

Imperialism, Orientalism, and the Environment in the Middle East

History, Policy, Power, and Practice

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REPRESENTATIONS OF the Middle East nearly inevitably include desolate scenes of empty and parched deserts, punctuated, perhaps, with a lonely string of camels, a verdant but isolated oasis, or a beach with large dunes of golden sand, sometimes with a pyramid, an oil derrick, or a minaret in the background. We see and read about such imagery, around the world, in tourist advertisements, in films, in the news media, and even in scholarly writing about the region. The environment figures very large in the majority of these visual and written representations. Inherent in this imagery is the fact that much of the Middle East and North Africa, a largely desert region, has been considered ecologically marginal since at least the late nineteenth century. More often than not, these lands have been defined as degraded by human action over many centuries.

Recent research, however, has shown instead that these regions are not desertified disasters despite their frequent portrayal as such.¹ In fact, the peoples of the Middle East and North Africa have lived and thrived for millennia, successfully coping with the common environmental conditions of



Figure 0.1. “A Lookout into the Desert.” This undated postcard illustrates typical scenes of the Middle East from the late nineteenth and early twentieth centuries. Original postcard: “EGYPT—A Lookout into the Desert,” by photographers Lehnert and Landrock. *From the collection of Dr. Paula Sanders, Rice University. Reproduced by permission.*

high temperatures and low rainfall of their arid and semiarid environments. The environment in many parts of the Middle East and North Africa has been carefully and painstakingly transformed to improve human life for much of the last five to seven thousand years and longer. The sophisticated irrigation and water-control systems developed in the region provide just one example of such environmental management.²

With the rise of Anglo-European imperial power in the region, though, in the nineteenth and early twentieth centuries, an environmental imaginary began to be constructed that frequently portrayed the Middle East and North Africa as being on the edge of ecological viability or as a degraded landscape facing imminent disaster.³ Because the local inhabitants were most often blamed for the environmental degradation, by deforestation, overgrazing, or overirrigation, for example, this environmental imaginary allowed the telling of stories, or narratives, that facilitated imperial goals in the name of “improvement” and, later, of environmental “protection.”

I have detailed elsewhere how this Western environmental imaginary spawned an environmental narrative of presumed degradation constructed by the French to engender dramatic economic, social, political, and environmental changes in North Africa that successfully promoted their colonial project during the nineteenth and early twentieth centuries.⁴ Closely related environmental imaginaries of the Middle East and North Africa, as Shaul Cohen has demonstrated, allowed the development of a narrative of deforestation in the Levant that has facilitated the appropriation of rural land by Jewish settlers to Palestine, in the name of reforestation, since the late nineteenth century.⁵ Deforestation narratives have been particularly strong in the Levant region since the nineteenth century, where some of the most emotional accounts of forest destruction have hinged

