, nature, and health spa settings are branded to appeal particularly to investors and potential second-home residents. The mega-project, if built as planned, would include more than 2,000 residential units in three lifestyle branded communities with five-star hotel/resorts and global shopping destinations, serving international and regional tourists. The project's coastal location and project identity promote branding of native marine species and regional ecology through a Marine Life/Eco Center.

Figure 11.7 Street view from the mega-development, the Wave, which includes residential areas, hotel, commercial areas, marina, golf course, and beaches. (Photo by Robert Hewitt.)

The idea that a post-traditional Omani state can develop a kind of modernization based on the adoption of global concepts, capable of maintaining harmony between development and tradition, is particularly evident in these coastal global landscapes used to anchor opposite sides of Muscat's extended urban fabric. In some sense their juxtaposition on the coastal periphery of Muscat serves as city boundary, much like Muscat's coast and its interior mountains. In a broader sense, the two planned mega-projects and their connecting global coastal venues illustrate that globalizing urban landscapes can be developed to appear more local through symbolic and visual connections to significant local landscape features like Muscat's coast and its surrounding mountains. Understood within a context of the monumental sovereign architectural scale and identity evident in Muscat's urban fabric, the relative architectural scale of these global coastal venues appears diminished, and in that sense forms the basis for the preeminence of its post-traditional urban landscape. Characteristics of globalization and deglobalization finding expression in these global coastal venues are referenced in the literature related to critical regionalism, identity, authenticity and place, globalizing real estate markets, landscape imagery, and deglobalization.[47]

Conclusion

The chapter's introductory statements allude to the notion that much of the urban Middle East, including the Sultanate of Oman, has been influenced by Western design ideology. Also important to note is the possibility that the region's cities reflect diverse modernization trends with multiple trajectories, suggesting that in this context, tradition and modernity are mutually supportive phenomena. Upon investigation and in light of our proffered levels of analysis, these notions certainly seem mutually plausible for the urban landscapes of Muscat.

Descriptive historical analysis suggests a differentiated regional urban landscape characterized in terms of vernacular modernism, of a reliance on extensive cosmopolitan mega-development, of nuanced globalization more responsive to reflexive modernization processes, and of a predilection for urban-island globalization. Analysis of published literature relating modernization and globalization to urbanization suggest several evaluative approaches relevant to both Oman's broader context and to the narrower focus of Muscat's urban landscape, supporting both a mutually differentiated regional urban landscape and a unique local urban landscape shaping Muscat's landscape globalization processes. To this point, Sassen's global city concept and its associated global city indexes posit analysis of a globalizing urban landscape hierarchy that places Muscat in a regional context; it also reflects apparent sovereign efforts to weigh regional and local landscape more significantly in balance with the state's efforts to modernize. This interpretation is consistent with Peterson's politically based analysis of Omani governance in terms of "post-traditional" statism, which we have adopted as a descriptor of contemporary Omani landscape conditions.

Our subsequent analysis of Omani post-traditional urban landscape followed a reconsideration of Steinitz's overlapping scales of globalization, including graduated scales for a more useful differentiation of contemporary Omani landscape based on existing literature on landscape globalization. Four representative components of Muscat's globalizing urban landscape were examined herein: (1) the form and structure of Muscat's extended landscape; (2) the landscape of the Sultan Qaboos Grand Mosque; (3) Muscat's historic core and Mutrah; and (4) the landscape of its global coastal venues.

Analysis of the four components suggests a broad juxtaposition of peripheral coastal globalizing landscapes with monumental neo-Arabian state buildings sited along interior landscaped transportation corridors, surrounded in part by sprawling urban development occupying large areas of the coastal plain, and bordered by visually striking volcanic mountains, scattered remnant wadis, and agricultural districts. These characteristics were clearly repeated in the city's historic core, although on a much smaller scale, through its juxtaposed coastal global venues, its prominent sovereign neo-Arabian buildings along transportation corridors, and

its visually striking mountains. Broader inferences of globalization in the Grand Mosque's landscape find expression through the juxtaposition of universal design aesthetics and landscape elements, through the mosque's monumental architectural stature within the surrounding landscape, and through its status as a global symbol. Muscat's peripheral coastal enclaves and planned coastal mega-projects are also similarly rich in inferences to a globalizing landscape. The programming and scale of these projects are global, approaching satellite city status at times, and their design is intended to promote global lifestyle destination tourism, branded consumerism, and global real estate investment.

As detailed in Figure 11.8, nine graduated, scaled relationships can be identified in Muscat's urban landscape according to their global, regional, and local characteristics derived from landscape globalization discourse, which are consistent with the chapter's scalar assessment. Preliminary analysis of these scaled relationships supports the idea of a post-traditional Omani urban landscape emphasizing both local and regional influences, while balancing modernization in a globalizing region (Figure 11.1). More detailed analysis, however, suggests significant landscape variation within this broader generalization.

For example, Muscat exhibits commonly repeated regional urban landscape characteristics related to specific aspects: urban typology, infrastructure, planning scale, landscape and architectural typology, culture, cultural and landscape imagery, and tourism typologies. To some extent this adoption of regional landscape characteristics can be ascribed to the formulaic planning, building, infrastructure, and mitigation standards prevalent throughout the region, to what might be described as the homogenization of regional touristic space, and to urban spatial organization serving the logistics and supply chains of an energy-based national capital. Muscat's landscape characteristics, however, also reflect to a great degree regional preferences for neo-Arabian design elements, an identity with common regional cultural backgrounds and political systems, and with shared regional landscape and agricultural practices.

Perhaps most indicative of the variance within Muscat's balance of regional, local, and global urban landscapes is the juxtaposition of several stronger and weaker global and local characteristics (Figure 11.8). For example, Muscat exhibits relatively stronger local urban landscape characteristics than global urban landscape characteristics in its urban typology, landscape and architectural typology, culture, and its cultural and landscape imagery; in contrast, it demonstrates weaker local and stronger global characteristics related to its infrastructure, its mega-planning, and its tourism typologies. To some extent these variations are suggestive of an Omani post-traditionalism, maintaining harmony between development and tradition. In a broader sense, however, Muscat's more global approach to its infrastructure, planning, and tourism landscapes are more indicative of the city's aspirations to join the new global economic order. In that sense, Muscat's urban landscapes

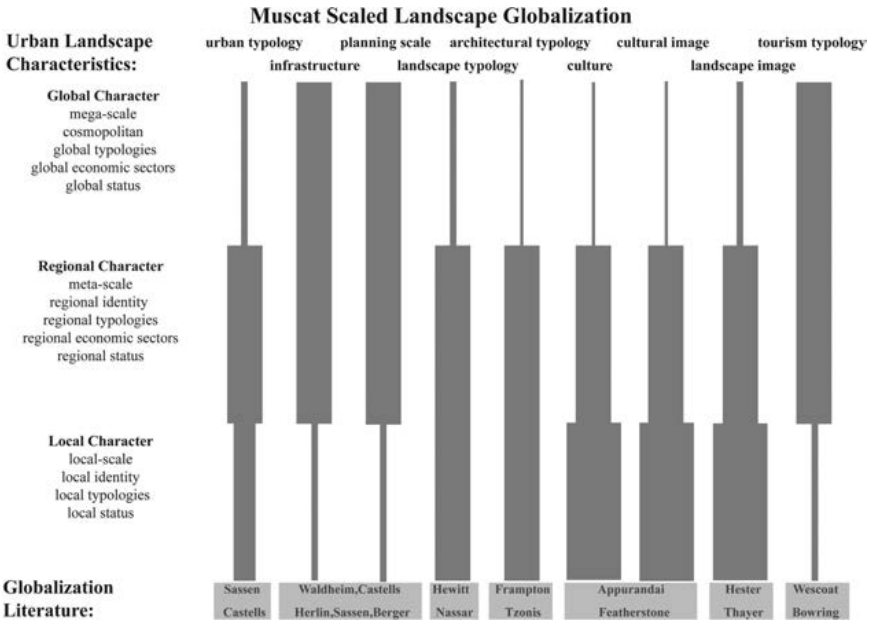


Figure 11.8 Scaled diagram of Muscat's global, regional, and local landscape characteristics correlated with globalization literature. (Diagram by Robert Hewitt.)

clearly suggest that they might be subject to rapid globalization, and particularly so in light of its recently planned mega-projects.

While Muscat has clearly found a unique balance between tradition and modernization within the region and in its urban landscapes, further measures to address its continuing modernization and the ongoing influence of globalization pressures are clearly worthy of consideration. Examining the larger globalization discourse developed over the last several decades suggests continued investigation of a diverse list of topics: (1) post-traditional consideration of more careful design of urban landscapes and infrastructure to support a sustainable local identity; (2) the design of environments capable of integrating urban agriculture and local fishing practices; (3) the preservation of Muscat's vast visual landscape resources and environmental features, including its mountains, coastline, coastal plain, wadis, and agricultural plots; (4) the preservation of its locally built cultural resources; (5) the development of sustainable landscape practices to address changing technological and social contexts; (6) the development of interconnected, functioning ecological local urban aesthetics; and (7) the development of

aspirational architectural expressions reflecting local imagery, traditional gardens, and local landscape scale.

Notes

1 For two excellent descriptions of comprehensive urban change in Cairo during the modern era, see Doris Behrens-Abouseif, *Azbakiyya and its Environs, from Azbak to Ismā'īl 1476–1879* (Le Caire: Institut Français d'Archéologie Orientale, 1985); and Janet Abu-Lughod, *Cairo: 1001 Years of the City Victorious* (Princeton, NJ: Princeton University Press, 1971).
2 Paul Hirst and Grahame Thompson, *Globalization in Question: The International Economy and the Possibilities of Governance* (Cambridge: Polity Press, 1999), 19–62.
3 Anthony G. Hopkins, ed., *Globalization in World History* (London: Pimlico, 2002), 6–24.
4 Saskia Sassen, *Global Networks, Linked Cities* (New York: Routledge, 2001), 1–38. See also David Held and Anthony McGrew, *Globalization Theory, Approaches and Controversies* (Cambridge: Polity, 2007), 1–14; and Zygmunt Bauman, *Liquid Modernity* (Hoboken: Wiley, 2013), 19–34.
5 Ulrich Beck, Anthony Giddens, and Scott Lash, *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order* (Cambridge: Polity Press, 1994), 1–28.
6 Arjun Appadurai, *Globalization* (Durham, NC: Duke University Press, 2001), 1–21; Mike Featherstone, *Undoing Culture: Globalization, Postmodernism and Identity* (London; Thousand Oaks, CA: Sage Publications, 1995), 1–14; and Manuel Castells, *The Network Society: A Cross-Cultural Perspective* (Cheltenham: Edward Elgar, 2004).
7 Shmuel N. Eisenstadt and Wolfgang Schluchter, "Introduction: Paths to Early Modernities: A Comparative View," *Daedalus* 127, no. 3 (1998): 1–18; and Susan Kollin, ed., *Postwestern Cultures: Literature, Theory, Space* (Lincoln: University of Nebraska Press, 2007), 59–81.
8 Fred Halliday, "Monarchies in the Middle East: A Concluding Appraisal," in *Middle East Monarchies*, ed. Joseph Kostiner (Boulder: Lynne Rienner Publishers, 2000), 295–296.
9 J.E. Peterson, "Oman: Three and Half Decades of Change and Development," *Middle East Policy* 11, no. 2 (2004): 125–137.
10 Abdul Basit Al-Hamadi, Pawan S. Budhwar, and Helen Shipton, "The International Journal of Human Resource Management," special issue, *Managing Human Resources in the Middle East* 18, no. 1 (2007), 100–113.
11 Valerie J. Hoffman, "The Articulation of Ibād? Identity in Modern Oman and Zanzibar," *Muslim World* 94, no. 2 (2004), 201–216.
12 See Peterson, "Oman," 125–137.
13 Robert Hewitt, "Globalization Landscape Architecture: A Review of the Literature," *Sage Open Access*, 2013, http://sgo.sagepub.com/content/4/1/2158244013514062; Beck et al., *Reflexive Modernization*, 1–28; and Isagani R. Serrano, "Contemporary Development and Globalization," in *Proceedings of the International Conference Civil Society, Religion & Global Governance: Paradigms of Power & Persuasion*, Canberra, Australia, September 2005.
14 Sassen, *Global Networks, Linked Cities*, 1–38.
15 Globalization and World Cities Research Network: The World According to GaWC, http://www.lboro.ac.uk/gawc/gawcworlds.html.
16 The Global Cities Index 2010, Foreign Policy, http://www.foreignpolicy.com/articles/2010/08/11/the_global_cities_index_2010.

17 "Benchmarking Global City Competitiveness," *Economist*, http://www.economistinsights.com/sites/default/files/downloads/Hot%20Spots.pdf.
18 Mashary A. Al-Naim, "Riyadh: A City of 'Institutional' Architecture," in *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Yasser Elsheshtawi (New York: Routledge, 2008), 118–151.
19 Maiken Umbach and Bernd-Rüdiger Hüppauf, *Vernacular Modernism: Heimat, Globalization, and the Built Environment* (Stanford: Stanford University Press, 2005), 1–24.
20 Khaled Adham, "Rediscovering the Island: Doha's Urbanity from Pearls to Spectacle," in *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Yasser Elsheshtawi (New York: Routledge, 2008), 218–257.
21 Alexander Tzonis and Liane Lefaivre, *Architecture of Regionalism in the Age of Globalization: Peaks and Valleys in the Flat World* (Abingdon: Routledge, 2010), 177–198; Cheryl Temple Herr, *Critical Regionalism and Cultural Studies: From Ireland to the American Midwest* (Gainesville: University Press of Florida, 1996), 1–26.
22 Robert L. Thayer Jr., "The World Shrinks, the World Expands: Information, Energy, and Relocalization," *Landscape Journal* 27, no. 1 (2008): 9–22.
23 Yasser Elsheshtawi, "Cities of Sand and Fog: Abu Dhabi's Arrival on the Global Stage," in *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Yasser Elsheshtawi (New York: Routledge, 2008), 258–304.
24 Hala Nassar and Robert Hewitt, "The Relocation of al-Fustat Pottery Village: Evaluating the Results of Urban Redevelopment in Misr al-Qadeema, Cairo," *International Journal of Islamic Architecture* 1, no. 2 (2012): 367–381.
25 Jane Taylor, *Petra and the Lost Kingdom of the Nabataeans* (London: I.B. Tauris, 2001), 152.
26 Rani Farouk Daher, "Amman: Disguised Genealogy and Recent Urban Restructuring, and Neoliberal Threats," in *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Yasser Elsheshtawi (New York: Routledge, 2008), 37–68.
27 Bauman, *Liquid Modernity*, 19–34; and Manuel Castells, *The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process* (Oxford : Blackwell, 1989).
28 Carl Steinitz, "From Project to Global: On Landscape Planning and Scale," *Landscape Review* 9, no. 2 (2004): 117–127.
29 Randy Hester, *Design for Ecological Democracy* (Cambridge, MA: MIT Press, 2007), 1–14.
30 Ingrid Sarlöv-Herlin, "New Challenges in the Field of Spatial Planning: Landscapes," *Landscape Research* 29, no. 4 (2004): 399–411; Simon Swaffield and Jorgen Primdhal, eds., *Globalization and Agricultural Landscapes: Change Patterns and Policy Trends in Developed Countries* (Cambridge: Cambridge University Press, 2010), 1–16; and Martin Janicke and Helge Jorgens, "Strategic Environmental Planning and Uncertainty: A Cross-National Comparison of Green Plans in Industrialized Countries," *Policy Studies Journal* 28 (2000): 612–632.
31 Jacky Bowring and Shelly Egoz, "Beyond the Romantic and Naive: The Search for a Complex Ecological Aesthetic Design Language for Landscape Architecture in New Zealand," *Landscape Research* 29, no. 1 (2004): 57–73; and H. Foster, ed., *The Anti-Aesthetic: Essays on Postmodern Culture* (Port Townsend, WA: Bay Press, 1983), 16–30, 111–125.
32 Kenneth Frampton, *Modern Architecture: A Critical History* (London: Thames and Hudson, 1992). Tzonis and Lefaivre, *Architecture of Regionalism in the Age of Globalization*, 177–198.
33 Tom P. Evans, Abigail York, and Elinor Ostrom, "Institutional Dynamics, Spatial Organization, and Landscape Change," in *Political Economies of Landscape*

Change: Places of Integrative Power, ed. James L. Wescoat Jr. and D.M. Johnston (Dordrecht: Springer, 2007), 111–129.

34 Charles Waldheim and Alan Berger, "Logistics Landscape," *Landscape Journal* 27, no. 2 (2008): 230.

35 Kelly Shannon, "From Theory to Resistance; Landscape Urbanism in Europe," in *The Landscape Urbanism Reader*, ed. Charles Waldheim (New York: Princeton Architectural Press, 2006), 141–162.

36 See previous citations in endnotes 4, 5, 6, 20, 24, 28, 29, 30, 31, 32, 33, and 34; see also Robert L. Thayer Jr., "The World Shrinks, the World Expands: Information, Energy, and Relocalization," *Landscape Journal*, 27, no. 1 (2008): 9–22.

37 Mohamed El-Amrousi and John Biln, "Muscat Emerging: Tourism and Cultural Space," *Journal of Tourism and Cultural Change* 8, no. 4 (2010): 254–266.

38 Bowring and Egoz, "Beyond the Romantic and Naive," 57–73; James L. Wescoat, Jr. and D.M. Johnston, eds., *Political Economies of Landscape Change: Places of Integrative Power* (Dordrecht: Springer, 2007), 1–28; Randy Hester, *Design for Ecological Democracy* (Cambridge, MA: MIT Press, 2007), 1–14; and Castells, *The Network Society*.

39 El-Amrousi and Biln, "Muscat Emerging."

40 John Alexander Smith, "The Islamic Garden in Oman: Sanctuary and Paradise," *Garden History* 19, no. 2 (1991): 187–208.

41 Ibid.

42 Ibid.

43 Hala F. Nassar, "Gardens Underneath Which Rivers Flow," *Islamic Voices*, Bangalore, India, 15-11, no. 191 (2002): 191–192.

44 Bowring and Egoz, "Beyond the Romantic and Naive," 57–73; Wescoat and Johnston, *Political Economies of Landscape Change*, 1–28; Hester, *Design for Ecological Democracy*, 1–14; Castells, *The Network Society*.

45 El-Amrousi and Biln, "Muscat Emerging," 254–266.

46 Appadurai, *Globalization*, 1–21; Featherstone, *Undoing Culture*, 1–14; Bowring and Egoz, "Beyond the Romantic and Naive," 57–73; Wescoat and Johnston, *Political Economies of Landscape Change*, 1–28.

47 Frampton, *Modern Architecture*; Tzonis and Lefaivre, *Architecture of Regionalism in the Age of Globalization*, 177–198; Thayer, "The World Shrinks, the World Expands," 9–22; Hala Nassar and Robert Hewitt, "Al Ahzar Urban Park, Cairo, Egypt: Contemplating Deglobalization in a Historic, Islamic Urban Landscape," *Selected Papers, Council of Educators in Landscape Architecture*, 2006; and Hala Nassar and Robert Hewitt, "The Relocation of al-Fustat Pottery Village: Evaluating the Results of Urban Redevelopment in Misr al-Qadeema, Cairo," *International Journal of Islamic Architecture*, 1, no. 2 (2012): 367–381.

12 Epilogue

Urban landscapes and future sustainable urban qualities in Middle Eastern cities

Ashraf M. Salama

Emerging rules, regulations, and guidelines about ecology, sustainability, and environmental performance of urban environments are contributing to new understandings about the role of landscape as a discipline and as a profession. Ecological consciousness and sustainability imperatives have provoked transformations in the approaches to landscape both in academia and practice. Worldwide, landscape architecture/urbanism has evolved over two or three centuries into a specialized field of study and research, a recognized profession, and with a more articulate contribution to cities, towns, and settlements.[1] The Middle East is no exception, where the field has developed dramatically over the past few decades extending beyond its traditional boundaries. Still, as a profession, it is yet to receive its full acknowledgment. Such an expansion can be expressed in terms of moving outside the scope of a design treatment of an immediate outdoor space; as a private garden serving an exclusive group of individuals to a planning intervention at the city scale; and as an urban park serving communities and the larger society. Nonetheless, it should be noted that the traditional role within the evolutionary process of the field has not faded, but the expansion has created new opportunities and thus potential and realized contributions at urban and regional scales.

At the turn of the 21st century, regional rulers, decision-makers, and top government officials started to demonstrate a stronger and more attentive interest in urban development projects. This concerted attention has resulted in a new influential phase impacting on the development of architecture and urbanism in the Middle East. Within such a vested interest in the city and investment in its built environment, the contribution of landscape projects has grown in standing, moving beyond the view of its role as an aesthetically pleasing green space to socioeconomic and ecological purposes within both city centers and peripheries.

As a positive and conscious response to the growth in the field, contributions within this volume have demonstrated various typologies, historical and contemporary, and multiple roles landscape projects can offer to the city and its populace. For the first time in recent discourse about the urban environment in the greater Middle East, a major contribution emerges to

address landscape interventions in this continuously changing region. Studies on the landscape from urban, city, and regional perspectives have been on the fringe for years, and so the timeliness of the discussions on key landscape projects is palpable. In essence, the overall thrust of the work presented in this volume is to bring discussions and critiques on landscapes out of their marginalized position in both academia and practice to the forefront of both theoretical and professional discourse on its essence, evolution, and contribution to contemporary urbanism in the Middle East.