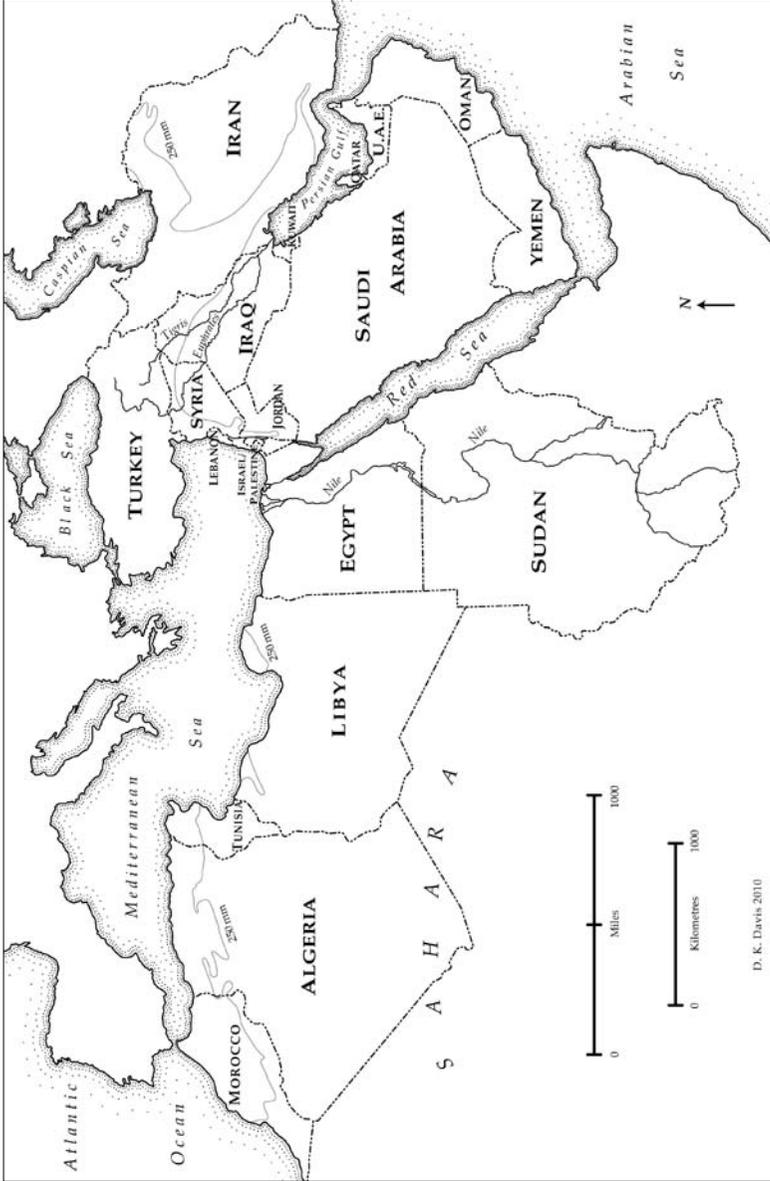
on the presumed widespread destruction of the Lebanese cedar forests illustrated in the cover image by Louis-François Cassas.⁶ Similar narratives of overgrazing and desertification were used during the British Mandate in Palestine to justify forestry policies as well as laws aimed at controlling nomads, such as the 1942 Bedouin control ordinance, in the name of curbing overgrazing.⁷ Such environmental imaginaries, once constructed, can be extremely tenacious and have surprisingly widespread effects.

By “environmental imaginary,” I mean the constellation of ideas that groups of humans develop about a given landscape, usually local or regional, that commonly includes assessments about that environment as well as how it came to be in its current state. This use of imaginary draws more on the conceptualization of the “social imaginary” than on other uses of the term in psychological or philosophical studies.⁸ Social groups may develop an environmental imaginary, for instance, by living and working in a common place. Because environmental imaginaries nearly always contain ideas about how the environment reached its current state, though, narratives of environmental change, environmental histories, are intimately linked with environmental imaginaries.⁹ Therefore, such stories, or narratives, about environmental change, both inform environmental imaginaries and develop as a result of environmental imaginaries. Neither the imaginary nor the narrative(s) concerning the environment is static. Underlying each is a congeries of power relations that may shift and change to varying degrees depending on the time and place. Who tells the story of environmental change and what it means for the present and future can determine who wins and who loses when that imaginary is operationalized in the form of, for example, agricultural policies, “reforestation” projects, or environmental and economic development plans.¹⁰

This becomes particularly important in imperial and colonial settings. “While environmental imaginaries stem from material and social practices in [particular] natural settings,”¹¹ when they are developed about “faraway” places, they necessarily are informed by environmental representations constructed by others. Those constructing the knowledge that informed the environmental imaginary “back home” during the colonial period were, most of the time, new to the region being described and catalogued.¹² It is not too surprising then, that much of what was written and visually rendered about foreign environments, information that informed Anglo-European environmental imaginaries, represented the environment most often as alien, exotic, fantastic, or “abnormal,” and frequently as degraded in some way.¹³

Much of the early Western representation of the Middle East and North Africa environment, in fact, might be interpreted as a form of environmental orientalism in that the environment was narrated by those who became the imperial powers, primarily Britain and France, as a “strange and defective” environment compared to Europe’s “normal and productive” environment.¹⁴ The consequent need to “improve,” “restore,” “normalize,” or “repair” the environment provided powerful justifications for innumerable imperial projects, from building irrigation systems to reforestation activities to the bombing of “unruly” tribes to the sedentarization of nomads as a measure to prevent “overgrazing.” The perceived extreme aridity and the constraints that this was seen to place on “normal” agricultural production fueled an intense interest in hydraulic management by the British and the French. Determined to boost production of economically profitable crops such as cotton, a great deal of energy and resources was spent on dams, canals, and other technologies to improve and spread irrigation infrastructures in most of the Middle East and North Africa.¹⁵ This has left a legacy for hydraulic management perhaps greater than any other form of environmental management (such as forestry or range management) in the region that is reflected in the majority of chapters in this volume that treat water in some way. Many of these imperial environmental narratives, especially of deforestation and overgrazing, informed the discipline of ecology as it was developing in the late nineteenth and early twentieth centuries, and thus several of the narratives became institutionalized in ecological science despite their questionable accuracy.¹⁶ It is perhaps because of this cloak of technological and scientific authority that environmental orientalism in the Middle East and North Africa has never been, to the best of my knowledge, interrogated by postcolonial scholars and others in a systematic way for the hidden relations of power rooted in its very specific forms of knowledge production.

Since the publication in 1978 of Edward Said’s influential book *Orientalism*, scholars have demonstrated, in varied and sometimes contested ways, how the “orient” of the Middle East and North Africa has been represented and what the results of such representations have been.¹⁷ Many different kinds of representations of the Middle East and North Africa have been critically analyzed, including texts written by poets, novelists, and travel writers, and many different kinds of visual renditions of the region and its peoples, especially photography and painting, and contemporary multimedia. Startlingly few of these analyses, however, have explored the Middle East and North African environment itself, and how it has been represented, from a critical perspective. One notable exception is Timothy



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Map o.1. The Middle East and North Africa, illustrating political boundaries, rivers, and the 250 mm rainfall isohyet. Below (to the south of) the 250 mm rainfall isohyet, rain-fed agriculture is nearly impossible. Agriculture without irrigation is reliable only in areas that receive above 400 mm of rainfall each year. Between 250 and 400 mm annual rainfall, agriculture without irrigation is extremely tenuous and often fails. Modified after Gerald Blake, John Dewdney, and Jonathan Mitchell, *The Cambridge Atlas of the Middle East and North Africa* (Cambridge: Cambridge University Press, 1987). Created by Diana K. Davis, 2010.

Mitchell's research on Egypt and particularly his analysis of the country as an "object of development."¹⁸ Several parts of his book analyze how the Egyptian environment has been represented, for what reasons, and for whose benefit. Mitchell's is one of the only critical analyses of a Middle East and North African environment that takes seriously the important and far-reaching effects of environmental representation and narrative on policy, power, and practice both in the past and today.¹⁹

The authors in this book thus make a significant contribution by considering many of the social, political, technological, economic, and ecological implications of environmental imaginaries of the Middle East and North Africa over the long *durée* as well as in more recent, post-colonial settings. Together, they cover the last three centuries in a wide array of Middle East and North African countries and regions, today called Egypt, Iraq, Israel, the Maghreb (Algeria, Morocco, Tunisia), Palestine, and Turkey. Although not the focus of any single chapter, Lebanon, Libya, and Syria are also discussed by several of the authors.

Mitchell's work on Egypt has shown how international development actors such as USAID (United States Agency for International Development) and many in the Egyptian government bureaucracy in the last half of the twentieth century drew on the long-standing Western imaginary of Egypt as a marginal environment with limited resources, dependent on the Nile. The evocatively "narrow ribbon" of fertile land along the Nile, he argues, is nearly always juxtaposed with an apparent crisis of overpopulation. Such an imaginary is used to justify plans for immediate action in the sectors of agricultural and economic reform even as it naturalizes and depoliticizes serious problems of social inequality and poverty that may then be more easily and profitably ignored. Mitchell termed this framing of Egypt's economic development "a problem of geography versus demography."²⁰

At the turn of the century, during the period of the British protectorate, a similar framing took place based on the Anglo-European environmental imaginary of Egypt. Jennifer Derr shows in her chapter that the British came to Egypt with certain conceptions of the environment and the powers of technology in the form of irrigation infrastructures that guided their actions and, ultimately, the very shape of the environment along the Nile. Whereas "overpopulation" was not a strong motivation for their development of irrigation works in colonial Egypt, the production of cotton was. Derr argues, though, that the drive to increase cotton production was not the only motivation for the building of the Aswan dam in 1902. She demonstrates that the British held a "technocratic imagining" of the Egyptian environment that was deeply influenced by their belief that this

desiccated, marginal environment had been astoundingly more productive during the biblical period, “the time of Joseph.”