The first chapter by Mohammad Gharipour offers important concepts and contextualized discussion and projects it into the future of urban landscape in Middle Eastern cities. The work of James Wescoat expands the scope of the discussion and sets the stage for debating the field itself as a research paradigm linked with design, as a historical evolutionary process within the wider Middle East. He calls for engaging with the field in its fullest sense. The subsequent chapters refer to specific cases in different cities throughout the Middle East including Eskişehir in Turkey, Tel Aviv, Islamabad, Tehran, and Cairo. The last three chapters articulate contemporary landscapes in the Arabian Peninsula (UAE, Qatar, and Oman). What is unique in all these cases is that they debate the projects and present cases from an evolutionary contextual perspective of the city within which landscape interventions are developed. Together they manifest a multitude of concepts and theories, evolutionary paradigms, and multiple contributions of landscape projects that are subjected to scrutiny and investigation. In this context, I reflect on three key interventions to delineate the way in which different typologies of contemporary landscapes can contribute to sustainable urban qualities in Middle Eastern cities. Two of these interventions are thoroughly and candidly presented in this volume – Al-Azhar Park in Cairo (Figure 12.1) and Corniche/Waterfront in Doha (Figure 12.2). However, a third can be added for reflective purposes. Wadi Hanifa Wetlands development is a project that reveals an important aspect pertinent to viewing landscape interventions as part of ecological infrastructure strategies. The project is a successful case and adds a further dimension relevant to the contribution to the city of Riyadh, the capital of Saudi Arabia, and its overall urban environment.

The Wadi Hanifa Wetlands is a restoration and development project of a Wadi that connects the agricultural hinterland to the capital city of Riyadh, creating an ecological landscape infrastructure (Figure 12.3). With a length of 120 kilometers and a watershed of forty-five hectares, the valley – located in the middle of the Najd Plateau of the Kingdom of Saudi Arabia – is the most significant natural feature in the dry desert region. Once a heavily polluted river, the Wadi was filled with industrial and municipal waste and dead animals and fish, which had an adverse effect on the whole riparian ecosystem along its banks and catchment area. Through an innovative and contemporary processes of naturalization and bio-remediation – led by a team of planners, landscape architects, and engineers over a period of almost ten years – the Wadi Hanifa eco-system has been restored and new

Figure 12.1 The main pedestrian spine of Al-Azhar Park in Cairo. (Photo by Ashraf M. Salama.)

Figure 12.2 High-rise agglomerations on Doha's waterfront. (Photo by Ashraf M. Salama.)

public spaces and productive landscapes have been created along its banks (Figure 12.4).[2]

Urban research on sustainability often focuses on environmental concerns by exploring more efficient urban structures as well as technologies to reduce energy waste. However, in addition to ecological balance the sustainability of urban environments is highly dependent on economic growth and social equity. Holistic sustainability in an urban context can thus only be achieved if social, economic, and environmental aspects are understood in

Figure 12.3 Wadi Hanifa bioremediation facility. (Courtesy of Aga Khan Award for Architecture.)

Figure 12.4 Wadi Hanifa interpretive trails. (Courtesy of Aga Khan Award for Architecture.)

relation to each other, not in isolation.[3] In this respect, the unique features of each landscape typology have the potential of creating specific sustainable urban qualities. In essence, this reflects the multidimensional aspects of those typologies and what they are amenable to offer. While there are positive characteristics that enable each typology to contribute to city sustainability, there are drawbacks that should be highlighted.

In the case of the Corniche of Doha, different types of palm trees and grass that shape the overall scenic landscape line the central spine of the roadway. Sweet water, from desalination, is used for hygienic reasons, as the lawn turf is used by children. A large amount of water is used in the hot months due to evaporation. There are currently two types of irrigation systems and water supply to parks, gardens, and open spaces: one is a potable (sweet) water supply system from desalination plants used for irrigation of the parks and gardens; the other is treated sewage effluent, which is used mainly in roadside areas and roundabouts, not for public parks and green areas in schools and hospitals. In social terms, the Corniche can be seen as the only public space in the city where people from different socioeconomic strata and cultural backgrounds have access to all parts of it. It must be noted, however, that the Corniche is not actually designated as a park or green space on official maps and documents.[4] Therefore, it is not part of an overall landscape master plan for the city. Thus, surrounding parks are not well networked, and overall Doha does not have a connected green network of public spaces and parks. Despite the relative success at the social and urban diversity level, physical aspects related to access and connectivity present important challenges to effective and efficient use. These need to be considered as integral components of immediate plans undertaken by MMUP, the Ministry of Municipality and Urban Planning. In addition to inefficient access and connectivity, many of the spaces and gardens lack sufficient outdoor seating and significantly lack parasols or other forms of shade, which could potentially enhance its use and social role within the city.[5]

Contrasting the Doha's Corniche and due to their scope, the Al-Azhar Park and Wadi Hanifa Wetlands appear to address the larger matrix of sustainable urban qualities. The Al-Azhar Park project was intended to be a case for a variety of development challenges, ranging from environmental rehabilitation to cultural restoration. The objective was to create models of development that could be replicated in many other settings within the larger Middle East, and in particular in the historic cores of its major cities. Almost one-third of the historic cities on UNESCO's list of world heritage sites are in the Islamic world, including the Middle East. Many face pressures similar to those of Cairo.[6] In addition to the unique design features that the park enjoys, most of its design features were based on the traditional use of public spaces in Islamic contexts. This is reflected in the *bustan*-like orchard spaces, the shaded sitting areas, and the Fatimid archways used in the construction of park buildings, among other elements. Persian and

Timurid elements are also reflected in the water channels and fountains. At the environmental sustainability level, the park utilizes an efficient irrigation system, providing water through drippers and sprinklers. The irrigation is regulated by a special weather station, which calculates water needs based on temperature, humidity, and wind speed.

Addressing the social and cultural dimensions of sustainability, a large-scale archaeological conservation task was initiated. This includes the restoration of a 1.5-kilometer stretch of the eastern Ayyubid Wall. The neighborhood of Darb al-Ahmar is one of the poorest and most populous areas of Cairo, lacking adequate sanitation and rubbish-collection services, with refuse often piled up in the streets and in courtyards. Faced with low rents, absentee landlords invested little or nothing in their buildings, with predictable results: roofs and walls collapsed, the historic monuments came under greater and greater stress, and expectations for the quality of life declined along with the increase in physical decay. Yet community and family life remained strong. Small family businesses, including carpentry, tile making, and other small crafts continued to provide a portion of the local population with a living.[7]

Spreading out from the environmental and sociocultural dimensions, the project for socioeconomic development of the adjacent neighborhood was conceived with the idea that the removal of the former rubble dump and its metamorphosis into a park would have a catalytic effect on the general improvement of the district. However, to ensure this result, the project's scope had to encompass the cultural monuments in the neighborhood and the people of this area. This approach took the form of an integrated urban area development plan containing a series of pilot interventions aimed not only at the restoration of landmark buildings, but at broad-based socioeconomic development. Additionally, the project addressed training and employment issues where many of the skills-training programs have been implemented in conjunction with restoration and rehabilitation interventions on the Ayyubid Wall or in restoration projects in the district. Specifically, building tradesmen (masons, carpenters, plumbers, and electricians) have been given product quality training. Apprenticeships offered to local youth in connection with stone masonry and carpentry, among other trades, are also integral parts of the program. Other apprenticeships with local businesses have been arranged, through a stipend system, in the fields of computers, mobile phone services, automobile electronics, office skills, and furniture making and tourist market goods.

Education and training have been offered by local master craftsmen and technicians as well as a handful of foreign experts. The project has offered over 120 training positions in activities such as stone carving, masonry work, and materials conservation.[8] Notably, an integrated urban development in Darb al-Ahmar was started in January 2004. During the second phase, rehabilitation and restoration of a substantial number of houses was implemented, as was open space improvement. The existing credit program

was expanded to stimulate entrepreneurship and increase income levels in the area. Provision of basic social services including health, education, and solid waste disposal were to be addressed in collaboration with local institutions active in these sectors and by strengthening their organizational and institutional capacities. Other than the socioeconomic program for Darb al-Ahmar, the construction of a hotel and urban plaza with a large car park, recently begun at the northern edge of the site, will also give direct economic stimulus to the district.

The fact that most planning and design aspects of the park were satisfactory to the users – and in some cases praised by them – is an indicator of the degree of the project's success. As well, the results of the interview questionnaire,[9] which reveal that a considerable number of users praised a wide spectrum of features through their reactions and responses, are evidence that the project is successful and deserves the recognition it has received in the specialized and public media. Nevertheless, the lighting and wayfinding[10] systems appear to have been compromised based on the users' reactions. While some may claim that no planning or design outcome is completely perfect and is satisfying everyone, one should assert that a project of this scale, magnitude, and amount of recognition is not expected to have these influential aspects as major sources of dissatisfaction.

The Wadi Hanifa Wetlands project contributes to three types of urban qualities. The issue of developing large territories that address environmental needs is emerging to show how, through careful planning, livable environments can be created. The project, which received one of the Aga Khan Awards in 2010, responds to this issue. It proposes a green, safe, and healthy environment while providing continuous parkland that connects the wadi to the city of Riyadh. Integrating residential development, farming, recreation, and cultural activities, a man-made oasis was created. In essence, the project's ecological strategy incorporates a wide range of architectural interventions, from master planning to landscaping and from building to signage and urban furniture.[11]

At the environmental level, the Saudi government invested over $100 million into an environmental rehabilitation project, including the construction of dams to regulate water flow, new limits on land use such as the banning of commercial activities such as quarrying, and the planting of reeds to further purify the treated and untreated sewage. Rather than using more traditional techniques, the design team proposed to improve the water quality in the lower reaches of the Wadi using bioremediation techniques. In this way they increased the amount of water available per day for irrigation, agriculture, and other nonpotable uses to 120,000 cubic meters; by 2025 this could increase to one million cubic meters per day. Storm water management was also an important part of the infrastructure, and side water inlets have been reclaimed or added to aid in flood control and habitation.

Integrating the environmental dimension with the sociocultural one, the project has a very important educational component, which is progressively

being enhanced. The rich diversity of flora and fauna found in the vast natural areas of the Wadi is attractive to school programs and scientific experiments, from the elementary to the university level. The bioremediation facility, with its large-scale, cutting edge technology and informational signage, is an attractive scientific experimentation facility frequently visited by schools. The Arriyadh Development Authority (ADA) also has plans for engaging the general public by installing a cable car system that circles the area of the facility, while audio presentations explain its operation and stress the importance of reusing surplus water.[12] Looking at the jury citation on Wadi Hanifa, the true merits of the project can be revealed, "*The project reverses the tide of rapid urban development, which has seen public space in many cities within the Muslim world fall victim of expropriation and other practices that deprive the population of its resources*." This tells us much about the way in which the project offered an inclusive public space for the inhabitants of Riyadh. In addition to the overarching concern for the environment, the premise of the project, in adopting the notion of providing ecological infrastructure and experiencing the spatial qualities of the environment, is evident in the jury citation:

> *Using landscape as an ecological infrastructure, the project has restored and enhanced natural systems' capacity to provide multiple services, including cleaning the contaminated water, mediating the natural forces of flood, providing habitats for biodiversity, and creating opportunities for educational and aesthetic experiences*.[13]

Wadi Hanifa Wetlands project is increasingly becoming recognized in Saudi Arabia and around the world as a landmark initiative. The economic dimension is manifested in the idea of a "living valley" or "living Wadi" brought back to health, sustainably and fully integrated into the life of Riyadh. It has generated opportunities along the continuous ribbon of naturalized parkland that interconnects and interfaces city and Wadi, in which residential development, farming, recreation, cultural activities, and tourism exist in harmony within an oasis that extends the full length of Riyadh and beyond, into the surrounding rural areas. A unique feature is that the Wadi is planned and designed to continue developing and growing according to the natural processes that have been allowed to reclaim their grip, in addition to man-made interventions providing open spaces and parklands along the Wadi and extending them into surrounding residential areas. A combination of public and private investments in cultural, agricultural, tourism, recreational and leisure, and mixed-use facilities offers a sound and sustainable economic model.

Although the project addresses the three pillars of urban sustainability, there seems to be critical aspects that have not been considered. The Wadi as a whole is an exclusively governmental project that does not engage the private sector. The fact that the Wadi looks clean and neat might be seen

as a negative aspect, where human use is not actually visible and cannot be traced. More important, it lacks necessary support facilities including restaurants, small vendors, kiosks, and the like. These functions have the potential to enhance the Wadi's contribution to economic sustainability and should be considered in any large-scale landscape intervention project.

Palpably, the three projects discussed here demonstrate a range of typologies. Metaphorically, they represent different types of interfaces. Doha's Corniche acts as an interface between the city and the sea, and the Al-Azhar Park acts as an interface between the formal and informal segments of the city, while Wadi Hanifa represents a different type of interface between the agricultural plains and the urban core. The fact that each intervention supports its sociospatial context makes them serious contributions to their cities and to the creation and achievement of sustainable urban qualities. On the one hand, while Doha's Corniche successfully addresses the sociocultural dimension through diverse types of physical activities performed by people of different cultural and socioeconomic backgrounds, key design aspects such as support functions, services, and urban furniture are insufficient. The economic and environmental dimensions appear to be currently outside its scope. However, the proposed schemes are expected to underscore those dimensions. On the other hand, despite minor drawbacks found in the Al-Azhar and Wadi Hanifa Wetlands projects, manifested in the Al-Azhar Park users' dissatisfaction with the lighting and signage systems and the absence of the private sector role in the Wadi Hanifa, they clearly translate their physical presence within their context into effective contributions.

While the preceding three typologies manifest merits and also minor shortcomings of landscape projects in the Arab Middle East, in other contexts of the greater Middle East further important projects developed at various scales offer key aspects that should be highlighted. In the context of Islamabad, the identification of design strategies that soften the relationship between buildings and spaces (the monumental Presidential Complex and the public square) is an important aspect of contemporary discourse, given the intention of creating an urban core that offers a liberating condition for the public. In a different realm, the progressive yet eclectic thinking process associating the evolution of Pardisan Park in Tehran manifests various visions that range from user-oriented approaches to symbolic representation and from attempting to reflect nationalist agenda to ecological reconstruction.

Ostensibly, the dualistic conception of local versus regional identity, the built versus the natural, the city versus the sea or the desert is pertinent to key arguments. Emphasizing the European identity of Eskişehir while juxtaposing incongruous interests of the public and private sector discern the way in which this may contribute to an increasing appreciation of landscape interventions as part of the overall urban development process. The development and growth of Tel Aviv's promenade into an important municipal waterfront demonstrates the dialectic relationship between native coastal

vegetation and the globalized patterns of consumption. Such a duality is also evident in discussing mountain and coastal plains of Oman in the context of globalization.

With varying degrees of scope and breadth, the arguments and projects, and critiques and analyses presented in this volume address key determinants of sustainable urban qualities. In addition to achieving the purpose of filling a knowledge gap, they offer important lessons that can be contrasted with other contexts and can be replicated in future landscape interventions in the greater Middle East. However, there appears to be a multitude of issues that would need further investigations. In this respect, addressing sustainable qualities through urban landscape interventions raises important questions for future research in the field. Spatial human interventions in the environment can be regarded as the psyche or collective mind of a culture. They have been the primary means of the expression and communication of ideas, beliefs, and value systems of that culture. In this respect for a future investigation exploratory questions arise: Have the interventions discussed represented the collective mind of the cultures in which they are developed? Is there a one psyche or plurality and multiplicity, which can be represented in landscape interventions, or which can offer diversity to the tapestry to their contexts?

In the greater Middle East urban landscape requires a more thorough development of its capacity for achieving ecological efficiency, instilling social cohesion, and embedding symbolic representation in a collaborative decision-making process. With this conception various landscape typologies, while succeeding in responding to key local or regional needs, raise critical questions for future investigations: What are the sustainable qualities that should be associated with landscape projects, especially those pertaining to sociospatial practices? What are the sociocultural and sociobehavioral impacts those interventions have on the locale and on the city, and how can their negative effects, if they exist, be reduced or hopefully eliminated? What is the running cost of those interventions and how do they affect the everyday activities of the average citizen? How can these interventions contribute to a sustainable balance of ecological efficiency, economic diversity, aesthetic awareness, and place identity? Can there be a position within these interventions for traditional ideas that are still important for today's culture of the greater region? These questions deserve in-depth investigations; they form integral elements of a future vision for urban landscape in the greater Middle East.

Notes

1 C. T. Baird and B. Szczygiel, "Sociology of Professions: The Evolution of Landscape Architecture in the United States," *Landscape Review* 12, no. 1 (2007): 3–25.

2 Moriyama and Teshima Planners, *Wadi Hanifah Comprehensive Development Plan: Case Study* (n.d.), http://mtplanners.com/mtpwadi1.html.

3 A.M. Salama, "Sustainability/Trans-disciplinarity: A Concern for People and Environments Between Confusing Terminology and Outdated Approaches," *INTBAU: International Network for Traditional Building, Architecture, & Urbanism* 1, no. 20 (2007), http://www.intbau.org/archive/essay20.htm.
4 Ministry of Municipality and Urban Planning – MMUP, *Study Report: Qatar National Master Plan (QNMP)* (Doha: MMUP, 2010), 13.3.
5 For further discussion on sociospatial practices in urban open spaces in Doha including three locations along the Corniche, see A.M. Salama, F. Khalfani, and A. Al Maimani, "Experiential Assessment of Urban Open Spaces in Doha," *Open House International* 38, no. 2 (2013): 47–57.
6 Aga Khan Trust for Culture, *Historic Cities Support Programme: The Azhar Park Project in Cairo and the Conservation and Revitalization of Darb Al-Ahmar* (Geneva, Switzerland: Aga Khan Trust for Culture, 2001), http://www.akdn.org/publications/cairo_brochure.pdf.
7 F. Siravo, "Reversing the Decline of a Historical District," in *Historic Cities Support Programme: The Azhar Park Project in Cairo and the Conservation and Revitalization of Darb Al-Ahmar*, ed. Aga Khan Trust for Culture (Geneva, Switzerland: Aga Khan Trust for Culture, 2001), 35–54, http://www.akdn.org/publications/cairo_brochure.pdf.
8 S. Bianca, "Introduction: A Comprehensive Vision of Urban Rehabilitation," in *Historic Cities Support Programme: The Azhar Park Project in Cairo and the Conservation and Revitalization of Darb Al-Ahmar*, ed. Aga Khan Trust for Culture (Geneva, Switzerland: Aga Khan Trust for Culture, 2001), 7–14, http://www.akdn.org/publications/cairo_brochure.pdf.
9 A.M. Salama, "Media Coverage and Users' Reactions: Al Azhar Park in Cairo Re-Examined," in *Architecture Beyond Criticism: Expert Judgment and Performance Evaluation*, ed. W. Preiser, A. Davis, A.M. Salama, and A. Hardy (Abingdon: Routledge, 2014), 91–103.
10 The spatial system of identifying and directional signs that allows people to navigate the environment. See Romedi Passini, *Wayfinding in Architecture* (New York: Van Nostrand Rienhold, 1992).
11 See W. Samhouri, *Wadi Hanifa 2010 on Site Review Report*. Aga Khan Award for Architecture (2010), http://archnet.org/authorities/1106/publications/1916; and A.M. Salama and A.K. Grichting, "Edge, Center, and Spine: Exploring the Multi-Dimensionality of Contemporary Landscapes in Middle Eastern Cities," *Archnet-IJAR: International Journal of Architectural Research* 9, no. 2 (2015): 113–136.
12 J. Bodeker, *Architect's Record of Wadi Hanifa Wetlands*. Aga Khan Award for Architecture (2001), http://archnet.org/sites/4458/publications/531.
13 M. Mostafavi, *Implicate and Explicate – The Aga Khan Award for Architecture* (Baden, Switzerland: Lars Muller, 2010), 32.

This page intentionally left blank

Bibliography

AbdelHalim, Abdelhalim I. "Culture, Environment and Sustainability." In *Sustainable Landscape Design in Arid Climates, Proceedings of the Symposium held at Dumbarton Oaks, Washington DC,* ed. William O'Reilly and Robing Oldacre. Geneva: Aga Khan Trust for Culture, 1996, 49–61.

AbdelHalim, Abdelhalim I. "El-Houd El Marsoud." In *Mimar 8: Architecture in Development*, ed. Hasan-Uddin Khan, 30–36. Singapore: Concept Media, 1983.

Abu Dhabi Urban Planning Council. *Abu Dhabi Public Realm Design Manual*. Abu Dhabi: Abu Dhabi Urban Planning Council.

Abu Dhabi Urban Planning Council. *Plan Abu Dhabi 2030 Urban Structure Framework Plan*. Abu Dhabi: Abu Dhabi Urban Planning Council.

Abu Dhabi Urban Planning Council. *Plan Al Ain 2030 Urban Structure Framework Plan*. Abu Dhabi: Abu Dhabi Urban Planning Council.

Abu-Lughod, Janet. *Cairo: 1001 Years of the City Victorious*. Princeton, NJ: Princeton University Press, 1971.

Adham, Khaled. "Rediscovering the Island: Doha's Urbanity from Pearls to Spectacle." In *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Y. Elsheshtawy, 218–256. New York: Routledge, 2008.

Aga Khan Award for Architecture. http://www.akdn.org/architecture/

Aga Khan Award for Architecture Report. http://www.akdn.org/akaa_award8_awards_detail7.asp

Aga Khan Trust for Culture. *Al-Azhar Park and the Revitalization of Darb al Ahmar Neighborhood*, Project Brief Geneva Switzerland, 2005. http://www.akdn.org/publications/2007_aktc_egypt.pdf

Aga Khan Trust for Culture. *Historic Cities Support Programme: The Azhar Park Project in Cairo and the Conservation and Revitalization of Darb Al-Ahmar.* Geneva, Switzerland: The Aga Khan Trust for Culture, 2001. http://www.akdn.org/publications/cairo_brochure.pdf

Aga Khan Trust for Culture. *Sustainable Landscape Design in Arid Climates*. Geneva: AKTC and Dumbarton Oaks, 1996.

Ahmad, S. Maqbul. "Djughrafiya." In *Encyclopedia of Islam (Revised Edition*), vol. II, ed. B. Lewis, Ch. Pellat, and J. Schacht, 575–587, Leiden: E.J. Brill, 1965/1991.

Akbar, Jamel. *The Technical Review, Cultural Park for Children*. The Aga Khan Award for Architecture, 1992. http://www.akdn.org/architecture/pdf/1140_Egy.pdf

Akcan, Esra. *Architecture in Translation: Germany, Turkey, and the Modern House*. Durham, NC: Duke University Press, 2012.

Akyıldız, Kaya. "Mavi Anadoluculuk" [The Blue Anatolia Movement]. In *Modernleşme ve Batıcılık*, ed. Uygur Kocabaşoğlu, 465–481. İstanbul: İletişim, 2002.

Al Asad, Muhammad. "Landscape and Hardscape." In *Rivers of Paradise: Water in Islamic Culture*, ed. Sheila Blair and Jonathan Bloom, 315–335. New Haven, CT: Yale University Press, 2009.

Alexander, Christopher. *The Nature of Order*, 4 vols. Berkeley, CA: Center for Environmental Structure, 2004.

Al Hashemi, Aida. "These Rivers are Gardens of Tehran: Planning for Environmental Design in Urban Spatial Organization." *Manzar: The Iranian Academic Open Access Journal of Landscape* 2, no. 7 (2011): 62–67.

Ali, Saima S. "Measuring the Success of Human Settlement – The Case of Islamabad." Master's thesis, Urban Management and Development, Rotterdam, the Netherlands, 2013.

Allen, Katherine. "Calatrava's 'Sharq Crossing' Planned for Doha Skyline." *ArchDaily*, December 24, 2013. http://www.archdaily.com/?p=461793

Al-Naim, Mashary A. "Riyadh: A City of 'Institutional' Architecture." In *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Yasser Elsheshtawi, 118–151. New York: Routledge, 2008.

Alon-Mozes, Tal and Shaul Amir. "Landscape and Ideology: The Emergence of Vernacular Gardening Culture in Pre-state Israel." *Landscape Journal* 21, no. 2 (2002): 37–50.

Alpagut, Leyla. "Atatürk Orman Çiftliği'nde Ernst Egli'nin İzleri: Planlama, Bira Fabrikası, Konutlar ve 'Geleneksel' bir Hamam [Traces of Ernst Egli in Atatürk Forest Farm: Site Planning, Beer Factory, Housing and the 'Traditional' Hamam]." *METU JFA* 27, no. 2 (2010): 239–264.

Alraouf, Ali A. "Contemporary Egyptian Design: Critical Issues and Creative Expressions." *Albenna* 128 (March 2001).

Al Sayyed, Nezar. *Cairo: Histories of a City*. Cambridge, MA: Belknap Press of Harvard University Press, 2011.

Al Tikriti, Walid. "The South-East Arabian Origin of the *Falaj* System." *Proceedings of the Seminar for Arabian Studies* 32 (2002): 117–138.

Ansah, Hassan. *Life, Death, and Community in Cairo's City of the Dead*. New York: iUniverse, 2010.

Anz, Craig. *Critical Environmentalism: An Epistemic Framework for Architecture and Urban Development*. VDM Verlag Dr. Müller, 2010.

Anz, Craig. *Critical Environmentalism: Towards an Epistemic Framework for Architecture*. Ph.D. Dissertation, Texas A&M University, 2009.

Appadurai, Arjun. *Globalization*. Durham, NC: Duke University Press, 2001.

Arastoozahed, Fereydoon. "Interview with the First International Architectural Congress Participants, Isfahan, September 1970." *Art and Architecture* 8 (1972): 66–68.

Architectural Archives. The University of Pennsylvania, Ian L. McHarg Collection.

Ardalan Associates, LLC Consultants in Architecture. "About Ardalan Associates." http://ardalanassociates.com/about/about-nader-ardalan/

Ardalan, Davar. *My Name Is Iran*. New York: Henry Holt and Company, 2007.

Ardalan, Nader and Laleh Bakhtiar. *The Sense of Unity: The Sufi Tradition in Persian Architecture*. Chicago: University of Chicago Press, 1973.

Ardalan, Nader and Eskandar Firouz. *Management Plan Report for Pardisan 1*. Tehran: Mandala Collaborative, 1976.

Ashraf, Kazi K. "Taking Place: Landscape in the Architecture of Louis Kahn." *Journal of Architectural Education* 61, no. 2 (2007): 48–58.

Aslanoğlu, İnci. "1930–50 Yılları Ankara'sının Eğlence Yaşamı İçinde Gazino Binaları" [Club/Gazino Buildings within the Entertainment Life in Ankara 1930–50]. In *Tarih Içinde Ankara II: Aralik 1998 Seminer Bildirileri* [Ankara in History II: December 1998 Proceedings], ed. Yildirim Yavuz, 327–340. Ankara: METU Faculty of Architecture Press, 2001.

Atarim Meeting Minutes. "A New Shoreline for Tel Aviv." *Tel Aviv Municipal Archive*, 1974 [in Hebrew].

Atarim Meeting Minutes. *Tel Aviv Municipal Archive*, 75/31–32, October 15, 1982 [in Hebrew].

Atar Museums Authority. "Museum of Islamic Art Park Concept, Facility and Business Plan" (Executive Summary). Qatar Museum Authority, August 2007.

Atasoy, Nurhan. "Ottoman Garden Catalogue." In Middle East Garden Traditions. http://www.middleeastgarden.com/garden/english/?page=ottoman

Auclair, Philippe. "Soccer Punch: How Qatar Came to Host the 2022 World Cup." *Newsweek* (Europe Edition), June 12, 2013. http://www.newsweek.com/soccer-punch-how-qatar-came-host-2022-world-cup-224033

Azaryahu, Maoz. "Cultural History Outlines of the Tel Aviv Seafront: 1918–48." *Horizons in Geography* 53 (2001): 95–112 [in Hebrew].

Azaryahu, Maoz. "The Formation of the 'Hebrew Sea.' In Pre-State Israel." *Journal of Modern Jewish Studies* 7, no. 3 (2008): 251–267.

Azaryahu, Maoz. *Tel Aviv, Mythography of a City*. Syracuse, NY: Syracuse University Press, 2007.

Azaryahu, Maoz and Arnon Golan. "Contested Beachscapes: Planning and Debating Tel Aviv's Seashore in the 1930s." *Urban History* 34 (2007): 278–295.

Azaryahu, Maoz and S. Ilan Troen, eds. *Tel-Aviv, the First Century: Visions, Designs, Actualities*. Bloomington: Indiana University Press, 2011.

Babadoğan, Hale. "Urban Projects' Implementations Towards a European City: A Case Analysis of Eskişehir Greater Municipality." Unpublished MSc Thesis, METU, 2005.

Babayan, Kathryn. *Mystics, Monarchs and Messiahs: Cultural Landscapes of Early Modern Iran*. Cambridge, MA: Harvard University Press, 2002.

Bahman Motor Group: Companies. http://www.bahmangroup.com/en/index.php/companies/list-of-companies/bahman-motor-co

Baird, C. T. and B. Szczygiel. "Sociology of Professions: The Evolution of Landscape Architecture in the United States." *Landscape Review* 12, no. 1 (2007): 3–25.

Balfour, Alan. "Afterword: What Is Public in Landscape?" In *Recovering Landscape, Essays in Contemporary Landscape Architecture*, ed. James Corner, 275–283. New York: Princeton Architectural Press, 1999.

Balmori, Diana. "Park Redefinitions." In *The Once and Future Park*, ed. Deborah Karasov, 39–45. New York: Princeton Architectural Press, 1993.

Balslev, Yaron. "The Pollution and Purification of Tel Aviv Sea Shore, 1909–1982." *Horizons in Geography* 78 (2012): 103–121 [in Hebrew].

Barnett, Rod. *Emergence in Landscape Architecture*. London: Routledge, 2013.

Basit Al-Hamadi, Abdul, Pawan S. Budhwar, and Helen Shipton. "The International Journal of Human Resource Management." Special Issue of *Managing Human Resources in the Middle East* 18, no. 1 (2007): 100–113.

Bauman, Zygmunt. *Liquid Modernity*. Cambridge: Polity Press, 2000.

Beaumont, Peter Blake, Gerald H. Wagstaff, and J. Malcolm. *The Middle East: A Geographical Study*. New York: Wiley, 1988.

Beck, Ulrich, Anthony Giddens, and Scott Lash. *Reflexive Modernization: Politics, Tradition and Aesthetics in the Modern Social Order*. Cambridge: Polity Press, 1994.

Behrens-Abouseif, Doris. *Azbakiyya and Its Environs, from Azbak to Ismā'īl 1476–1879*. Cairo: Institut Français d'Archéologie Orientale, 1985.

Bennett, Tony, Lawrence Grossberg, and Meghan Morris. *New Keywords: A Revised Vocabulary of Culture and Society.* Malden, MA: Blackwell, 2005.

Ben Sira (Shiffman), Ya'akov. "Plan for the Improvement of the Tel Aviv Seashore." *Yediot Iryat Tel Aviv* 6, no. 7 (1938–1939): 150–151 [in Hebrew].

Berrizbeitia, Anita. "The Amsterdam Bos: The Modern Public Park and the Construction of Collective Experience." In *Recovering Landscape, Essays in Contemporary Landscape Architecture*, ed. James Corner, 187–203. New York: Princeton Architectural Press, 1999.

Bianca, S. "Introduction: A Comprehensive Vision of Urban Rehabilitation." In *Historic Cities Support Programme: The Azhar Park Project in Cairo and the Conservation and Revitalization of Darb Al-Ahmar*, ed. Aga Khan Trust for Culture, 7–14. Geneva: Aga Khan Trust for Culture, 2001. http://www.akdn.org/publications/cairo_brochure.pdf

Bilsel, Cana. "Kentsel Dönüşüm, Çözülen Kentler ve Parçalanan Kamusal Alan" [Urban Transformation, Disintegrating Cities and Fragmenting Public Sphere]. *Mimarlık* 327 (2006). http://www.mimarlikdergisi.com/index.cfm?sayfa=mimarlik&DergiSayi=41&RecID=1014

"Bir Uygarlaşma Hikayesi: Eskişehir" ["A Story of Becoming Civilized: Eskişehir"]. mimdap.org, December 16, 2015 (based on an article in the daily newspaper *Milliyet* published on September 2, 2009), http://www.mimdap.org/?p=24021

Blackmar, Elizabeth. "The Urban Landscape." *Journal of Architectural Education* 30, no.1 (September 1976): 12–14.

Bodeker, J. *Architect's Record of Wadi Hanifa Wetlands*. Aga Khan Award for Architecture, 2001. http://archnet.org/sites/4458/publications/531

Boër, Benno. "Introduction to the Climate of the United Arab Emirates." *Journal of Arid Environments* 25 (1997): 3–16.

Bohigas, Oriol. "Ten Points for an Urban Methodology." *The Architectural Review* 206, no. 1231 (September 1999): 88–91.

Bonine, Michael, Michael Gasper, and Abbas Amanat, eds. *Is There a Middle East? The Evolution of a Geopolitical Concept*. Palo Alto, CA: Stanford University Press, 2011.

Bowring, Jacky and Shelly Egoz. "Beyond the Romantic and Naive: The Search for a Complex Ecological Aesthetic Design Language for Landscape Architecture in New Zealand." *Landscape Research* 29, no. 1 (2004): 57–73.

Boyer, Christine. "Cities for Sale: Merchandising History at South Street Seaport." In *Variations on a Theme Park*, ed. Michael Sorkin, 181–204. New York: Hill and Wang, 1992.

Bozdoğan, Sibel. *Modernism and Nation Building: Turkish Architectural Culture in the Early Republic*. Seattle: University of Washington Press, 2001.

Bullough, Edward. " 'Psychical Distance' as a Factor in Art and as an Aesthetic Principle." In *Art and Its Significance: An Anthology of Aesthetic Theory*, ed. Stephen David Ross, 457–467. Albany: State University of New York Press, 1984.

Calis, B. Deniz. "Gardens at the Kagithane during the Tulip Period, 1718–1730." In *Middle East Garden Traditions: Unity and Diversity*, ed. Michel Conan, 239–268. Cambridge, MA: Harvard University Press, 2007.

Carey, Moya and Margaret S. Graves, eds. "Islamic Art Historiography." Special issue of *Journal of Art Historiography* 6 (2012)

Castells, Manuel. *The Informational City: Information Technology, Economic Restructuring, and the Urban-Regional Process*. Oxford: Blackwell, 1989.

Castells, Manuel. *The Network Society: A Cross-Cultural Perspective*. Cheltenham: Edward Elgar, 2004.

Caton, Stephen and Nader Ardalan. *New Arab Urbanism: The Challenge to Sustainability and Culture in the Gulf* (Cambridge, MA: Harvard Kennedy School, 2010).

Çelik, Zeynep. *Empire, Architecture, and the City: French-Ottoman Encounters, 1830–1914*. Seattle: University of Washington Press, 2008.

Cengizkan, Ali. *Ankara'nın İlk Planı, 1924–25 Lörcher Planı* [The First City Plan of Ankara: The 1924–25 Lörcher Plan]. Ankara: Ankara Enstitüsü Vakfı & Arkadaş Yayınları, 2004.

Cesari, Jocelyne. "Global Multiculturalism: The Challenge of Heterogeneity." *Alternatives: Global, Local, Political* 27, no. 1 (January–March 2002): 5–21.

Clark, John. "Social Ecology Introduction." In *Environmental Philosophy: From Animal Rights to Radical Ecology*, ed. Michael E. Zimmerman, J. Baird Calliot, Karen J. Warren, Irene J. Klaver and John Clark, 345–353. Englewood Cliffs, NJ: Prentice Hall, 1993.

Clemmensen, Thomas Juel, Tom Nielsen, and Morten Daugaard. "Qualifying Urban Landscapes." *Journal of Landscape Architecture* 5, no. 2 (2010): 24–39.

Colacello, Bob. "Farah Pahlavi." *New York Magazine,* September 2013, pp. 153–161 and 188–190.

Colinvaux, Paul. *Introduction to Ecology.* New York: John Wiley & Sons, Inc., 1973.

Colquhoun, Alan. *Modern Architecture*. Oxford: Oxford University Press, 2002.

Conan, Michel. *Middle Eastern Garden Traditions: Unity and Diversity.* Cambridge, MA: Harvard University and Dumbarton Oaks, 2008.

Corbin, Alain. *The Lure of the Sea: The Discovery of the Seaside in the Western World, 1750–1840.* Berkeley: University of California Press, 1994.

Corner, James. "Eidetic Operations and New Landscapes." In *Recovering Landscape, Essays in Contemporary Landscape Architecture*, ed. James Corner, 153–169. New York: Princeton Architectural Press, 1999.

Cosgrove, Denise E. *Social Formation and Symbolic Landscape*. London: Croom Helm, 1998.

Crampton, J. and S. Elden, eds. *Space, Knowledge and Power: Foucault and Geography.* Hampshire: Ashgate, 2007.

Cugurullo, Federico. "How to Build a Sandcastle: An Analysis of the Genesis and Development of Masdar City." *Journal of Urban Technology* 20, no. 1 (2013): 23–37.

Curtis, William J.R. "Authenticity, Abstraction and the Ancient Sense: Le Corbusier and Louis Kahn's Ideas of Parliament." *Perspecta* 20 (1983): 181–194.

Curtis, William J.R. "Modern Architecture and the Excavation of the Past: Louis Kahn and the Indian Sub-Continent." In *Louis I. Kahn: The Power of Architecture*, ed. Mateo Kries, Jochen Eisenbrand, and Stanislaus von Moos. Weil am Rhein: Vitra Design Museum, 2012.

Daechsel, Markus. "Sovereignty, Governmentality and Development in Ayub's Pakistan: The Case of Korangi." *Modern Asian Studies* 45 (2011): 31–157.

Daher, Rami Farouk. "Amman: Disguised Genealogy and Recent Urban Restructuring, and Neoliberal Threats." In *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Yasser Elsheshtawi, 37–68. New York: Routledge, 2008.

Dalokay Güzer, Belemir. "Eskişehir Kent Parkı" [Eskişehir City Park]. *Yenmimar* 36 (April 2006): 14. http://www.yenimimar.com/index.php?action=displayArticle&ID=809

Danielson, Michael N. and Ruşen Keleş. *The Politics of Rapid Urbanization: Government and Growth in Modern Turkey*. London: Holmes & Meier, 1985.

Darling, F. Fraser and John P. Milton. *Future Environments of North America*. Garden City, NY: Natural History Press, 1966.

Debié, Franck. "Une Forme Urbaine du Premier Âge Touristique: Les Promenades Littorals." *Mappemonde* 93, no. 1 (1993): 32–37 [in French]. http://www.mgm.fr/PUB/Mappemonde/M193/PROMENAD.pdf

De Long, David G. "L'architecture de la communion." In Louis I. Kahn, *Le Monde de l'Architecture*, ed. David D. Brownlee and David G. De Long, 145–165. Paris: Center Georges Pompidou, 1992.

Design and Regeneration Blog. http://blogs.qu.edu.qa/designregenerationqatar/regeneration-projects/retrofitting-of-west-bay/

Devlet Ziraat İşletmeleri Neşriyatından (*DZİN*). 1939.

Dodds, Felix, Michael Strauss, and Maurice Strong. *Only One Earth: The Long Road Via Rio to Sustainable Development*. London: Routledge, 2012.

Doha News. http://dohanews.co/architect-floats-biodomes-proposal-for-doha-bay/

Doherty, Thomas, ed. *Postmodernism: A Reader*. New York: Columbia University Press, 1993.

Doxiadis Associates. *Islamabad: The New Capital of Pakistan*. Athens: Doxiadis Associates, 1964.

Dripps, Robin. "Groundworks." In *Site Matters; Design Concepts, Histories, and Strategies*, ed. Carol J. Burns and Andrea Kahn, 59–92. New York: Routledge, 2005.

Dvir, Noam. "The Beach Returns to Tel Aviv." *Haaretz*, March 17, 2010.

The Economist. "Benchmarking Global City Competitiveness." http://www.economistinsights.com/sites/default/files/downloads/Hot%20Spots.pdf

Eisenstadt, Shmuel N. and Wolfgang Schluchter. "Introduction: Paths to Early Modernities: A Comparative View." *Daedalus* 127, no. 3 (1998): 1–18.

El-Amrousi, Mohamed and John Biln. "Muscat Emerging; Tourism and Cultural Space." *Journal of Tourism and Cultural Change* 8, no. 4 (2010): 254–266.

Elhayani, Zvi. "Seafront Holdings." In *Back to the Sea*, ed. Sigal Barnir and Yael Moria-Klain, 104–117. Israeli Pavilion, The 9th International Architecture Exhibition Venice. Jerusalem: Keter Press, 2004.

Eliade, Mircea. *Images and Symbols: Studies in Religious Symbolism*, trans. Philip Mairet. New York: Sheed and Ward, 1969.

Elsheshtawy, Yasser. "Cities of Sand and Fog: Abu Dhabi's Arrival on the Global Stage." In *The Evolving Arab City: Tradition, Modernity and Urban Development*, ed. Yasser Elsheshtawi, 258–304. New York: Routledge, 2008.

Elsheshtawy, Yasser, ed. *Planning Middle Eastern Cities. An Urban Kaleidoscope in a Globalizing World*. London: Routledge, 2004.

Emami, Farshid. *Civic Visions, National Politics, and International Designs: Three Proposals for a National Center in Iran (1966–1976)*. Master of Science in Architecture Thesis, Massachusetts Institute of Technology, 2011.

Emami, Farshid. "Urbanism of Grandiosity: Planning a New Urban Centre for Tehran (1973–76)." *International Journal of Islamic Architecture* 3, no. 1 (March 2014): 69–102.

Engwicht, David. *Towards an Eco-City: Calming the Traffic*. Sydney: Envirobook, 1992.

Estidama. http://estidama.upc.gov.ae/estidama-and-pearl-rating-system.aspx?lang=en-US

Evyapan, Gönül Aslanoğlu. *Old Turkish Gardens, Old Istanbul Gardens in Particular*. Ankara: METU Faculty of Architecture Press, 1999.

Evyapan, Gönül Aslanoğlu. "Peyzaj Tasarımı: Deyim olarak Anlam ve Kapsamı" [Landscape Design: Meaning and Scope]. *Mimarlık* 254 (September 1993): 30–31.

Expo 2020 Dubai. http://expo2020dubai.ae/en/theme

Farina, Almo. *Principles and Methods in Landscape Ecology*. London: Chapman and Hall, 1998.

Farman Farmaian, Sattareh and Dona Munker. *Daughter of Persia: A Woman's Journey from Her Father's Harem Through the Islamic Revolution*. New York: Anchor Books, 1992.

Featherstone, Mike. *Undoing Culture: Globalization, Postmoderism and Identity*. London; Thousand Oaks, CA: Sage, 1995.

Ferrier, Ronald. "18 – The Iranian Oil Industry." In *Cambridge History of Iran from Nadir Shah to the Islamic Republic*, 639–702. Cambridge: Cambridge University Press, 1991. Available from: Cambridge Histories Online (Online Publication Date March 2008). http://dx.doi.org/10.1017/CHOL9780521200950

Firouz, Eskandar. *The Complete Fauna of Iran*. New York: I.B. Tauris, 2005.

Firouz, Eskandar. *Environment Iran*. Tehran: Offset Press, 1974.

Foster, H., ed. *The Anti-Aesthetic: Essays on Postmodern Culture*. Port Townsend, WA: Bay Press, 1983.

Foucault, Michel. "Of Other Spaces: Utopias and Heterotopias." In *Rethinking Architecture: A Reader in Cultural Theory*, ed. Neil Leach, 330–336. New York: Routledge, 1997.

Frampton, Kenneth. "Louis Kahn and the French Connection." *Oppositions. A Journal for Ideas and Criticism in Architecture* 22 (1980): 20–53.

Frampton, Kenneth. *Modern Architecture: A Critical History*. London: Thames and Hudson, 1992.

Frampton, Kenneth. "Towards a Critical Regionalism: Six Points for an Architecture of Resistance." In *The Anti-Aesthetic: Essays on Post Modern Culture*, ed. Hall Foster. New York: New Press, 1998.

Gallacher, David and Jeffrey Hill. "Status of *Prosopis cineraria* (ghaf) Tree Clusters in the Dubai Desert Conservation Reserve." *Tribulus* 15, no. 2 (2005): 3–9.

Gazi Orman Çiftliği Müdüriyeti (GOÇM). *Gazi Hazretlerinin Ankara'da Tesis Buyurdukları Orman Çiftliği, 5 May 1925–5 May 1930* [The Forest Farm which Gazi, his Excellency has Established], 2–3 (no date is available).

Geddes, Patrick. Town-Planning Report, *Jaffa and Tel Aviv*. Tel Aviv Municipal Archive, 1925.

Geertz, Clifford. *Local Knowledge*. New York: Basic Books, 1986.

Gharipour, Mohammad. *Persian Gardens and Pavilions: Reflections in History, Poetry and the Arts*. London: I.B. Tauris, 2013.

The Global Cities Index 2010. "Foreign Policy." http://www.foreignpolicy.com/articles/2010/08/11/the_global_cities_index_2010Globalization and World Cities Research Network: The World According to GaWC. http://www.lboro.ac.uk/gawc/gawcworlds.html

Gluck, Robert. "The Shiraz Arts Festival: Western Avant-Garde Arts in 1970s Iran." *Leonardo* 40, no. 1 (2007): 20–28.

Gobel, David. "Introduction." *Modulus* 17, no. 1 (1984).

Goldhagen, Sarah W. *Situated Modernism*. New Haven, CT: Yale University Press, 2001.

Gonzalez, Robert A. "The Fair City of Interama." *Journal of Architectural Education* 62 (2008): 27–40.

Goodall, Brian. *Dictionary of Human Geography*. London: Penguin, 1987.

Gozineh Consulting Group research on Tehran Green Infrastructure Master Plan. 2013.

Grichting, Anna. "Scales of Flows: Qatar and the Urban Legacies of Mega Events." *Archnet-IJAR* 7, no. 2 (July 2013): 173–191.

Grigor, Talinn. *Building Iran: Modernism, Architecture, and National Heritage under the Pahlavi Monarchs*. New York: Periscope, 2009.

Grigor, Talinn. "Recultivating 'Good Taste': The Early Pahlavi Modernists and Their Society for National Heritage." *Iranian Studies* 37, no. 1 (March 2004): 17–45.

Guba, Ingeborg and Ken Glennie. "Geology and Geomorphology." In *Vegetation of the Arabian Peninsula*, ed. Shaina A. Ghazanfar and Martin Fisher, 39–61. Dordrecht: Kluwer Academic, 1998.

Güler, İbrahim. "Bu Şehir Hepimizin" ["This City Belongs to All of Us"]. Interview with Yılmaz Büyükerşen, *Bizim Şehir* 37, 8–13 (2013).

Habermas, Jürgen. *The Structural Transformation of the Public Sphere: An Inquiry into a Category of Bourgeois Society,* trans. Thomas Burger. Cambridge, MA: MIT Press, 1991[1961].

Hai, Yigal. "Green Forum Petitions Against Plan to Expand Tel Aviv's Promenade." *Haaretz*, January 22, 2008. http://www.haaretz.com/news/green-forum-petitions-against-plan-to-expand-tel-aviv-s-promenade-1.237729

Halliday, Fred. "Monarchies in the Middle East: A Concluding Appraisal." In *Middle East Monarchies*, ed. Joseph Kostiner, 295–296. Boulder, CO: Lynne Rienner, 2000.

Harnish, Danka. "Tel Aviv Could Lose the Sea." *Davar*, April 9, 1971 [in Hebrew].

Hatuka, Tali and Rachel Kallus. "Loose Ends: The Role of Architecture in Constructing Urban Borders in Tel Aviv–Jaffa Since the 1920s." *Planning Perspectives* 21 (2006): 23–44.

Hatuka, Tali and Rachel Kallus. "Mediation Between State, City, and Citizens: Architecture Along the Tel Aviv Shoreline." *Journal of Architectural and Planning Research* 24 (2007): 23–41.

Heard-Bay, Frauke. *From Trucial States to United Arab Emirates*. Dubai: Motivate Publishing, 2004.

Hebbert, M. "Town Planning Versus Urbanismo." *Planning Perspectives* 21 (July 2006): 233–251.

Held, David and Anthony McGrew. *Globalization Theory, Approaches and Controversies*. Cambridge: Polity, 2007.

Helman, Anat. "European Jews in the Levant Heat: Climate and Culture in 1920s and 1930s Tel Aviv." *Journal of Israeli History* 22, no. 1 (2003): 71–90.

Helphand, Kenneth. "Dreaming Gardens: Landscape Architecture and the Making of Modern Israel." *Landscape Journal* 22, no. 2, January 2003, pp. 73–86.

Helphand, Kenneth I. "Halprin in Israel." *Landscape Journal* 31, no. 1–2 (January 2012): 199–217.

Hester, Randy. *Ecological Democracy*. Cambridge, MA: MIT Press, 2007.

Hever, Hanan. "They Shall Dwell by the Haven of the Sea: Israeli Poetry, 1950–60." *Mediterranean Historical Review* 17 (2002): 49–64.

Hewitt, Robert. "Globalization Landscape Architecture: A Review of the Literature." *Sage Open Access*, 2013.

Hewitt, Robert and Hongfei Chen. "Bioterrorism: The Influence of International Medical Thought on the Transformation of Cultural Landscapes." Selected Papers Council of Educators in Landscape Architecture, 2005.

Hewitt, Robert and Hala Fuad Nassar. "Assessing International Education in Contemporary Landscape Architecture." *Landscape Journal* 24, no. 2, 185–197.

Hewitt, Robert, Hala Fuad Nassar, and Sara Hekmatfar. "Globalization and Landscape Change in Tehran, Iran: The Pedagogy of Cross-Cultural International Landscape Architecture Education." Selected Papers, Council of Educators in Landscape Architecture, 2008.

Hirst, Paul and Grahame Thompson. *Globalization in Question*. Cambridge: Polity Press, 1999.

Hoffman, Valerie J. "The Articulation of Ibāḍ? Identity in Modern Oman and Zanzibar." *The Muslim World* 94, no. 2 (2004): 201–216.

Hopkins, Anthony G., ed., *Globalization in World History*. London: Pimlico, 2002.

Hull, Matthew S. *Government of Paper: The Materiality of Bureaucracy in Urban Pakistan*. Berkeley: University of California Press, 2012.

Isenstadt, Sandy and Kishwar Rizvi. *Modernism and the Middle East: Architecture and Politics in the Twentieth Century.* Seattle: University of Washington Press, 2008.

IUCN. *Proceedings of a Technical Meeting on Wetland Conservation*, 9 to 16 October 1967. Morges, Switzerland: United Nations Educational, Scientific and Cultural Organization and The Commission on Ecology of the International Union for Conservation of Nature and Natural Resources, 1968.

Jackson, John Brinckerhoff. "The Almost Perfect Town." In *Discovering the Vernacular Landscape*, ed. J.B. Jackson, 162–169. New Haven, CT: Yale University Press, 1984.

Janicke, Martin and Helge Jorgens. "Strategic Environmental Planning and Uncertainty: A Cross-National Comparison of Green Plans in Industrialized Countries." *Policy Studies Journal* 28 (2000): 612–632.

Jatsch, Markus. http://www.markusjatsch.com/projects/master_planning_abu_ dhabi_ corniche_beach.php#

Jayawardene, Shanti. "Leisure: Some Observations in Planning Traditions." *Mimar: Architecture in Development* 4, no. 21 (July–September 1986): 15.

Johnson, Eugene J. and Michael J. Lewis. *Drawn from the Source: The Travel Sketches of Louis I. Kahn*. Cambridge MA: MIT Press, 1996.

Kaçar, Duygu. "Cultivating the Nation: Atatürk's Experimental Farm as an Agent of Social and Cultural Transformation." Unpublished Ph.D. Dissertation, METU, 2010.

Kaçar, Duygu. "A Unique Spatial Practice for Transforming the Social and Cultural Patterns: Atatürk Forest Farm in Ankara." *METU JFA* 28, no.1 (2011): 171.

Kaçar, Duygu et al. "Involvement of Riverfront as a Natural Artifact into Urban Public Life: Eskişehir Porsuk Case." In *26th International Building & Life Fair and*

Congress Proceedings, ed. Tülin Vural Arslan and H. Kübra Eğri, 221–229. Bursa: UCTEA Chamber of Architects Bursa Section & Section of UIA in Turkey, 2014.

Kahn, Louis I. *The Louis I. Kahn Archive: Personal Drawings: The Completely Illustrated Catalogue of the Drawings in the Louis I. Kahn Collection,* University of Pennsylvania and Pennsylvania Historical and Museum Commission. New York: Garland, 1987.

Kahn, Louis. "On Monumentality." In *New Architecture and City Planning: A Symposium*, ed. Paul Zucker, 77–88. New York: New York Philosophical Library, 1944.

Kahn, Louis. "Speech at the International Architectural Congress, Isfahan, 1970." Transcript printed in *Art and Architecture* Special Issues 6–7, June–November 1971.

Kalay, Selami. "Küllerinden Doğan Kent Eskişehir" ["The City Born Out of Its Ashes"]. *Yeni Asır*, December 3, 2013, http://www.yeniasir.com.tr/sarmasik/2013/12/03/kullerinden-dogan-kent-eskisehir.

Kallus, Rachel. "Patrick Geddes and the Evolution of Housing Types in Tel Aviv." *Planning Perspectives* 12 (1997): 281–320.

Karimi Moshaver, Mehrdad. "The Rivers of Tehran: River Valleys Potentials in the City Development." *Manzar: The Iranian Academic Open Access Journal of Landscape* 5, no. 22 (2013): 52–55.

Karlinsky, Nahum. "Jaffa and Tel Aviv Before 1948: The Underground Story." In *Tel-Aviv, the First Century: Visions, Designs and Actualities*, ed. Maoz Azaryahu and S. Ilan Troen, 138–164. Bloomington: Indiana University Press, 2011.

Keddie, Nikki. "Is There a Middle East?" *International Journal of Middle East Studies* 4 (1973): 255–271.

Keil, Roger. "Third Way Urbanism: Opportunity or Dead End?" *Alternatives* 25, no. 2 (2000): 247–267.

Kelly, Kathleen and Terry Schnadelbach. *Landscaping the Saudi Arabian Desert*. Philadelphia, PA: Delancey, 1976.

Keyder, Çağlar, ed. *Istanbul, Between the Global and the Local*. Lanham, MD: Rowman & Littlefield, 1999.

Kezer, Zeynep. "Contesting Urban Space in Early Republican Ankara." *Journal of Architectural Education* 52, no. 1 (September 1998): 11–19.

Khademi, Shahrzad. "Tehran in Novel: Tehran Landscape in Literary Stories." *Manzar: The Iranian Academic Open Access Journal of Landscape* 2, no. 11 (2011): 66–71.

Khan, Hasan-Uddin. "Editor's Notes." *Mimar: Architecture in Development* 21 (July–September 1986): 5.

Khan, Hasan-Uddin. "Identity, Globalization and the Contemporary Islamic City." *International Journal of Islamic Architecture* 1, no. 2 (August 2012): 197–216.

Khan, Hasan-Uddin. "A New Paradigm: Glocal Urbanism and Architecture of Rapidly Developing Countries." *International Journal of Islamic Architecture* 3, no. 1 (March 2014): 5–34.

Khan, Naveeda. *Muslim Becoming: Aspiration and Skepticism in Pakistan*. London: Duke University Press, 2011.

Khirfan, Luna. "Ornamented Facades and Panoramic Views: The Impact of Tourism Development on al-Salt's Historic Urban Landscape." *International Journal of Islamic Architecture* 2, no. 2 (July 2013): 307–324.

Khosravi, Hamed. "Politics of DeMonst(e)ration." *San Rocco* 6 (2013): 28–37.

Khusrau, Amir. *In the Bazaar of Love: The Selected Poetry of Amir Khusrau*, trans. Paul Losensky and Sunil Sharma (New Delhi: Penguin, 2013).

King, Anthony D. *Spaces of Global Cultures: Architecture, Urbanism, Identity*. London: Routledge, 2004.

King, Ross. *Emancipating Space: Geography, Architecture and Urban Design*. London: Guilford Press, 1996.

Kollin, Susan, ed. *Postwestern Cultures: Literature, Theory, Space*. Lincoln: University of Nebraska Press, 2007.

Kolodney, Ziva and Rachel Kallus. "The Politics of Landscape (Re)Production: Haifa Between Colonialism and Nation Building." *Landscape Journal* 7, no. 2 (2008): 173–189.

Kovessy, Peter. "Architect Floats Biodomes Proposal for Doha Bay." *Doha News*, February 20, 2014, http://dohanews.co/architect-floats-biodomes-proposal-for-doha-bay/.

Ksiazek, Sarah. "Architectural Culture in the Fifties: Louis Kahn and the National Assembly Complex in Dhaka." *Journal of the Society of Architectural Historians* 52, no. 4(1993): 416–435.

Ksaizek, Sarah. "Critiques of Liberal Individualism: Louis Kahn's Civic Projects, 1947–57." *Assemblage* 31 (1996): 56–79.

Küçük, Murat, ed. *Eskişehir*. Ankara: The Republic of Turkey, Governorship of Eskişehir; Sistem Ofset, August 2010.

Kurtuluş, Hatice. ed. *Istanbul'da Kentsel Ayrışma, Mekansal Dönüşümde Farklı Boyutlar* [Urban Decomposition in Istanbul: Different Dimensions in Spatial Transformation]. Istanbul: Baglam, 2005.

Lalonde, Isabelle L. *Le concept de "paysage" au Maghreb: Mythe ou réalité?* Montreal: University of Montreal, 2004. http://www.unesco-paysage.umontreal.ca/uploads/documents/concept_isabelle.pdf; and http://www.unesco-paysage.umontreal.ca/en/researches-and-projects/Workshop_atelierterrain-marrakech-2004

Latiri, Lamia. "The Meaning of Landscape in Classical Arabo-Muslim Culture." *Cybergeo: European Journal of Geography* 196 (2001): 1–17. http://cybergeo.revues.org/4042?file=1

Lattermann, Sabine and Thomas Höpner. "Impacts of seawater desalination plants on the marine environment of the Gulf." In *Protecting the Gulf's Marine Ecosystems from Pollution*, ed. A. H. Abuzinada, H.-J. Barth, F. Krupp, B. Boër and T. Z. Al Abdessalaam, 191–205. Basel: Birkhäuser, 2008.

Lefaivre, Liane and Alexander Tzonis. *Critical Regionalism: Architecture and Identity in a Globalized World*. Munich; Berlin; London: Prestel, 2003.

Lefebvre, Henri. *The Production of Space*, trans. Donald Nicholson-Smith. Oxford: Blackwell, 1991.

Levine, Mark. *Overthrowing Geography: Jaffa, Tel Aviv, and the Struggle for Palestine, 1880–1948*. Berkeley: University of California Press, 2005.

Lewis, Bernard. *The Middle East and the West*. Bloomington: Indiana University Press, 1964.

Lewis, Pierce F. "To Revive Urban Downtowns, Show Respect for the Spirit of Place." *Smithsonian* 6 (September 1975): 32–41.

Lockerbie, John. "A Brief Background to Planning in Qatar." http://catnaps.org/islamic/planning.html

Lonely Planet. http://www.lonelyplanet.com/kuwait/kuwait-city/sights/other/al-corniche#ixzz34pffniC9

Lovejoy, Derek. "The Design of Islamabad – New Capital City of Pakistan." *Journal of the Royal Society of Arts* 114, no. 5123 (1966): 923–941.

Macglashan, M.E. and E. Lauterpacht. *Iran-United States Claims Tribunal Reports: Volume 13*. Cambridge: Grotius, 1988.

Madeouf, Anna. "Mulids of Cairo: Sufi Guilds, Popular Celebrations and the 'Roller-Coaster Landscape' of the Resignified City." In *Cairo Cosmopolitan: Politics, Culture and Urban Space in the New Globalized Middle East*, ed. D. Singerman and P. Amar, 465–487. Cairo: American University in Cairo Press, 2006.

Mahsud, Ahmed Z. K. "Rethinking Doxiadis' Ekistical Urbanism." *Positions* 1 (2012): 6–39.

Makhzoumi, Jala M. "Landscape in the Middle East: An Inquiry." *Landscape Research* 27 (2002): 213–228.

Makhzoumi, Jala M. "The Greening Discourse: Ecological Landscape Design and City Regions in the Mashreq." In *Urban Design in the Arab World: Reconceptualizing Boundaries*, ed. Robert Saliba, 65–82. London: Ashgate, 2015.

Makhzoumi, Jala M. "Landscape in the Middle East: An Inquiry." *Landscape Research* 27, no. 3 (August 2010): 213–228.

Makhzoumi, Jala M. and Gloria Pungetti. *Ecological Landscape Design and Planning, the Mediterranean Context*. London: Taylor & Francis Press, 1999.

The Mandala Collaborative, Wallace, McHarg, Roberts and Todd. *Pardisan: Plan for an Environmental Park in Tehran*. Philadelphia, PA: Winchell Press, 1975.

The Mandala Collaborative, Wallace, McHarg, Roberts and Todd, and Glen Fleck. Project Film *Pardisan*, 1975.

Manuscript Division, Library of Congress, *Charles Eames and Ray Eames Papers, 1850–1989*.

Manuscript Division, Library of Congress, *Victor Gruen Papers, 1886–1991*.

Manzar. http://nazar.ac.ir/en/peer-reviewed-journal-of-manzar-landscape

Marcus, George M. and William Whitaker. *The Houses of Louis Kahn*. New Haven, CT: Yale University Press, 2013.

Margolis, L. and Aziza Chaouni, eds. *Out of Water: Design Solutions for Arid Regions*. Berlin: Birkhauser, 2014.

Marom, Nathan. *City of Concept: Planning Tel Aviv*. Tel Aviv: Babel, 2009 [in Hebrew].

Marshall, Richard, ed. *Waterfronts in Post-industrial Cities*. New York; London: Spon Press, 2001.

Marzona, Egidio, Ulrich Weisner, and Gudrun Wessing. *Concept Art, Minimal Art, Arte Povera, Land Art: Slg [Sammlung] Marzona*. Beilefeld: Kunsthalle Bielefeld, 1990.

Matthews, G.V.T. *The Ramsar Convention on Wetlands: Its History and Development*. Gland, Switzerland: Ramsar Convention Bureau, 1993. http://www.ramsar.org/sites/default/files/documents/pdf/lib/Matthews-history.pdf

McHarg, Ian L. *Design with Nature*. New York: Natural History Press, 1969.

McHarg, Ian L. *A Quest for Life: An Autobiography*. New York: John Wiley & Sons, 1996.

McInroy, Neil. "Urban Regeneration and Public Space: The Story of an Urban Park." *Space and Polity* 4, no. 1 (2000): 23–40.

Merchant, Carolyn. *The Death of Nature: Women, Ecology and the Scientific Revolution*. New York: Harper & Row, 1989.

Milani, Raffaele. "The Birth of the Aesthetics of Landscape." In *Nature as Space: (Re)Understanding Nature and Natural Environments*, ed. Güven A. Sargın, 135–146. Ankara: METU Faculty of Architecture Press, 2000.

Ministry of Municipality and Urban Planning – MMUP. *Study Report: Qatar National Master Plan (QNMP)*. Doha, Qatar: MMUP, 2010, p. 13.

Mitchell, Don. "New Axioms for Reading the Landscape: Paying Attention to the Political Economy and Social Justice." In *Political Economies of Landscape Change*, ed. J.L. Wescoat Jr. and D.M. Johnston, 29–50. Dordrecht: Springer, 2008.

Mitchell, Kevin. "Dubai." In *Architecture and Globalisation in the Persian Gulf Region*, ed. Murray Fraser and Nasser Golzari, 155–172. Surrey: Ashgate, 2013.

Mitchell, Kevin. "The Future Promise of Architecture in Dubai." In *The Superlative City: Dubai and the Urban Condition in the Early Twenty-First Century*, ed. Ahmed Kanna, 148–166. Cambridge, MA: Aga Khan Program at the Harvard University Graduate School of Design/Harvard University Press, 2013.

Montgomery, John. "Making a City: Urbanity, Vitality, and Urban Design." *Journal of Urban Design* (April 2007): 93–116.

Moore, Kathleen Dean. *Moral Ground: Ethical Action for a Planet in Peril*. San Antonio, TX: Trinity University Press, 2010.

Moriyama and Teshima Planners (n.d.). *Wadi Hanifah Comprehensive Development Plan: Case Study*. http://mtplanners.com/mtpwadi1.html

Mostafavi, Mohsen. *Implicate and Explicate-The Aga Khan Award for Architecture*. Baden, Switzerland: Lars Muller, 2010.

Moradi, Maryam. *Cooperation and Conflict Between Iran and America at the Iran-United States Claims Tribunal*. Ph.D. Dissertation, University of Exeter, 2010.

Moria-Klain, Yael and Sigal Barnir, eds. *Back to the Sea. Israeli Pavilion, the 9th International Architecture Exhibition Venice*. Jerusalem: Keter Press, 2004.

Moria-Klain, Yael and Sigal Barnir, eds. *In the Public Realm: A Tribute to Avraham Karavan*. Tel Aviv: Tel Aviv Museum, 2003 [in Hebrew].

Muzaffar, Ijlal. "Boundary Games: Ecochard, Doxiadis, and the Refugee Housing Projects under Military Rule in Pakistan, 1953–1959." In *Governing by Design, Architecture, Economy and Politics in the Twentieth Century*, ed. Aggregate, 142–178. Pittsburgh, PA: University of Pittsburgh Press, 2012.

Nagy, Sharon. "Dressing Up Downtown. Urban Development and Government Public Image in Qatar." *City and Society* 12, no. 1 (2000): 125–147.

Nagy, Sharon. "Making Room for Migrants, Making Sense of Difference: Spatial and Ideological Expressions of Social Diversity in Urban Qatar." *Urban Studies* 43, no. 1 (2006): 119–137.

Nash, Nancy Lee. "Conservation: Bringing Back Wildlife." *Nature* 472 (April 21, 2011): 290–291.

Nasr, Seyyed Hossein. *The Encounter of Man and Nature: The Spiritual Crisis of Modern Man*. London: George Allen and Unwin, 1968.

Nasr, Seyyed Hossein. *Science and Civilization in Islam*. Cambridge, MA: Harvard University Press, 1968.

Nassar, Hala. "Gardens Underneath Which Rivers Flow." *Islamic Voi*ces. Bangalore, India, 15-11, no. 191 (2002): 191–192.

Nassar, Hala and Robert Hewitt. "Al Azhar Urban Park, Cairo, Egypt: Contemplating Deglobalization in a Historic, Islamic Urban Landscape." Selected Papers, Council of Educators in Landscape Architecture, 2006.

Nassar, Hala and Robert Hewitt. "The Redesign of 19th-century Urban Cairo: The Influence of International Medical Thought on the Transformation of Cultural Landscapes." *Landscape Review*, 2004.

Nassar, Hala and Robert Hewitt. "The Relocation of al-Fustat Pottery Village: Evaluating the Results of Urban Redevelopment in Misr al-Qadeema, Cairo." *International Journal of Islamic Architecture* 1, no. 2 (2012): 367–381.

Nassar, Nala and Robert Hewitt. "The Revival of the Great Library of Alexandria: International Landscape of Commemoration." Critiques of Built Works in Landscape Architecture, 2004.

Nayeem, Sanya. "Zayed Vision: Transforming Desert into Green Haven." *Gulf News*, September 20, 2008. http://gulfnews.com/news/gulf/uae/environment/zayed-vision-transforming-desert-into-green-haven-1.132209

Necipoğlu, Gülru. "The Suburban Landscape of Sixteenth-Century Istanbul as a Mirror of Classical Ottoman Garden Culture." In *Gardens in the Time of the Great Muslim Empires*, ed. Attilio Petruccioli. Leiden: E.J. Brill, 1997, 32–71.

Nesbitt, Kate, ed. *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory 1965–1995*. New York: Princeton Architectural Press, 1996.

Nicolai, Bernd. *Moderne und Exil, Deutschprachige Architekten in der Turkei* 1925–1955. Berlin: Verlag für Bauwesen, 1998.

Nitzan-Shiftan, Alona. "The Architecture of the Hyphen: The Urban Unification of Jaffa and Tel Aviv as a National Metaphor." In *Tel-Aviv, the First Century: Visions, Designs and Actualities*, ed. Maoz Azaryahu and S. Ilan Troen, 373–405. Bloomington: Indiana University Press, 2011.

Nocke, Alexandra. "Modern Israeli Identity and the Mediterranean Cultural Theme: An Exploration into the Visual Representations of Tel Aviv and the Sea." *Jewish Culture and History* 13 (2012): 61–86.

Noguchi, Isamu and Louis Kahn. *Play Mountain*. Japan: Marumo, 1996.

Norcliffe, Glen, Keith Bassett, and Tony Hoare. "The Emergence of Postmodernism on the Urban Waterfront: Geographical Perspectives on Changing Relationships." *Journal of Transport Geography* 4 (1996): 123–134.

Ofrat, Gideon. *Back Turned to the Sea*. Tel Aviv: Omanut Israel, 1990 [in Hebrew].

Ökesli, Duygu Saban. "Hermann Jansen's Planning Principles and his Urban Legacy in Adana." *METU JFA* 26, no. 2 (2009): 45–67.

Orsenna, Erik. *Les Chevaliers du Subjunctif*. Paris: Stock, 2004.

Otthoffer-Latiri, Lamia. "Les représentations paysagères dans la géographie arabe classique des VIIIe–XIe siècles. Méthodes et modèles paysagers." *L'Espace Géographique* 34 (2005): 176–191.

Özel, Sadun. "Porsuk Barajı'nın Hikayesi" [The Story of the Porsuk Dam]. *Eski-Yeni*, *TC Eskişehir Valiliği Aylık Şehir Kültürü Dergisi* 4, no. 46 (2012): 44–47.

Özer, Başak, ed. *Ulusal Peyzaj Mimarlığı Ödülleri 2009–2013* [*Turkish National Landscape Architecture Awards 2009–2013*]. Ankara: TMMOB Peyzaj Mimarları Odası, 2014.

Pardisan Forest Park. Tehran, Iran. http://wikimapia.org/1538316/Pardisan-Forest-Park. http://www.climate-change.ir/en/about/

Pasban-Hazrat, Golamreza. *Design in Nature: Ferdowsi Garden, Jamishidieh Garden, Environmental Design in Kolakchal Canyons*. Tehran: Ganji Honar, 2009.

Passini, Romedi. *Wayfinding in Architecture*. New York: Van Nostrand Rienhold, 1992.

Payton, Neil. "The Machine in the Garden City: Patrick Geddes' Plan for Tel Aviv." *Planning Perspectives* 10 (1995): 359–381.

Pei Partners. http://www.peipartnership.com/wp-content/uploads/MIAP_panels_web.pdf

Persia: The Qajar Dynasty Firouz, Farmanfarmaian, Farman-Farmaian and Mossadeq. Genealogy. http://www.royalark.net/Persia/qajar9.htm

Peterson, J.E. "Oman: Three and Half Decades of Change and Development." *Middle East Policy* 11, no. 2 (2004): 125–137.

Petruccioli, Attilio. *Dar al Islam: Architetture del Territorio nei Paesi Islamici*. Rome: Carucci Editore, 1985.

Piccinato, Luigi. "Lecture on the Tel Aviv Seashore, 6.7.1964." *Tel Aviv Municipal Archive* 7, no. 13: 249.

Prado Design Website. http://pradodesign2.wordpress.com/2013/12/24/calatravas-sharq-crossing-planned-for-doha-skyline/

Prentice, Anne. "Islamabad: A New Capital City." *Geography* 51, no. 1 (1966): 58–61.

Punter, John V. "Participation in the Design of Urban Space." *Landscape Design*, no. 200 (1991): 24–27.

Qatar Diar Vinci Consulting. http://www.qdvc.com/en/projects.php?action=view&id=16

Qatar Living. http://www.qatarliving.com/qatar-living-lounge/posts/did-meteor-impact-form-doha-bay-corniche

Qatar National Master Plan. QNMP (Qatar National Master Plan), Study Report. P.13.3.

Quadir, Tarik M. *Traditional Islamic Environmentalism*. New York: University Press of America, 2013.

Radiozamaneh. "Environment Official Tries to Halt Sale of 'ecological' Park." September 17, 2013. http://archive.radiozamaneh.com/english/content/environment-official-tries-halt-sale-%E2%80%9Cecological%E2%80%9D-park

Ram, Uri. *The Globalization of Israel: McWorld in Tel Aviv, Jihad in Jerusalem*. New York: Routledge, 2008.

Rechter, Yaakov. "The Tel Aviv Promenade." *Tvai*, 1990, pp. 27–28 [in Hebrew].

Reed, Chris and Nina Maria Lister. *Projective Ecologies*. New York: Harvard University Graduate School of Design, Actar, 2014.

Rehman, Abdul. "Changing Concepts of Garden Design in Lahore from Mughal to Contemporary Times." *Garden History* 37, no. 2 (Winter 2009): 205–217.

Reinen, Timothy and Mohammad Gharipour. "Edward Durell Stone: Architectural Works in Asia & North Africa." In *Proceedings of the 2nd International Conference on Sustainable Cities, Urban Sustainability and Transportation*, 232–238. Baltimore, 2013.

Reisz, Emma. "City as Garden: Shared Space in the Urban Botanic Gardens of Singapore." In *Postcolonial Geographies, Southeast Asian Cities and Global Processes*, ed. Ryan Bishop, John Phillips and Wei Wei Yeo, 123–148. New York: Routledge, 2003.

Repton, Humphrey. *The Art of Landscape Gardening*, by Humphry Repton, esq., 1907.

Repton, Humphrey. *The Red Books of Humphry Repton*. London: Basilisk Press, 1976.

Rizzo, A. "Metro Doha." *Cities* 31 (2013): 533–543. doi:10.1016/j.cities.2011.11.011.

Rofe, Yodan and H. Schwartz. "Vision, Implementation and Evolution of Patrick Geddes' Urban Block in Tel Aviv." In *Regional Architecture in the Mediterranean Area*, ed. Alessandro Bucci and Luigi Mollo. Florence: Alinea Editrice, 2010, 483–491.

Roitman (Amiaz), Moshe. "On the Question of the Beach." *Yediot Iryat Tel Aviv* 1, no. 2 (1937): 46–47 [in Hebrew].

Ronner, Heinz, Louis I. Kahn, and Sharad Jhaveri. *Louis I. Kahn: Complete Work, 1935–1974*. Boston: Birkhäuser Verlag, 1987.

Rosenberg, Elissa. "Public Works and Public Space: Rethinking the Urban Park." *Journal of Architectural Education* 50, no. 2 (November 1996): 89–103.

Rosenblum, Doron. "The Tel Aviv Shoreline: A New Look." *Davar*, February 19, 1971 [in Hebrew].

Ruggles, D. Fairchild. *Islamic Gardens and Landscapes*. Philadelphia: University of Pennsylvania Press, 2008.

Sabri, Cyrus R. and Miller, Patrick A. "Epic Stones." *Landscape Architecture Magazine*, 2002, pp. 88–95.

Sa'di, *The Gulistan (Rose Garden) of Sa'di: Bilingual English and Persian Edition with Vocabulary* (Bethesda, MD: Ibex, 2008).

Sahimi, Muhammad. "The Hostage Crisis, 30 Years On." *PBS Frontline: Tehran Bureau*, 3 November 2009. http://www.pbs.org/wgbh/pages/frontline/tehran-bureau /2009/11/30-years-after-the-hostage-crisis.html

Salama, A.M. "Media Coverage and Users' Reactions: Al Azhar Park in Cairo Re-examined." In *Architecture Beyond Criticism: Expert Judgment and Performance Evaluation*, ed. W. Preiser, A. Davis, A.M. Salama and A. Hardy, 91–103. Abingdon: Routledge, 2014.

Salama, A.M. "Sustainability/Trans-Disciplinarity: A Concern for People and Environments Between Confusing Terminology and Outdated Approaches." *INTBAU: International Network for Traditional Building, Architecture, & Urbanism* I, no. 20 (2007). http://www.intbau.org/archive/essay20.htm

Salama, A.M. and A.K. Grichting. "Edge, Center, and Spine: Exploring the Multi-Dimensionality of Contemporary Landscapes in Middle Eastern Cities." *Archnet-IJAR: International Journal of Architectural Research* 9, no. 2 (2015): 113–136.

Salama, A.M., F. Khalfani, and A. Al Maimani. "Experiential Assessment of Urban Open Spaces in Doha." *Open House International* 38, no. 2 (2013): 47–57.

Salama, A.M. and F. Wiedmann. *Demystifying Doha: On Architecture and Urbanism in an Emerging City*. Surrey: Ashgate, 2013.

Saliba, Robert. "Framing Urban Design on the Margins: Global Paradigms and Regional Implications." In *Urban Design in the Arab World: Reconceptualizing Boundaries*, ed. Robert Saliba, 1–16. London: Ashgate, 2015.

Samhouri, W. *Wadi Hanifa 2010 on Site Review Report*. Aga Khan Award for Architecture, 2010. http://archnet.org/authorities/1106/publications/1916

Sancar, Fahriye Hazer. "Towards Theory Generation in Landscape Aesthetics." *Landscape Journal* 4, no. 2 (Fall 1985): 116–124.

Sanderson, Geoff. "Natural History of the Date Palm *Phoenix dactylifera*." 2001. http://www.enhg.org/alain/geoff/date.htm

Sarlöv-Herlin, Ingrid. "New Challenges in the Field of Spatial Planning: Landscapes." *Landscape Research* 29, no. 4 (2004): 399–411.

Saseendran, Sajila. "Dh6 Billion to Turn Dubai into 'Green Paradise' by 2025." *Khaleej Times*, May 7, 2014. http://www.khaleejtimes.com/kt-article-display-1.asp?xfile=data/government/2014/May/government_May20.xml&section=government

Saseendran, Sajila. "Dubai to Have 12,200 Hectares of Green Space." *Khaleej Times*, April 2, 2014. http://www.khaleejtimes.com/kt-article-display-1.asp?xfile=data/nationgeneral/2014/April/nationgeneral_April14.xml&section=nationgeneral

Sassen, Saski. *Global Networks, Linked Cities*. New York: Routledge, 2001.
Schayegh, Cyrus. "Iran's Karaj Dam Affair: Mass Consumerism, the Politics of Promise, and the Cold War in the Third World." *Comparative Studies in Society and History* 54, no. 3 (2012): 612–643.
Schlor, Joachim. *Tel Aviv*. London: Reaktion, 1999.
Schmandt, Michael J. "The Importance of History and Context in the Postmodern Urban Landscape." *Landscape Journal* 18, no. 2 (Fall 1999): 157–165.
Schnell, Izhak and Iris Graicer. "Rejuvenation of Population in Tel-Aviv Inner City." *The Geographical Journal* 60 (1994): 185–197.
Schrader, Paul. "Poetry of Ideas: The Films of Charles Eames." *Film Quarterly* 23, no. 3 (Spring 1970): 2–19.
Schwartz, Martha. http://www.marthaschwartz.com/projects/civic_ institutional_ adcb.php#
Schwarzenbach, Alexis. *Saving the World's Wildlife: WWF – The First 50 Years*. London: Profile Books, 2011.
Secchi, Bernardo. "Wasted and Reclaimed Landscapes – Rethinking and Redesigning the Urban Landscape." *Places* 19, no.1 (2007): 6–11.
Sedaghatfar, Jahangir. *Entopia*. Kent, OH: Kent State School of Architecture, 1971.
Sennett, Richard. *Flesh and Stone: The Body and the City in Western Civilization*. New York: W.W. Norton, 1994.
Sennott, R. Stephen. *Encyclopedia of 20th-Century Architecture, Vol. 1 A-F*. New York: Taylor & Francis Books, 2004.
Serrano, Isagani R. "Contemporary Development and Globalization." *Proceedings of the International Conference Civil Society, Religion & Global Governance: Paradigms of Power & Persuasion*. September, Canberra, Australia, 2005.
Shaheer, Mohammad, Geeta Wahi Dua, and Adit Pal, eds. *Landscape Architecture in India. A Reader.* New Delhi: Landscape, 2013.
Shavit, Yaakov and Gideon Biger. *The History of Tel Aviv, Volume I–IV*. Ramot: Tel Aviv University Press, 2001 [in Hebrew].
Sieverts, Thomas. "Where We Live Now." In *Where We Live Now: An Annotated Reader*, ed. Matthew Stadler, 21–81. Portland, OR: Suddenly, 2008.
Şimşek, Gül. "River Rehabilitation with Cities in Mind: The Eskişehir Case." *METU JFA* 31, no. 1 (2014): 28.
Sinha, Amita. "Slow Landscapes of Elevated Linear Parks: Bloomingdale Trail in Chicago." *Studies in the History of Gardens & Designed Landscapes: An International Quarterly*, 34 (2015): 113–122.
Siravo, F. "Reversing the Decline of a Historical District." In *Historic Cities Support Programme: The Azhar Park Project in Cairo and the Conservation and Revitalization of Darb Al-Ahmar*, ed. Aga Khan Trust for Culture, 35–54. Geneva: Aga Khan Trust for Culture, 2001. http://www.akdn.org/publications/cairo_brochure.pdf
Smets, Marcel. "Promenade, Past and Present." *Topos* 41 (2001): 6–17.
Smith, John Alexander. "The Islamic Garden in Oman; Sanctuary and Paradise." *Garden History* 19, no. 2 (1991): 187–208.
Solomon, Erika. "As Tiny UAE's Water Tab Grows, Resources Run Dry." *Reuters*, June 21, 2010. http://www.reuters.com/article/2010/06/21/us-emirates-water-feature-idUSTRE65K3MK20100621
Solomon, Susan G. "Louis Kahn's Buildings for the Three Faiths: 'Religion . . . not a religion.'" In *Louis I. Kahn: The Power of Architecture*, ed. Mateo Kries, Jochen Eisenbrand, and Stanislaus von Moos. Weil am Rhein: Vitra Design Museum, 2012.

Sorkin, Michael, ed. *Variations on a Theme Park*. New York: Noonday Press, 1992.
Sowayan, Saad Abdullah. *Nabati Poetry: The Oral Poetry of Arabia*. Berkeley: University of California Press, 1985.
Spirn, Anne Whiston. *The Language of Landscape*. New Haven, CT: Yale University Press, 2000.
Spirn, Anne Whiston. "The Poetics of City and Nature: Towards a New Aesthetic for Urban Design." *Landscape Journal* (Fall 1988): 108–126.
Spooner, Brian. "Cultural Anthropology in Iran: Beginnings and Prospects." *Expedition* (Spring–Summer 1971): 66–71.
Spooner, Brian. "The Cultural Ecology of Pastoral Nomads." *Addison-Wesley Module in Anthropology* 45 (1973): 1–53.
Steffen, Alex. "Cities in the Age of Climate Consequences."
Stein, Achva Benzinberg. "Landscape Elements of the Makam: Sacred Places in Israel." *Landscape Journal* 6, no. 2 (Fall 1987): 123–131.
Steinitz, Carl. "From Project to Global: On Landscape Planning and Scale." *Landscape Review* 9, no. 2 (2004): 117–127.
Swaffield, Simon and Jorgen Primdhal, eds. *Globalization and Agricultural Landscapes: Change Patterns and Policy Trends in Developed Countries*. Cambridge: Cambridge University Press, 2010.
Symbiosis Design. http://www.symbiosisdesign.com/projects/doha-corniche
Tekin, Utku. "Eskişehir'de Turizm Devrimi" [The Tourism Revolution in Eskişehir]. *Bizim Şehir* 33 (no date is available): 14. http://www.eskisehir-bld.gov.tr/bizimsehir/33/bizimsehir.pdf
Temple Herr, Cheryl. *Critical Regionalism and Cultural Studies: From Ireland to the American Midwest*. Gainesville: University Press of Florida, 1996.
Tengberg, Margareta. "Beginnings and Early History of Date Palm Garden Cultivation in the Middle East." *Journal of Arid Environments* 86 (2012): 39–147.
Thayer, Robert L. Jr. "The World Shrinks, the World Expands: Information, Energy, and Relocalization." *Landscape Journal* 27, no. 1 (2008): 9–22.
Treib, Marc. "Must Landscapes Mean? (1995)." In *Theory in Landscape Architecture, A Reader*, ed. Simon Swaffield, 89–101, Philadelphia: University of Pennsylvania Press, 2002.
Troen, Ilan. "The Transformation of Zionist Planning Policy: From Rural Settlements to an Urban Network." *Planning Perspectives* 3 (1988): 3–23.
Türeli, İpek. "Modelling Citizenship in Turkey's Miniaturk Park." In *Orienting Istanbul, Cultural Capital of Europe?*, ed. Deniz Göktürk, Levent Soysal and İpek Türeli, 104–125. London: Routledge, 2010.
Türeli, İpek. " 'Small' Architectures, Walking and Camping in Middle Eastern Cities." *International Journal of Islamic Architecture* 2, no. 1 (January 2013): 5–38.
Tzonis, Alexander and Liane Lefaivre. *Architecture of Regionalism in the Age of Globalization: Peaks and Valleys in the Flat World*. Abingdon: Routledge, 2010.
UAE Interact. http://www.uaeinteract.com/docs/Mohammed_bin_Rashid_endorses_Jumeirah_Corniche_Development_Project/57901.htm
Udo, Weilacher. *Between Landscape Architecture and Land Art*. Basel: Birkhauser, 1996.
Umbach, Maiken and Bernd-Rüdiger Hüppauf. *Vernacular Modernism: Heimat, Globalization, and the Built Environment*. Stanford, CA: Stanford University Press, 2005.
United Arab Emirates Commission for Academic Accreditation. https://www.caa.ae/caa/DesktopModules/InstPrograms.aspx

Vale, Lawrence. *Architecture, Power and National Identity.* New York: Routledge, 2008.
Valena, Tomáš, Tom Avermaete, and Georg Vrachliotis. *Structuralism Reloaded: Rule-Based Design in Architecture and Urbanism*. London: Axel Menges, 2011.
Vigano, Paola. "On Porosity." In *Permacity*, ed. J. Rosemann. Barcelona: International Forum on Urbanism, 2007.
Waldheim, Charles, ed., *The Landscape Urbanism Reader*. New York: Princeton Architectural Press, 2006.
Waldheim, Charles and Alan Berger. "Logistics landscape." *Landscape Journal* 27, no. 2 (2008): 219–246.
Wallace, David. A. *Urban Planning My Way.* Chicago: Planners Press, 2004.
Wallace, McHarg, Roberts and Todd. *A Feasibility Study for an Environmental Park in Tehran, Iran, for the Imperial Government of Iran.* Philadelphia, PA: WMRT, 1973.
Wallace, McHarg, Roberts and Todd. *A Feasibility Study for an Environmental Park in Tehran, Iran, for the Imperial Government of Iran Appendix*. Philadelphia, PA: WMRT, 1973.
Ward, Barbara and René Dubois. *Only One Earth: The Care and Maintenance of a Small Planet*. New York: W.W. Norton, 1972.
Welter, Volker. "The 1925 Master Plan for Tel Aviv by Patrick Geddes." In *Tel-Aviv, the First Century: Visions, Designs and Actualities*, ed. Maoz Azaryahu and S. Ilan Troen, 300–326. Bloomington: Indiana University Press, 2011.
Wescoat, James L. Jr. "From the Gardens of the Qur'an to the Gardens of Lahore." *Landscape Research* 20 (1995): 19–29.
Wescoat, James L. Jr. "The Islamic Garden: Issues for Landscape Research." *Environmental Design: Journal of the Islamic Environmental Design Research Centre* 1 (1986): 10–19.
Wescoat, James L. Jr. "Mughal Gardens and Geographic Sciences, Then and Now." In *Gardens in the Time of the Great Muslim Empires: Theory and Design*, ed. Attilio Petruccioli, 187–202. Leiden: E.J. Brill, 1997.
Wescoat, James L. Jr. "Water in Early Mughal Gardens." *Environmental Design: Journal of the Islamic Environmental Design Research Centre* 2 (1985): 50–57.
Wescoat, James L. Jr. and D.M. Johnston, eds. *Political Economies of Landscape Change: Places of Integrative Power.* Dordrecht: Springer, 2007.
Wescoat, James L. and Joachim Wolschke-Bulmahn. *Mughal Gardens: Sources, Places, Representations, and Prospects*. Washington, DC: Dumbarton Oaks Research Library and Collection, 1996.
Western, A.R. *The Flora of the United Arab Emirates: An Introduction*. Al Ain: United Arab Emirates University, 1989.
WWF. *2008 WWF Living Planet Report*. Geneva: WWF International, 2008.
Yarahmadi, Samaneh. "Urban Landscape in a Strategic View: Organization Strategies in Renovating the Landscape of Jamaran Urban Village." *Manzar: The Iranian Academic Open Access Journal of Landscape* 3, no. 11 (2011): 18–25.
Yılmaz, Burcu. "Bozkırdaki Cennet: Gençlik Parkı" [The Paradise in the Steppes: The Youth Park]. In *Sanki Viran Ankara*, ed. Funda Şenol Cantek, 211–236. İstanbul: İletişim, 2006.
Zohadi, Ahmad. "The Challenges of Sustainable Development Around the Persian Gulf." In *Urban Design in the Middle East*. Special issue of *Urban Design* 124 (Autumn 2012): 12–13.
Zube, Erwin H., James L. Sell, and Jonathan G. Taylor. "Landscape Perception: Research, Application, and Theory." *Landscape Planning* 9, no. 1 (1982): 1–33.

Biographies

Mohammad Gharipour is Associate Professor at the School of Architecture and Planning at Morgan State University in Baltimore, Maryland. He obtained his master's in architecture from the University of Tehran and his Ph.D. in architecture and landscape history from Georgia Institute of Technology. He has received several awards such as the Hamad bin Khalifa Fellowship in Islamic Art, the Spiro Kostof Fellowship Award from the Society of Architectural Historians, and the National Endowment for the Humanities Faculty Award. He has authored and edited several books including: *Bazaar in the Islamic City* (American University of Cairo Press, 2012); *Persian Gardens and Pavilions: Reflections in Poetry, Arts and History* (I.B. Tauris, 2013); *Calligraphy and Architecture in the Muslim World* (Edinburgh University Press, 2013); *Sacred Precincts: The Religious Architecture of Non-Muslim Communities across the Islamic World* (Brill, 2014); *The City in the Muslim World: Depictions by Western Travelers* (Routledge, 2015); and *Historiography of Persian Architecture* (Routledge, 2015). He is the director and founding editor of the *International Journal of Islamic Architecture*.

Anna Grichting is Assistant Professor in the Department of Architecture and Urban Planning at Qatar University. She has a doctorate of design in urbanism from Harvard University. She has practiced and studied in England, Ireland, Switzerland, the United States, and the Gulf region, and conducted research in Cyprus, Korea, Berlin, and Qatar. Her academic experience includes teaching at the University of Geneva and Harvard, developing an education initiative for the Aga Khan Award for Architecture, and teaching the Balkans Peace Parks Academic Expedition summer course. Her research interests include food security and food urbanism in drylands, the urban legacies of mega-events, healing ecologies in border landscapes of conflict, the roles of public art in contemporary space, cultural and memorial landscapes, and ecotourism. As a musician, she has just released a CD with Desert Bridges in Qatar.

Robert Hewitt is an Associate Professor of Landscape Architecture at Clemson University. His research interests include the influence of medicine on

environmental design, landscape globalization, and media and technology in landscape architecture. He has authored more than thirty peer-reviewed articles and co-chaired three international conferences. He is the editor of two conference proceedings as well as *Landscape Imprints*, published by Council of Educators in Landscape Architecture (2010). He is the recipient of more than thirty international, national, and regional awards for his professional and academic work. He is a principal in HewittNassar Studio, working on projects in the United States, China, and the Middle East.

Kathleen John-Alder is an Assistant Professor in the Department of Landscape Architecture at Rutgers University and a registered landscape architect with over twenty years of professional experience. She holds undergraduate degrees from Oberlin College and Rutgers University, an M.S. in botany from Pennsylvania State University, and an M.E.D. in history and theory from Yale University School of Architecture. As an Associate Partner with Olin Partnership, she was involved in the landscape designs for the J. P. Getty Center, the US federal courthouse in Boston, and the Washington Monument. Her research involves the transformative role of ecology and environmentalism in the discourse of mid-20th-century landscape design. She has published in scholarly venues such as *Landscape Journal*, *Studies in the History of Gardens and Designed Landscapes*, *Journal of Planning History*, and *The Good Gardener? Nature, Humanity and the Garden*.

Duygu Kaçar is an Assistant Professor of Architecture at Eskişehir Osmangazi University in Turkey. She received her Ph.D. and master of architecture degrees from the Department of Architecture at Middle East Technical University in Ankara (METU). She has served as a visiting scholar at George Washington University (Washington, DC) and the Technical University of Dortmund (Germany). She has conducted postdoctoral research on the urban open spaces of Ankara at METU and on industrial landscapes in the Ruhrgebiet in Germany. Her research interests include urban design, urban history and theory, and architectural design and theory.

Akel Ismail Kahera is Dean of the School of the Arts, Virginia Commonwealth University in Doha, Qatar (VCUQatar). He received his bachelor's in architecture from Pratt Institute in Brooklyn, New York; his master's in architecture from the Massachusetts Institute of Technology; and his Ph.D. in Near Eastern studies from Princeton University. He has authored more than three dozen scholarly essays on the theory of architecture and urbanism, as well as three books: *Deconstructing the American Mosque: Space Gender and Aesthetics* (University of Texas Press, 2002); *Design Criteria for Mosques* (co-author, Architectural Press, 2009); and *Reading the Islamic City* (Rowman and Littlefield/Lexington Press, 2011).

Farhan Karim is an Assistant Professor in the School of Architecture, Design, and Planning at the University of Kansas. He received a Ph.D. in the history

of architecture from the University of Sydney, Australia. His first book, *Modernism of Austerity: Formation and Display of Ideal Home in India, 1920–1960*, is scheduled for publication in 2017 by the University of Pittsburgh Press. His current research focuses on the involvement of Euro-American architects in the development of modern architecture in postcolonial Pakistan (1947–71). He recently received a Graham Foundation Grant for Advanced Art and Architecture, as well as the Aga Khan Postdoctoral Research Fellowship at the Massachusetts Institute of Technology. He also served as a juror for the National Endowment for the Humanities (NEH).

Kıvanç Kılınç is an Assistant Professor in the Department of Architecture at Yaşar University in Izmir, Turkey. He also serves as Associate Editor of the *International Journal of Islamic Architecture*. He received his Ph.D. in the history and theory of art and architecture at Binghamton University, and his master of architecture degree from the Department of Architecture at Middle East Technical University in Ankara (METU). His research focuses on the transnational connections and their consequences, which have shaped social housing practices in Turkey. Other areas of interest include gender and architecture in early 20th-century Turkey, postcolonial architecture and urbanism, and the history and theory of modern architecture and art.

Hooman Koliji is an Associate Professor of Architecture at the School of Architecture Planning and Preservation, University of Maryland. His research operates at the intersection of visual and material representation, West-East exchanges, and architecture and landscape. He received a Ph.D. in the theory of architecture from the Virginia Institute of Technology. As a practitioner, he has completed several built landscapes and buildings and is interested in the craft of landscapes and buildings. He has published two books: *Dirineh Khaneh: Sketches from Iranian Architecture* (Shahid Beheshti University Press, 2005), which is an inquiry into the nature of field drawings and their cited objects, buildings, and landscapes; and *In-Between*: *Architectural Drawing and Imaginative Knowledge in Islamic and Western Traditions* (Ashgate, 2015), which examines theories of imagination in relation to drawing and architecture.

Kevin Mitchell has taught at the American University of Sharjah since 1999 and currently serves as Interim Provost. Recent work includes an issue of *Architectural Design* (*AD*) focused on contemporary architecture and urbanism in the Gulf (co-edited with George Katodrytis) and essays in *Economy and Architecture* (Routledge, 2016); *The Superlative City: Dubai and the Urban Condition in the Early Twenty-First Century* (Harvard Graduate School of Design/Harvard University Press, 2013); and *Architecture and Globalisation in the Persian Gulf Region* (Ashgate, 2013).

Hala F. Nassar is an Associate Professor of Landscape Architecture at Clemson University. She holds a BArch, MArch, and Ph.D. in the history

of landscape architecture from Ain Shams University in Cairo, Egypt, and a master of agricultural sciences in landscape design from Pennsylvania State University. Her research interests address historical and cultural landscapes, Islamic landscape traditions, international education, multiculturalism, and the effects of globalization and modernization on landscape change in the Middle East. Her scholarly work is published in *Landscape Journal*, *Landscape Review*, *Urban Design International and Critiques of Built Work*, and *Landscape Architecture Magazine*.

Elissa Rosenberg is a landscape architect residing in Tel Aviv. She taught as a visiting professor in the Faculty of Architecture and Town Planning at the Technion Institute of Technology in Haifa, and at Bezalel Academy and Tel Aviv University. Before emigrating to Israel, she was Associate Professor at the University of Virginia (1989–2007), where she also served as Chair of the Landscape Architecture Department. Her research has focused on contemporary landscape architecture, addressing issues of postindustrial landscapes and urban infrastructure, as well as landscapes of commemoration. Her most recent scholarship involves the study of Israeli kibbutz landscapes as examples of landscape modernism.

Ashraf M. Salama is Professor and Head of Architecture at the University of Strathclyde, Glasgow, UK. He was the Founding Head of the Department of Architecture and Urban Planning at Qatar University (2009–2014). Earlier, he held permanent, tenured, and visiting positions in Egypt, Italy, Saudi Arabia, and the United Kingdom. He is the Chief Editor of *International Journal of Architectural Research*, collaborating editor of *Open House International*, and editorial board member for *International Journal of Islamic Architecture* and for numerous international journals and organizations. His latest books include *Demystifying Doha: On Architecture and Urbanism in an Emerging City* (Ashgate, 2013); *Architecture Beyond Criticism: Expert Judgment and Performance Evaluation* (Routledge, 2014); and *Spatial Design Education: New Directions for Pedagogy in Architecture and Beyond* (Ashgate, 2015).

James L. Wescoat Jr. is the Aga Khan Professor of Architecture at the Massachusetts Institute of Technology where he offers courses on water resources, landscape history and theory, heritage conservation, and disaster-resilient design. His research concentrates on water systems in South Asia and the United States from the site to river basin scales. For much of his career, he has focused on research and conservation of small-scale historical waterworks in the Mughal gardens and cities of India and Pakistan. At the larger scale, he has conducted water policy research in the Colorado, Indus, Ganges, Great Lakes, and Mississippi River basins. He has written and edited ten books and dozens of articles about the relationship between resources and society in South Asia and America.

This page intentionally left blank

Index

Note: page numbers followed by *f* indicate a figure.

Abdelhalim, Abdelhalim I. 172, 173, 174, 176
Abdessemed, Abed 226*f*
Abdorreza (Prince of Iran) 122
Abozzia, Farhand 169n26
Abu Dhabi (United Arab Emirates): comparison to other global cities 234; Grand Mosque 237; landscape globalization in 237, 239–40; Palace Hotel 237; parks in 192; public spaces in 198; Saadiyat Island 237; Sowwah Square 201–2, 202*f*, 203*f*, 205; unskilled workforce in 213; urban development in 237–8; urban structure framework for 197; waterfront park in 210
Abu Dhabi Beach Meander Project 210–12
Abu Dhabi Corniche 197, 210–11, 226
Abu Dhabi Global Environmental Data Initiative 193
Abu Dhabi Island 210
Abu Dhabi Public Realm Design Manual 204
Abu Dhabi Urban Planning Council (UPC) 197
"Abu Dhabi Vision 2030" 197, 199, 204, 205
accessibility 2, 11, 210, 220, 224
activism: environmental 122; social 7
aesthetics 1, 10, 17n4, 46, 243
Aga Khan 179
Aga Khan Award for Architecture (AKAA) 23, 34, 37, 38, 44n86, 149, 167n1
Aga Khan Foundation 7
Aga Khan Historic Cities Programme 8
Aga Khan Program for Islamic Architecture 31
Aga Khan Trust for Culture 7, 179
Agricultural Gardens (Qatar) 225
Ahmadinejad, Mahmoud 141
Ain, Al (UAE): parks in 192; urban structure framework for 197
air pollution 7, 8, 11, 145n45
Alexander, Christopher 174, 181
Alexandria (Egypt), Corniche in 210
Almouj Golf Course (Muscat) 242, 244
American park movement 2, 5
Amman (Jordan): Al-Salt 9; comparison to other global cities 23; historic identity of 238; landscape globalization in 239–40; multiethnic heterogeneity in 238; urban landscape in 9
Amrousi, Mohamed El- 241
Anatolia (Turkey) 46, 48, 49
Andalusia (Spain) 36
Ankapark (Ankara) 59
Ankara (Turkey): as capital city 47; as Garden City 48; as green city 14; Jansen's plan for 61n25; theme park aesthetics in 59
anticolonial movement 97; *see also* colonialism; postcolonialism
Anz, Craig 181
Appadurai, Arjun 241
Arab Spring 7
Arabian Peninsula, urban landscape in 37, 44n87, 190, 194, 258; *see also* Oman; Qatar; Saudi Arabia; United Arab Emirates
Arabian Ranches housing development 200

Arabic language 24–5, 34–5, 36
Arbilli, Sabah 217
architectural heritage: global 103; Pakistani 104; in Tehran 123
architecture: Arab/Omani 248; critical regionalism in 117n28, 241; garden 31; Iranian 137, 138–9, 150–1; Islamic/Muslim 31, 102–4, 109, 112, 116, 117n32, 166, 181, 242, 248; Mughal 104, 110; neo-Arabian 242–3, 243*f*, 249, 251; as sculpted landscape 104–5
Architecture of the Islamic World: Its History and Social Meaning 31
Ardalan, Nader 121, 133; architectural design for Pardisan Park 133, 136, 138–9, 141, 145n45
Arriyadh Development Authority (ADA), and Wadi Hanifa 264
art: Islamic 31, 34, 37, 176, 178, 181; public 7, 49, 52*f*, 53, 105, 216–17, 226; *see also* Museum of Islamic Art
As Sultan Qaboos Sports Complex (Muscat) 242
As'Sahwah Public Garden (Muscat) 242
Atarim Corporation 77–9, 89n64
Atarim Square (Tel Aviv) 88n39
Atatürk, Mustafa Kemal 5, 61n22
Atatürk Forest Farm (AOÇ; Ankara) 47, 59, 64n59
axonometric drawings, exploded 32
Ayyubid Wall (Cairo) 262
Azadi Square ("Freedom" Square), Tehran 7
Azaryahu, Maoz 74
Azerbayjan House, Ferdowsi Garden 163
Azhar Park, Al- (Cairo) 7, 9, 16, 172, 178–81, 258; as cultural restoration 181; as environmental rehabilitation project 181; layering in 186; as model of development 261–2; as paradise garden 179; photos 182*f*, 183*f*, 184*f*, 259*f*; social functions of 185–6; as urban palimpsest 172, 187

Baft-e Shahr Architect group 153
Baha'i Gardens (Haifa) 7
Bahrain, Corniche in 210
Bakhtiar, Laleh 136, 146n74
Balfour, Alan 46
Balmori, Diana 83
Barnett, Rod 208
Barr al Jissah Resort (Muscat) 243, 249
Basma Al Beeiya, Al (Ecological Footprint) program 193
Bat Yam (Israel) 83
Bayt Nadir (Oman) 245
Bayt Peyton (Oman) 245
Bayt Sa'id Shehab (Oman) 245
Bayt Sayyida Almoozna (Oman) 245
beach landscapes 7, 75
Ben Sira, Ya'akov 74, 76, 88n43
Benes, Mirka 33
Berger, Alan 241
Berque, Augustin 36
Berrizbeitia, Anita 58
Bialik, Chaim Nahman 72, 73
Bidda Park, Al (Doha) 217, 230n38
Biln, John 241
bin Said, Sultan Qaboos 233, 244, 247; *see also* Palace of Sultan Qaboos; Sultan Qaboos Grand Mosque
biodiversity 2, 208, 221, 226, 228, 264
bioremediation facility 263, 264
Biosphere (Doha Corniche) 221–2, 221*f*
bird parks 7
Birkenhead Park (United Kingdom) 46, 61n15
Bizim Şehir (newsletter) 49, 56
Blackmar, Elizabeth 11
Blennie, Ken 193
Blue City (Muscat) 243, 249
Boeri, Stefano 221–2
Bonine, Michael 23
botanical gardens 97
Bowring, Jacky 241
breakwaters 77, 89n46
Breshna, Zahra 19n60
built environments 14, 16, 151, 162, 168n13, 191, 193, 197, 198, 199, 204, 243, 257
Bullough, Edward 197
Burj Khalifa (Dubai) 198
Bu Sa'id dynasty, Al 233
Bustan, Al- (Oman): hidden garden at 245; Al-Bustan Intercontinental Hotel 249
Butzer, Karl 36
Büyükerşen, Yılmaz 46, 49, 56, 62n32

Cairo (Egypt): Garden City 171; green space in 179; infrastructure in 179; renovation of 171; urban growth in 179–80; urban history of 171, 173, 176–7; urban landscape in 258; urban planning in 187n2; *see also* Al-Azhar Park; Cultural Garden for Children

Calatrava, Santiago 221
Calis, Deniz 37
Çamlıca Millet Bahçesi (The Millet Garden of Çamlıca) 46
Candilis, Georges 137
Capital Garden (Abu Dhabi) 190
Capital Development Authority (CDA; Pakistan) 91, 92; and Kahn's plan for Islamabad 99–104, 108, 112–14
capital investment, attraction of 59
Castells, Manuel 241
CDA (Pakistani planning commission) 92
Celebration, Florida 64n64
cemeteries 7
Center for Islamic Ideology (Islamabad) 91, 98; Kahn's design for 106, 108, 117n32
Central Park (New York City) 19n45, 128
Chedi Muscat Resort 242–3, 249
Children's Park (Cairo) *see* Cultural Garden for Children (Cairo)
CIAM (International Congress of Modern Architecture) 97
Citadel View Restaurant (Al-Azhar Park) 179, 189n39
cities: development of 2–3; global 251; identity of 3; *see also* urban design; urban development; *individual cities by name*
City of the Dead (Cairo) 171, 178, 186
civic engagement 9
Clark, John 208
Clement, Gilles 207
climate: in Anatolia 65n72; architecture and 117n28, 137; arid 203; in biomes 221; and contemporary landscapes 2, 8, 48, 58, 128, 131, 191, 199, 203, 204, 223, 228; Mediterranean 58, 69, 220; micro- 4, 152, 195, 202, 225, 245; Middle Eastern 23, 25, 31, 194, 220
climate change 20n62, 240
colonialism 5, 90, 97, 210, 231; *see also* postcolonialism
community gardens 18n30
Complete Fauna of Iran (Firouz) 141
Comprehensive Plan for Tehran 125, 128, 136, 145n45
Conan, Michael 33
connectivity 80–3, 204, 224, 261
conservation 22, 34, 121, 141, 156; archaeological 262; energy 8; environmental 121; in Iran 122, 167n1; landscape 127; materials 262; natural resource 236; wildlife 122, 127
consumer markets 238, 241, 243
contemporary landscape(s): civic engagement in 9; context of 8, 9; current projects 7–10, 46; forthcoming trends and challenges 10–13; government involvement with 13, 264; influence of climate on 8; influence of geography on 2, 8, 9, 14; and local history and tradition 9, 10, 11, 19n60; planning and design 23; role of 10; tendencies toward integration 197–9; tendencies toward the future 199–202; *see also* landscape(s); urban landscape(s)
Convention on Wetlands of International Importance (Ramsar) 122
Copacabana Beach (Rio) 77
Corner, James 56, 207, 208
Corniche: in Abu Dhabi 197, 210–11, 226; in Bahrain 210; defined 229n26; in Deira 211–12, 212*f*; as hardscape 210; Jumeirah 210, 211; as landscape urbanism typology in the Gulf region 209–13; linear and crescent typologies 212*f*; in Muscat 210; pearl as concept for 212; *see also* Doha Corniche
Corniche Beach (Abu Dhabi) 210
Cracknell 200, 201
critical regionalism 181, 241
Çubuk Dam (Ankara) 48, 62n26
cultural anthropology 127
Cultural Garden for Children (CGC; Cairo) 16, 172–7; photos 174*f*, 176*f*, 178*f*; plan for 174–5, 175*f*; social functions of 185–6; as urban palimpsest 172, 187
cultural identity 6, 8, 177, 208, 232
culture: Arab/Islamic/Omani 248; awareness of 10; cosmopolitan 232, 241; in Iran 142; Muslim 186; Persian 157, 166; public 80; Qatari 217; restoration of 191; *see also* tradition and traditionalism
cycling paths and cyclists 11, 223

Dar al Islam: Architetture del Territorio nei Paesi Islamici (Petruccioli) 31
Darb al-Ahmar neighborhood (Cairo) 178, 179, 181, 262–3

Dasht Arjan national preserve (Iran) 127
date gardens 194
date palms (*Phoenix dactylifera*), photo 191, 192, 194–7, 196*f*, 204, 225, 245
deep livability 227
deep walkability 222, 224*f*
deglobalization 17, 234, 235, 237, 238, 243, 248, 249, 250; *see also* globalization
Deir El-Bahri (Egypt) 106
Derek Lovejoy & Associates 98
desalination 194, 213, 222, 225, 261
desertification 8, 20n62
Design with Nature (McHarg) 125, 131
Desvignes, Michel 225
Diba, Kamran 151
Diba-Pahlavi, Farah (Queen of Iran) 120, 135, 140, 142n4, 150, 151, 154, 167n4
Doha (Qatar) 15, 207; Al Bida Park in 217; comparison to other global cities 234; globalization in 236; landscape globalization in 239–40; migrants in 213; mini Cornices in 212, 217, 218*f*; pearling industry in 236; Sheraton Park in 217; social and ecological context of 213; unskilled workforce in 213; urban development in 236; urban expansion in 215; urban landscape in 236; urban parks in 7; *see also* Doha Corniche; Doha Port
Doha Bay development 236
Doha Corniche (Qatar) 16, 207; ancillary projects 218–22; as backbone 208; as climatic front 209, 222; creation of 215–17; as cultural and social interface 209, 214–15, 222–3, 265; diverse functions of 208–9, 209*f*; drawbacks to 261; as ecological interface 222–4, 265; examination of 258; future developments 225–8; as Green Corridor 217; as landscape system 209, 224–8; marine-related activities 226; modernizing influence of 236; new ecologies for 224–5; Open Ecological Museum 219; roadway on 216, 223; softer edge to 226; *see also* Doha Corniche images
Doha Corniche Enhancement Plan 218
Doha Corniche images: aquarium on promenade 227*f*; as genetic code for urban development 216*f*; Google Earth Images 212*f*; high-rise agglomerations on waterfront 259*f*; master plan proposal for 219*f*; photo 218*f*; sculpture on 226*f*; view from Biosphere 221*f*; walkability and seating improvements 224*f*; West Bay Beach with pedestrian overpass 227*f*
Doha Corniche Open Ecological Museum 219
Doha Corniche Project Competition 218; Martha Schwartz Partners entry, "The White Necklace" 220–1, 220*f*
Doha EcoWadi Park (Lusail) 225
Doha Port 225
Dominican Motherhouse (Kahn) 108
Doxiadis, Constantinos 92, 94, 104, 115n5
Doxiadis Associates (DA) 15, 91, 92–7, 112–13
drawings: axonometric (exploded) 32; overlaid 158–60, 159*f*, 169n35, 169n37
Dripps, Robin 155, 168n19
drought 8; plants resistant to 199, 201, 203, 204
Dubai (UAE): Burj Khalifa 198; Deira Corniche 211–12, 212*f*; Downtown 198; Dubai Festival 200; Dubai Mall 198, 201; Dubai Marina 200, 200*f*; hosting 2020 World Expo 193; increasing green space in 192; Jumeirah Corniche project in 210, 211; Jumeriah Beach Residence 200; landscape journal from 23; "Mega-Corniche" in 227–8; Mirdif City Center 201*f*; regional dystopia in 181; unskilled workforce in 213; use of date palm as freestanding element 196*f*; Xeritown project 199–200, 199*f*
Dubai Festival City 200
Dubai International Convention and Exhibition Center 201, 202*f*
Dubai Mall 198, 201
Dubai Marina 200, 200*f*
Dumbarton Oaks project 33, 35
"Dynapolis" (Dynamic Metropolis) principle 93

Eames, Charles 133
Ebtekar, Masoumeh 141
ecological issues *see* conservation; environmental advocacy and issues
ecological theory 128
ecology/ies 2; biocultural 208; coastal 237; desert 237; of the Doha

Corniche 208, 222–4, 226; social 208; urban 8, 209, 257
economic development 6, 112, 121, 181, 235–6, 262
Eden, Eitan 88n64
Egli, Ernst 61n22
Egypt: occupation of urban spaces in 7; urbanism in 59; *see also* Cairo
Egyptian pyramids 106
"Eidetic Operations and New Landscapes" (Corner) 56
Ekistics 94, 115n5
Ekrami, Simin 160
el-Dahan, Rami 189n39
Eliade, Mircea 185, 187
Emancipating Space (King) 171
Emiri Diwan (Doha) 217
energy conservation 8
Engwicht, David 2
Entopia (Sedaghatfar) 123
environmental advocacy and issues 8, 11, 15, 68; *see also* conservation
Environmental Design: Journal of the Islamic Environmental Design Research Center 31, 32
environmental parks 120
environmental rehabilitation 181, 263
epigraphy 186
erascape 17n12
Eskişehir (Turkey) 14; billboards advertising parks 57, 57*f*; city plan of (1896) 50*f*; green spine in 53; "European" identity of 45, 46, 49, 56, 60–1n12; industry in 60nn10–11; as role model for European cities 63n41, 63n44; spatial integration of city and parks 58; urban landscape in 258; urban parks in 49, 59–60, 63n46; urban plan for 63n46; urban transformation in 58; water as central to planning 53–4
Estidama 204
ethnoburbs 59
Europe, early parks in 4
evolution, epistemological 133, 135
Evyapan, Gönül 46
The Expanding Metropolis: Coping with the Urban Growth of Cairo 179
experimental vernacularism 164, 165

Fairy Tale Castle (Science, Arts and Culture Park) 57*f*, 57, 65n66, 65n71
falaj systems 195, 197, 201
Farah Park (Iran) 151
Farid, Soheir 189n39
Farman-Farmaian, Abdol Aziz 125, 136, 145n45
Faruqui, N.A. 101, 103
Fathpur Sikri: Città del Sole e delle Acque (Petruccioli) 32
A Feasibility Study for an Environmental Park in Tehran, Iran, for the Imperial Government of Iran 128, 131
Featherstone, Mike 241
Ferdowsi (poet) 150, 157, 166, 169n29, 170n47
Ferdowsi Garden (Tehran) 15, 149, 167n1; as cultural project 155, 157–8; design of 156–7; design context of 150; design examples 159*f*; design methodology of 158–60; drainage detail 164*f*; environmental setting of 152; environmental, social, and political attributes 155–6; as handcrafted urban landscape 160–6; images of *in situ* sculpting 162*f*, 163*f*; masonry construction in 150, 153, 157–8, 160–1; photographs 165*f*; site context 153–5; as unifying force 166–7
field patterns 31
Firouz, Eskander 121–4, 125; background 122, 143n12; conservation concerns of 122–3, 141; and the plan for Pardisan Park 131, 139
Fleck, Glen 135, 136, 146n65; cinematic interpretation of Pardisan Park 135, 139; illustrations by 136*f*
Flora of the United Arab Emirates: An Introduction (Western) 193
flower parks 7
Ford Foundation 90, 92
The Formation of Islamic Art (Grabar) 30
Foster, Norman 237, 249
Foucault, Michel 186
Frampton, Kenneth 241
Franklin, Colin 125
French gardens 47
From Trucial States to United Arab Emirates (Heard-Bay) 195
Fuller, Buckminster 133, 135, 137

Garden City (Cairo) 171
Garden City movement 1, 17n7k 61n25, 70

gardens: botanical 97; cathartic function of 185; community 18n30; date 194; French 47; garden-alleys 152, 163, 168n13; hidden 245; historical 25; Islamic 4, 19n40, 25, 123, 149, 166, 181, 183; Middle Eastern 25, 127, 145n42; number symbolism in 37; oasis 31; Omani 245; Ottoman 31, 48; paradise 31, 36, 179, 245, 246; Persian 123, 149; as public settings 5; Seljuk 31; urban 4, 6–7; see also *individual gardens by name*
garden waterworks 31
Gardens by the Bay (Singapore) 221
Gardens in the Time of the Great Muslim Empires (ed. Petruccioli) 31, 33
Gardens, Landscape, and Vision in the Palaces of Islamic Spain (Ruggles) 33
Gardens of Babur (Kabul) 8
Gaudi, Antonio 170n45
Gauhar, Altaf 100
Gazi Forest (Turkey) 48
Geddes, Patrick, plan for Tel Aviv expansion 70, 71*f*, 72–3, 87n19, 87n2
Geddes plan 70, 71*f*, 72–3
Geertz, Clifford 172, 177
Gençlik Parkı (Youth Park), Ankara 54, 56
genius loci 2
geodesic domes 133
geographical scales of water resources investigation 32*f*
geography: as context 9; historical 14; influence of 2, 8, 9, 14; link to gardens 25; urban 25
Geometric Garden (Al-Azhar Park) 179
Gezi Park (Istanbul) 7
ghaf tree (*Prosopis cineria*) 194, 206n16
Ghanoonparvar, M.R. 35
Gharbia, Al (UAE) 197
Gharipour, Mohammad 33, 36, 258
Giv'at Hia'aliya beach (Jaffa) 80
Gleason, Kathryn 34
Global Cities Competitive Index (*Economist*) 234
Global Cities Index (*Foreign Policy Journal*) 234
global city concept 251
globalization: in Abu Dhabi 237; of architectural production 83; in contemporary landscape architecture 231–3; in Middle Eastern global cities 16–17, 22, 233–9, 251; in Muscat 249; in Oman 234, 266; overlapping scales of 232; in Riyadh 236; in Tel Aviv 80–4; in urban landscapes 235; *see also* deglobalization; landscape globalization
Globalization and World Cities Research Network Inventory (*GaWC*) 234
globurbs 59
Gobel, David 3
Golan, Arnon 74
gossip squares 94
government, and contemporary landscape 13, 264; *see also* politics
Government School of Architecture (GSA; Pakistan) 90
Grabar, Oleg 30
Grand Hyatt Muscat 242
Grand Mosque (Abu Dhabi) 237
Grand Mosque of Sultan Qaboos *see* Sultan Qaboos Grand Mosque
green belts, urban 61–2n25, 94, 167n6, 228n3
Green Movement 7
green spaces 2, 10, 12–13, 149, 179
greenhouse effect 8; *see also* climate change
Grichting, Anna 16
Grigor, Talinn 120, 137
Gruenblatt, Claude 73
Gruenblatt Scheme 73–4
Guba, Ingeborg 193
Guell Park (Barcelona) 170n45
Güzer, Belemir Dalokay 54

Hadid, Zaha 218
Hafiz (poet) 150
Haifa, Baha'i Gardens 7
Hajar Bowl (Oman) 245
Hall, Stuart 208
halophyte plants 225–6
hardscape 200
Haussmann, Georges-Eugène 171
Hazart, Pasban 153
"The Headbutt" (statue) 226*f*
Heard-Bay, Frauke 195, 197
Helphand, Kenneth 5
Herzliya (Israel) 83
Hester, Randy 241
heterotopia 186–7

Hewitt, Robert 17
historicism 9
history 103; garden 14; local 9, 10, 11, 81, 85, 117n28; urban 11
HOK 200
Houd al-Marsoud garden, al- (Cairo) 173, 175
Houshmand-Vaziri, Nasser 160
housing projects 6, 233
Howard, Ebenezer (Sir) 17n7, 70
Human Rights Watch 214

Ibn Sina 150
Ibn To'an, Rsed 190
Ibn Tulun minaret 176, 177
identity/ies 2, 241; cultural 6, 8, 177, 208, 232; local 241, 265; regional 265; national 5, 91; Omani 248; of place 239; postcolonial 15, 91; urban 81
Il Giardino Islamico: Architettura, Natura, Paesaggio (ed. Petruccioli) 33
imagery, cultural 241
Images and Symbols (Eliade) 185
India: design education in 90–1; landscape architecture departments in 38n1
industrialization 5
infrastructure: in Cairo 179; colonial 90; ecological 264; landscape 2, 241; in Muscat 241; in Qatar 214; in Tehran 170n46; in Tel Aviv 77; urban 9, 23, 208
Interama Community (Miami) 106, 107
Inter-Continental Muscat 242
International Congress of Modern Architecture (CIAM) 97
International Convention and Exhibition Center (Dubai) 202*f*
International Eskişehir Festival 63n44
International Union for Conservation of Nature (IUCN) 122, 143n15
Iran 141, 156: cultural heritage in 142; demonstrations in 7; designed landscapes in 149; leisure activity in 124, 156, 169n21; mausoleum tombs for cultural figures 150; progressive vision of 120; public open spaces in 5; reforestation of Pardisan park site 141; "social police" in 166; sociopolitical context of 166; *see also* Ferdowsi Garden; Pardisan Park; Tehran
Iran Environmental Protection and Enhancement Act 131
Iran-Khalij Company 122
irrigation and irrigation systems 39, 127, 168n16, 179, 192, 194, 195, 198, 200, 201, 225, 245, 247, 261, 262, 263
Isfahan (Iran): urban gardens and parks in 5, 7, urban plan of 137, 147n77
Islam: metaphoric aspects of landscape elements in 20n74; religious symbolism of 137; unifying role of 22
Islamabad (Pakistan): aerial photograph of model 95*f*s; character of open spaces in 97; city sector showing cul-de-sac roads and commercial centers 96*f*; design strategies in 265; foreign influences in 15; geometric grid layout 93–4; ekistical and ecological grids 94, 95*f*; limiting of public gathering spaces in 97; master plan of 93*f;* national character in 102; public square in 97, 100; small public spaces in 112–13; urban landscape in 258; urban squares in 91
Islamabad presidential complex 15, 265; Doxiadis master plan 92–7; Kahn's plan for 97–104, 108, 113–14; as political metaphor 113; Stone's plan for 109–13, 110*f*, 111*f*, 114
Islamic art 31, 34, 37, 176, 178, 181; *see also* Museum of Islamic Art
Islamic cities 22; assessing urban landscape in context 239–41; comparison of landscapes 235–9
"The Islamic Garden: Issues for Landscape Research" (Wescoat) 23, 32, 38
Islamic gardens 4, 19n40, 25, 166, 181, 183; *see also* gardens
Islamic Gardens and Landscapes (Ruggles) 33
Islamic Republic of Iran *see* Iran
Islamic Revolution 152, 165
Ismail, Pasha 171
Israel: landscapes in 5; urbanism in 68; *see also* Tel Aviv
Istanbul (Turkey): architectural development in 59; Gezi Park 7; urban public parks and gardens in 5, 46–7

Jackson, J.B. 32
Jaffa (Israel): Giv'at Hia'aliya beach 80; renovation of port 82; and Tel Aviv 68–9; *see also* Tel Aviv; Tel Aviv-Jaffa promenade

Jalali Fort, Al- (Muscat) 243*f*
Jamaran urban village 168n12
Jamshidieh Stone Garden (Iran) 151, 152, 153–5, 157, 168nn14–16; site plan 153*f*, 154*f*
Jansen, Hermann 14, 61n26
John-Alder, Kathleen 15
Jordan 232; *see also* Amman
Journal of Art Historiography 34, 37
Judaism, metaphoric aspects of landscape elements in 20n74
Julfar, Taleb AbdulKarim 192
Jumeirah Corniche project (Dubai) 210, 211
Jumeriah Beach Residence 200
justice: environmental 240; spatial 6

Kabul (Afghanistan), Gardens of Babur 8
Kaçar, Duygu 14
Kahera, Akel Ismail 16
Kahn, Louis I. 15, 91, 137, 138, 151; approach to landscape and buildings 104–8; and the interpretation of ruins 106–7; and the Islamabad presidential complex 97, 99*f*, 98–104, 107, 113–14; and the Islamabad public square 97, 98, 116n13; and the theme of *play* 105, 106, 108, 112; triangular building proposed by 98–102, 108, 109*f*, 117n32; and the triangular use of space 106–8, 118n41
Kallus, Rachel 17n12
Kanal Istanbul 59
KannFinch 220
KannWest 225
Karachi (Pakistan) 92
Karadeniz (Black Sea) Pool 48
Karaj Dam project 122, 143n13
Karbaschi (mayor of Tehran) 170n46
Karim, Farhan 15
Kashmiri language 35
Keddie, Nikki 22, 23
Keil, Roger 65n78
Kent Park (Eskişehir) 46; aerial view 53*f*; beach and swimming pools 55*f*; features of 53, 54; pedestrian walkways in 54; as urban park 54
Khadra, al- (Oman) 245
Khalid Lagoon (Sharjah) 198, 205
Khan, Ayub 91, 92, 113, 114
Khan Lagoon, Al (Sharjah) 198
Khayyam, Omar 150
Khusrau, Amir 37
Kılınç, Kıvanç 14
King Abdullah Financial District (Riyadh) 235
King, Anthony 59
King, Ross 171
knowledge, local 172–3, 175, 177, 183, 185–7
Koliji, Hooman 15
Kolodney, Ziva 17n12
Korangi Town (Pakistan) 96
Kuwait City, Corniche in 210
Kuwait Towers 210

LA! Journal of Landscape Architecture in India 38
Lahat, Mayor 77
Lahat Promenade (Tel Aviv) 67*f*, 77, 80
Lahore gardens 97
Lakeside Café (Al-Azhar Park) 179, 189n39
Laleh Park (Tehran) 151, 19n59
Land Art 161, 169n31
land degradation 8
land reclamation 197, 215
landfill projects 207, 215, 217
landscape(s): aesthetic function of 1; Andalusian 36; beach 7, 75; in Arabic literature 36; and architecture 91–2, 104–5; commodification of 45; conservation of 127; criteria for assessment 240; ecological 16; as ecological infrastructure 264; as element of modernity 15; as integrated system 9; interpretation of 33; languages of 34; meaning of 1; as metaphor for postcolonial identity 91, 97; micro- 31; Middle Eastern 4, 26; paradigms of perception 3, 18n27; as prestige 6; related to genre of painting 56; sculpted 92; site-specific 248; transcultural 33; *see also* contemporary landscape(s); urban landscape(s)
Landscape (magazine) 32
landscape architecture 1; in India 38, 38n1; in Iran 151; in the Middle East 12, 22, 31, 257; as specialized field 257; in Turkish universities 37; in UAE 190
Landscape Architecture in India: A Reader 38
landscape design 12, 241; and the concept of emergence 208; and

ecological networks 207; and economic improvements 207; in India and Pakistan 15, 90–1; modernization of in Oman 234; and social improvements 207; in UAE 190–1; Western philosophy of 231; *see also* urban design
landscape elements, sacred aspects of 20n74
landscape globalization 240; in Abu Dhabi 237, 239–40; in Amman 239–40; in the Middle East 231; in Muscat 251, 252; in Oman 232, 236, 240, 243, 251
"Landscape in the Middle East: An Inquiry" (Makhzoumi) 24
Landscape Middle East (journal) 23, 35, 38, 44n87
landscape projects: comprehensive assessment of 11–12; considerations before starting 10, 11; cultural and social impact of 13; as modernization tool 15; utilization of 13
landscape research 14, 24; critical 22; cultural and environmental 37; on historical urban landscapes 22; Persian historical sources 37; *see also* Middle Eastern and Islamic landscape research
landscape urbanism 207, 208, 209, 228, 232
Latiri, Lamia 36
Lawatiya quarter, al- (Muscat) 248
Lefaivre, Liane 241
Lefebvre, Henri 171, 186
leisure areas 1, 2; in Iran 124, 156, 169n21; in Qatar 215, 222, 227; in Riyadh 264; in Tel Aviv 67–9, 71, 73, 79, 80, 83, 85n28; in Turkey 47, 54
Levant Fairgrounds (Tel Aviv) 81
Leveau, Theo 62n26
Levy Memorial Park/Playground (New York) 105–6, 118n34; bronze model 105*f*
Lewis, Pierce 20n89
Llewelyn Davies International 151, 215
local history 9, 10, 11, 81, 85, 117n28
locality 1, 80, 81, 83
local knowledge 172–3, 175, 177, 183, 185–7
London Park (Tel Aviv) 74 88n36
Lovejoy, Derek 90, 98
Luqta, Masjid, estate of, al- (al-Khadra; Oman) 245
Lusail City (Qatar) 59, 225
Lutyen, Edwin 111

Madinat al-Zahra palace garden complex (Andalusia) 36
Mahan, Alfred (Admiral) 18n38, 23
Maimani, Ahood Al 226, 227*f*
Majaz Park, Al (Sharjah) 198
Makhzoumi, Jala 24
Makiya, Mohammed Saleh 244
Maktoum, Shaikh Mohammad Bin Rashid Al (ruler of Dubai) 211
Mandala Collaborative 120, 133, 137; work in Pardisan planning 137, 138*f*
Mandala International 140
mangrove parks 226
Manzar: The Iranian Scientific Journal of Landscape 23, 35, 38
mapping: behavioral 223; macro-regional 31
Marine Life/Eco Center (Oman) 249
Marmara Pool (Turkey) 48
Martha Schwartz Partners Landscape Architects and Urban Planners 201, 205, 211*f*
Maryah Island, Al (Abu Dhabi) 201
Masdar (Abu Dhabi) 8
Masjid al-Luqta estate (Oman) 245
Matthew, Robert (Sir) 100, 101
Matthews, G.V.T. 122
Maydan Tahrir (Cairo) 171
McCormick, Jack 128
McHarg, Ian 121, 124–5, 205; emphasis on ecological issues by 131, 133, 146n59; on Middle Eastern gardens 145n42; and the Pardisan master plan 138–9, 142; termination from WMRT 141
McInroy, Neil 59
Megidovitch, Yehuda 69
Mellat Park (Tehran) 151
memorial parks 7; *see also* Levy Memorial Park/Playground
microclimates 4, 152, 195, 202, 225
micro-landscapes 31
Middle East: countries included in 23; diversities within 4, 9, 22; environmental design in 24; globalization in 16; landscape creation in 231; map of wider 24*f*; origin of term 4, 18n38, 22, 23; state typologies in 232; urbanization in 16; Western design ideology in 251; see also *individual Middle Eastern countries by name*

Middle Eastern and Islamic landscape research: contemporary practices 38; example of 26–30; Google Books Ngram Viewer results 26*f*, 26–7, 39n17; historic development of 30–4; prospects for linking with urban design 34; search results in major indexes 27, 28–30*f*, 30; *see also* landscape research
Middle East Garden Traditions (ed. Conan) 33, 37
Middle East Garden Traditions website 35, 43n66
Middle East Technical University 37
migration: to Amman 238; of Jews to Tel Aviv 70; rural to urban 5, 145n45; transnational 16
Ministry of Culture (Egypt) 172
Ministry of Municipality and Urban Planning (MMUP; Doha) 224, 261
Mirdif City Center, (Dubai) 201; photo 201*f*
Mitchell, Don 203
Mitchell, Kevin 16
modernism 6, 97, 13–14, 117n28, 150–1, 158; in Qatar 215; situated 103; vernacular 251; *see also* postmodernism
modernity 98, 232
modernization 5, 10, 15; and the Corniche 210; ecological 231, 238; in Iran 120–2, 124; in Middle Eastern cities 231, 251; in Muscat 253; in Oman 233, 250; postcolonial 121
monarchy/ies: in the Middle East 232; in Oman 232–3
Moral Ground: Ethical Action for a Planet in Peril (Ebtekar) 141
mortuary temple of Hatshepsut 106
mosque planting areas 246
moulid ceremonies 173
Mubarak, Ali 171
Muscat (Oman): analysis of urban landscapes in 241; architecturally significant buildings in 242; coastal global venues in 241, 249–50, 251, 252; Corniche in 210; extended landscape of 232; globalization in 249; historic core and Mutrah 248–9, 251; history of global trade in 233; landscape of 17, 251; landscape globalization in 239–40, 252–3, 253*f*; mega-projects on city's periphery 243; modernization vs. tradition in 253; post-traditional globalization in 240; transit corridors in 241; urban architecture of 241–2, 242*f*; urban development in 241; urban juxtapositions in 243; *see also* Mutrah; Oman
Muscat International Airport 242
Museum of Islamic Art (Doha) 217, 218*f*, 110
Museum of Islamic Art Park (Doha) 212, 225
Mutrah (Muscat) 232, 248–9, 251; Corniche in 210
Mutrah Harbor 248

Na'man, plantation at (Oman) 245
Nagy, Sharon 215
Nahyan, HH Shaikh Al (ruler of UAE) 210
Nasr, Seyyed Hossein 133, 138, 146n74, 147n79
Nassar, Hala 17
nation building 5, 91
national identity 5, 91
nationalism: Muslim 92, 97, 98, 104, 107, 108; Pakistani 114
National Museum of Qatar 225
National Plan (Israel, 1954) 76
"Natural History of the Date Palm *Phoenix dactylifera*" (Sanderson) 195
The Nature Order 174
Natur-Kunst (Nature Art) 161, 169n43
NAZAR Research Center for Art, Architecture & Urbanism 35
Necipoğlu, Gülru 33, 37
"New Axioms for Reading the Landscape: Paying Attention to the Political Economy and Social Justice" (Mitchell) 203
New Delhi, Lutyen's plan for 111
Niyavaran Cultural Center (Tehran) 158
Niyavaran Park (Tehran) 151
Noguchi, Isamu 105, 106
nongovernmental organizations (NGOs) 9, 214
Nouvel, Jean 218, 225

oases 31, 120, 131, 136, 152, 194–5, 201, 204, 219, 263, 264
oceanfront *see* Tel Aviv-Jaffa promenade; waterfront
Olmsted, Frederick Law 3, 19n45, 61n15

Oman: contemporary urban landscape of 16, 231–3; globalization in 234, 266; history of global trade in 233; landscape traditions in 245; modernization in 234; planned mega-projects 249–50; population demographics in 214; post-traditional statism in 232–3, 245, 250, 251; post-traditionalism and globalizing regional context 233–4; traditional aesthetics and values in 243; 2020 Vision for 233; urban landscape in 258; *see also* Muscat; Mutrah
"One Earth" image 121, 127, 135
"Only One Earth" conference (UN) 121, 122, 139
Open Ecological Museum, Doha Corniche 219
orchards, irrigated 245–7
Orsenna, Erik 6
Otthoffer-Latiri, Lamia 24
Ottoman gardens 31, 48
Ottoman Turkey: public parks in 46–7; words for landscape in 35, 37; *see also* Turkey
outdoor space, pedestrian-friendly 191, 198–9
overlaid drawing 158–60, 159*f*, 169n35, 169n37

Pahlavi, Mohammed Reza (Shah of Iran) 15, 120, 122
Pahlavi Foundation 125
Pakistan: design education in 90–1; formation of 92, 114n1; landscape design in 15, 90–1; *see also* Islamabad
Palace Hotel (Abu Dhabi) 237
Palace of Sultan Qaboos 248, 249
Palestine: British rule of 70; cultural landscape of 37
Palm Jumeirah 196
paradise gardens 31, 36, 179, 245, 246
Pardisan (film) 135
Pardisan Forest Park (Tehran) 141
Pardisan Park (Tehran) 15; architectural typologies 138*f*; Ardalan's architectural contributions 136–9; biome studies 132*f*; biome systems diagram 130*f*; collective vision of 141–2; concept sketches 129*f*; cultural objectives of 126–8; current formulation of 141; diagrammatic site plan 133*f*; ecological transect studies 130*f*; educational objectives of 126–8, 131, 133; explanatory film 135; feasibility study 128, 131; Fleck's illustrations 136*f*; ideogram 129*f*; master plan for 131, 133–9; political complications 140–1; religious advisor for project 133; site sketch and location map 126*f*; various visions of 265
Pardisan: Plan for an Environmental Park in Tehran 120
Paris, Haussmann's renovation of 171
Park-e-Shahr (Tehran) 151, 167n5
parks: American park movement 2, 5; environmental 120; European 4; flower 7; as hunting sites 4; mangrove 226; occupation of 7; water 7; *see also* urban parks; *individual parks by name*
Pasargadae (Iran) 137
pattern language approach 175–7, 183
Paxton's ornamental grounds (UK) 19n45
paysage 25, 30, 35, 36
pedestrian access 11, 49, 54, 94, 191, 198–9, 218, 223, 227*f*
Peel Park (Salford) 19n45
Pei, I.M. 217
Pereira, William 215
Persepolis (Iran) 137
Persian Gardens and Pavilions (Gharipour) 33
Persian Gulf: agriculture in 194; climate in 128, 190, 222; contemporary landscape in 16, 37, 193, 214–15; Corniches in 209–11, 213; desalination in 194; soil conditions in 193; state typologies in 232; *see also* Abu Dhabi; Doha Corniche; Dubai; Oman; Qatar; United Arab Emirates
Persian language 35
Peterson, J.E. 232, 233
Petruccioli, Attilio 31–2
physical fitness 211–12, 224, 228
place: sense of 2, 18n18; spirit of 20n89
placelessness 232, 237, 241
plants: drought-resistant 199, 201, 203, 204; halophyte 225–6; *see also* trees
politics, and the contemporary landscape 13, 241; *see also* government
Ponti, Gio 102, 116n20
pools 48

Porsuk River Rehabilitation project (Eskişehir, Turkey) 45–6, 49–53, 56, 58; aerial view 51*f*; Google Earth 50*f*; water sports tournament 52*f*
Porto Arabia walkway (Doha) 212
postcolonialism 15, 91, 112, 113, 117n28, 121; *see also* colonialism
postmodernism 79–81, 166; *see also* modernism
President's Estate (Pakistan), Kahn's plan for 99*f*
Presidential Complex (Islamabad) *see* Islamabad Presidential Complex
Production of Space (Lefebvre) 172
public art 7, 49, 52*f*, 53, 105, 216–17, 226
public health 211–12, 224, 228
public parks *see* urban parks
public space(s) 2, 6; cathartic function of 185; green 149; in Islamabad 112–13; Islamic 261; open 94, 197–8; recreational 10; social activism in 7; social function of 6, 227; as symbols of progress 6; *see also* Ferdowsi Garden; urban parks; urban space
public squares: in Islamabad 91, 97, 100; occupation of 7
public transportation 8, 49, 214, 221, 222
pyramid, as form 106–7, 118n34, 118n38, 118n41

Qaboos, Sultan 233, 244, 247; *see also* Palace of Sultan Qaboos; Sultan Qaboos Grand Mosque
Qasba, Al (Sharjah) 198
Qatar: contemporary landscape in 16; diverse population in 213–14; geography and demographics 213; infrastructures in 214; 2022 FIFA World Cup in 59, 214, 221, 230n36; urban landscape in 258; urbanism in 59; *see also* Doha Corniche
Qatar National Master Plan (QNMP; 2007) 218
Qatar National Vision 2030 plan 228
Qatar National Vision for a Sustainable Future 214
Qurum Park, Al (Muscat) 242

Rahji Tower, Al (Riyadh) 235
Ram, Uri 82
Rechter, Ya'akov 77, 78
Rechter Architects 77, 79
Reed, Chris 207
Reed, Theodore 128
repetitive forms 186
Repton, Humphry 159
research *see* landscape research; Middle Eastern and Islamic landscape research
Reza Shah 5, 124
Riverside Drive Park Playground (New York) 105
Riyadh (Saudi Arabia): comparison to other global cities 234; globalization in 236; landscape globalization in 239–40; planning projects in 6; unskilled workforce in 213; urban development in 235–6; urban landscape in 235; vernacular modernism in 239; *see also* Wadi Hanifa Wetlands project
Roberts, William 125
rock weathering 31
Rosenberg, Elissa 9, 14
Royal Hospital (Muscat) 242
Royal Opera House (Muscat) 242
Royal Palm Promenade (Al-Azhar Park) 179
Royal Qajar gardens (Tehran) 151
Rudolf, Paul 137
Ruggles, D. Fairchild 33, 36

Sa'id, Sultan Seyyid 233
Saadiyat Island (Abu Dhabi) 237
Safa Park (Dubai) 190
Safagh Park (Iran) 158
Salama, Ashraf 214
Salam Yiti Development, Al- (Muscat) 243, 249
Salt, Al- (Amman) 9
Samir Kassir Public Garden (Beirut) 23
sand dunes 201, 203
Sanderson, Geoff 195
Santelli, Serge 189n39
Sarlöv-Herlin, Ingrid 241
Sassen, Saski 238, 241, 251
Saudi Arabia 6, 232, 258; *see also* Riyadh
Sayyedah Zaynab neighborhood (Cairo) 172, 173
Schmandt, Michael 9
Schwartz, Martha 201, 205, 211, 212, 218, 226
Science, Arts and Culture Park (Eskişehir, Turkey) 57*f*, 57, 65n66, 65n71

sculpture, as public art 7, 49, 52*f*, 53, 105, 216–17, 226; *see also* Ferdowsi Garden
seashore, urban *see* Corniche; Doha Corniche; Tel Aviv-Jaffa promenade
Sedaghatfar, Jahangir 121, 123–4; and the Pardisan project 131, 139, 140
Seljuk gardens (Anatolia) 31
The Sense of Unity: The Sufi Tradition in Persian Architecture (Ardalan) 137
Serra, Richard 217
"7" (sculpture; Serra) 217
Shafagh Park (Tehran) 151
Shah of Iran *see* Pahlavi, Mohammed Reza; Reza Shah
Shahanshahi Park (Tehran) 151
Shahestan Pahlavi (Tehran) 142n4, 151, 167n4
Shahrak-e-Gharb's Forest Park (Tehran) 141
Sharjah (UAE), Khalid and Al Khan Lagoons in 198, 205
Sharon, Aryeh 76
Sharq Crossing (Doha Corniche) 221, 222
Sheikh, W.A. 92
Sheraton Park (Doha) 217
Sieverts, Thomas 10
Sir Bani Yas Island Hotel (UAE) 200
SMAQ architectural firm 199
social activism 7
social equity 8
Society for National Heritage (Iran) 150
Soja, Ed 6
Sowwah Island (Al Maryah Island; Abu Dhabi) 201
Sowwah Square (Abu Dhabi) 201–2, 205; landscape plan 202*f*, 203*f*
Spaces of Global Cultures (King) 59
spatial justice 6
spatial meaning 171–2
spiritualism, Islamic 120, 142
Spirn, Anne Whiston 3
Spooner, Brian 127
sports arenas 97, 242
Stefano Boeri Architects 221*f*
Steinitz, Carl 232, 239
Stone Garden (Iran) *see* Jamshidieh Stone Garden (Iran)
Stone, Edward Durell 92, 109–13, 110*f*, 111*f*, 114
stonework: in Ferdowsi Garden 150, 153, 157–8, 160–1, 163; in Jamshidieh Stone Garden 151, 152, 155, 157–8
suburbs 59
Subtelny, Maria Eva 33, 37
Suez Canal 236
Sultan Qaboos Grand Mosque (Muscat) 232, 241, 242, 243, 244–8, 251, 252; master plan and landscape 244*f*
Sultan Qaboos Street (Muscat) 242
Sultan Qaboos University (Muscat) 242
Sultanate of Oman *see* Oman
suprurbs 59
sustainability 2, 259; at Al-Azher Park 262; architectural 8; environmental 8; in the UAE 204; in urban environments 257, 264; in urban landscapes 266
system thinking 128

Tahrir Square (*Maydan Tahrir*; Cairo) 171
Taksim (Istanbul) 47
Tange, Kenzo 151
techne 162
technoburbs 59
technological integration 243
Tehran: Azadi Square ("Freedom" Square) 7; comprehensive plan for 125, 128, 136, 145n45; elevation of 168n11; ethnic diversity in 166; green belt and ecological planning in 167n6; infrastructure in 170n46; landscape journal from 23; urban development in 123, 152; urban landscape in 258; *see also* Ferdowsi Garden; Pardisan Park
Tel Aviv: beach popularity in 69–70; development of promenade 265; engineering the seashore 76–80; first promenade 73–75, 75*f*; founding of 68–73, 86n8; globalization in 80–4; infrastructure in 77; master (Mazor) plan for 81; seashore development in 68; shoreline (1932) 70*f*; urban landscape in 258
Tel Aviv-Jaffa promenade 14, 78*f*; building of 77; coastal plantings 84*f*; development of 80–4; as example of postmodern waterfront typology 82; flow of movement on 84; Lahat Promenade 67*f*; opposition to 67–8; plan for 67, 76; public right to the beach 78–9, 85 61; renovation of 82*f*; Tel Baruch section 83
Tel Aviv port 82; renovation of 82*f*

Temple of Amon (Karnak) 106
Tengberg, Margareta 194
Tepebaşı (Istanbul) 47
Tepebaşı Municipality Building (Istanbul) 52*f*
tessellations 186
Thani, Sheikh Khalifa bin Hamad Al (emir of Qatar) 215, 220
Thayer, Robert L., Jr. 241
TOKI (Turkey's Central Housing Administration) 54
Tomb of Cyrus the Great (Pasargadae) 137
tourism and tourists 9, 45, 65n66, 237, 241; in Iran 156; in Muscat 241–2; in Tel Aviv 77–8, 80; in Turkey 56–8
tradition and traditionalism 97, 103–4, 116n25, 120, 126, 232; Iranian 138, 150; Islamic 114, 150; local 9, 11, 19n60; in Muscat 253; in Qatar 213; preservation of 127; *see also* culture
training and employment programs 262
transcape 17n12
Translating the Garden (Ghanoonparvar) 35
transportation corridors 82, 241, 242, 248, 251
trees, and Islamic architecture 102–3; *see also* date palm; ghaf tree
Tunisia, occupation of urban spaces in 7
Türeli, İpek 54
Turkey: modernization in 14; public open spaces in 5; urbanism in 59; urban parks in 47; *see also* Ankara; Eskişehir; Ottoman Turkey
Turkmen House, Ferdowsi Garden 157
Tyng, Anne 138
Tzonis, Alexander 241

UNESCO 7
United Arab Emirates (UAE): contemporary landscape in 16, 190–2, 197–202; greening efforts in 191–7; native plant species in 194, 201; population growth in 193, 204; soil conditions in 193; typical landscape 191*f*; urban development in 192–3; urban landscape in 258; urbanism in 59; water issues in 193; Xeritown project 199–200, 199*f*; *see also* Abu Dhabi; Dubai
United Arab Emirates University 190
United Nations Conference on the Human Environment (1972) 121, 122
Urban Beach (Doha Corniche) 226
urban design 1, 12–13, 34; *see also* landscape design; urban landscape design
urban development: in Abu Dhabi 237–8; in Cairo 262; in Doha 16, 207; government involvement in 257; limiting of 156; in Middle Eastern global cities 233–9; in Muscat 241; in Riyadh 235–6; in UAE 192–3
urban environments, environmental performance of 257
urban gardens 4, 6–7
urban green belts 61–2n25, 94, 167n6, 228n3
urban landscape design 149; *see also* landscape design; urban design
urban landscape(s): in Amman 9; comparison of Middle Eastern cities 234; contemporary 7–10; defined 1–2; design of 3; evolution of 3; five essential elements of 2; as functioning system 2; globalization in 235; handcrafted 160–6; historical context of 4–7; holistic approach to 13; hybrid 4; in Middle Eastern global cities 233–9; in Oman 251; in the Middle East 5–6, 23, 258; objective vs. subjective aspects of 3; poetic aspect of 3; qualities of 21n103; in regional global cities 239–41; strategies for 21n105; *see also* contemporary landscape(s); landscape(s)
urban modernization 5
urban parks 2, 6, 7, 45; in Ankara 47–9; design of 3; in Europe 46; local impact of 8; open spaces in 83; political motivations of 46, 47; as public space 16; as recreational locales 7, 54; in Turkey 46–7; *see also* public space(s)
urban ports 81
urban projects, neoliberal 65n78
urban renewal, in Tel Aviv 76
urban space: disconnected 94; open 97; organization of 241; transformation of 232, 241; *see also* public space(s)
urban squares, in Islamabad 91, 97, 100
urbanism 10; Arab 237; in Israel 68; landscape 207, 208, 209, 228, 232; in medieval Cairo 176; Middle Eastern 59; neo-modern 236
urbanization: in Qatar 213; in UAE 190

Urdu language 35
US Agency for International Development (USAID) 91
US Earth Resource Technology (ERT) satellite 131

van Eyck, Aldo 138
Vauxhall Gardens (London) 47
vegetal motifs 186
vernacularism, experimental 164, 165
Victor Gruen Associates 125
village-neighborhoods (Tehran) 152, 167n7
violence, between Arabs and Jews 70

Waagner Biro 200
Wadi Hanifa Wetlands project (Riyadh) 23, 258; bioremediation facility 260*f*; as government initiative 264; as green environment 263; interpretive trails 260*f*; lack of support facilities 265; plans for cable car system 264
Waldheim, Charles 241
walkability, deep 222, 224*f*
walkways, marble 246, 247*f*
Wallace, David 140
Wallace McHarg Roberts and Todd (WMRT) 120, 125, 127–8; tension with McHarg 140–1; plans and studies for Pardisan Park 126*f*, 129*f*, 130*f*, 132*f*, 133*f*, 134*f*; suspension of work on Pardisan 140–1
Washington University Library (St. Louis) 118n38
waste management 11
wastewater treatment 200, 225
water: consumption of 192–4; and Islamic architecture 102–3; in the paradise garden 179; purification of 49; reuse strategies 220; scarcity of 200; *see also* desalination
water channels 246
water parks 7
water pollution 11, 145n45
water sports 52–3
water taxis 230n36
watercourses 48
waterfront(s): Abu Dhabi 210; activities on 218; postmodern 81–2; urban 80; *see also* Corniche; Doha Corniche; Tel Aviv-Jaffa promenade
The Wave (Muscat) 242–3, 249, 250*f*
wayfinding 179, 188n30, 263, 265, 267n10
Weidmann,, Florian 214
Wescoat, James L., Jr. 4, 14, 33, 241, 258
West Bay Bridge (Doha) 221
Western, A.R. 193
wildlife conservation 122, 127
William Pereira Associates 215
Wilmotte & Associés 219, 224*f*, 226, 227*f*
women, in Qatar 215
world heritage sites 261
World Monuments Fund 7
World Wildlife Fund (WWF) Living Planet Report (2008) 193

X-Architects 199
Xeritown project (Dubai) 199–200, 199*f*

Ya'aribi, Imam Bilarab bin Sultan, palace of, Al- (Oman) 245
Yılmaz, Burcu 54
Yousef Abad Park (Iran) 151
Youth Park (Gençlik Parkı), Ankara 54, 56
Yu, Kongjian 207

Zagros House, Ferdowsi Garden 157
Zanzibar, trade with 233
Zayed, Sheikh (UAE) 237
Zaynab, Sayyedah (patron saint of Cairo) 173
Zionism 5, 69
Ziv, Eyal 89n64
zones of negotiation 11
zoos: facilities 7, 124; Pardisan 127, 128, 139; at parks 65n71, 125; at resorts 73