British efforts to try to regain this historical glory, assuming that more advanced irrigation and agricultural systems existed during biblical times, and eliding waterworks undertaken during the Ottoman period, underlay much of the rationale to build the dam and develop perennial irrigation in Egypt. In his chapter, though, Alan Mikhail shows that the Ottoman period was actually quite important in Egypt’s development. He suggests that Egyptian peasants and the Ottoman state were deeply and personally engaged in a “responsible management” of the Nile and associated irrigation structures based on a commonly held cooperative vision of the environment in the eighteenth century. His work argues that the “microlevel” negotiations over and communal efforts to dredge irrigation canals were largely successful in maintaining a productive agricultural system. By contrast, the negative effects that the operationalization of the British colonial imaginary had on the environment, in the form of waterlogged soils and rising salinity, and on the Egyptian farmers, many of whom suffered loss of property and the transformation effectively into sharecroppers, were largely unanticipated.²¹ Nonetheless, Derr concludes in her chapter, this British environmental imaginary underlay the transformation of the very geography of Egypt’s land, water, economy, and social relations in long-lasting ways.

Land reclamation, making uncultivable land cultivable, in Egypt is perhaps as old as irrigation technology itself. Reclamation of land during the British colonial period was part and parcel of the expansion of irrigation. In her chapter, Jeannie Sowers focuses on Egyptian land reclamation to show how dominant state narratives of the environment developed in the second half of the twentieth century only to be increasingly challenged recently by disparate groups including those in agribusiness, civil society, and the environmental sciences. She dates the now ubiquitous neo-Malthusian narrative of overpopulation in the narrow Nile valley to the interwar period and charts the reconstructions of environmental imaginaries under postwar Egyptian regimes. During the Nasser period, the British environmental imaginary, which focused on irrigation and land reclamation for the entire Nile river basin, was partly reconfigured into a project of national sovereignty and state populism. In doing this, the Nasser regime promoted an intensification of land reclamation, as populist rhetoric abounded that called for a new contract with the spatially constrained peasantry.

Originally focused on the outskirts of the Nile Valley, land reclamation visions under Nasser, Sowers shows, spread to Egypt’s southwestern desert,

designated the “New Valley,” also known as Toshka. Drawing on colonial tropes of how spreading irrigation technologies would create a clean and productive citizenry, early land reclamation plans were put into practice during Nasser’s rule on a small scale with irrigation water pumped from underground aquifers. Land reclamation was seized with renewed energy under Mubarak, who aimed not only to raise modern organic produce in the “pristine desert environment” of the Toshka valley, but also to develop the new, clean model Egyptian citizen while enticing private agribusiness to Egypt’s agricultural sector. Sowers illustrates that state environmental narratives in the postcolonial period recombined elements of Anglo-European environmental imaginaries with the ideologies of nationalism and populism. Equally important, she demonstrates that the environmental imaginaries and narratives of less powerful, nonstate, groups can successfully challenge these hegemonic discourses in unexpected ways. She sketches how agribusiness managers have developed new narratives of land reclamation, motivated by Egypt’s changing political economy, that critique the regime’s uncertain land tenure policies and unpredictable policy interventions. Moreover, she explains how narratives of environmental decline, coupled with criticisms of arbitrary decision-making, have allowed environmentalists, journalists, and some public intellectuals to claim that the Toshka project represented not the successes, but rather the shortcomings, of Mubarak’s authoritarian regime.

British environmental imaginaries and their transformations also form the subject of Priya Satia’s chapter on Iraq during and after the First World War. Satia details how the British environmental imaginary of “Arabia,” as the region was called then, changed over time facilitating a new technological vision of development and new colonial policies.²² The imaginary was informed by established orientalist notions and biblical interpretations but also, importantly, by British misgivings resulting from their trials in the South African War and their experiences during World War I. Satia argues that the British Arabian imaginary was transformed from an early one of the region as a utopia to a more sober view that it was a barren, fallen Eden to the later interpretation that it was in need of restoration with British imperial knowledge—so that Arabia would once again become the productive cradle of civilization, a resurrected Babylonia. Such changes in how the environment was conceived allowed the fusion of development and surveillance in the form of aerial policing and shelling to bring “peace and prosperity” in ways that have been previously unrecognized.

For the British arriving in Arabia, Satia illustrates that the environment appeared “extraterrestrial” in its strangeness, “infinitely mysterious,” more like the face of the moon than the earth, and, it seemed to them,

unknowable. At first seen mostly as a desert paradise free from the defects of British industrial urban life, within a short time this environment was being condemned as a chaotic wasteland, ruined by the Ottomans, that needed to be reclaimed with the aid of British technology and expertise. This technical vision of Iraq included irrigation improvements derived from the British experience in India, but, more important to Satia's argument, it included the development and refinement of aerial surveillance. Romantic associations between the fighting tactics of Arab nomads and the airplane's quick abilities provided an interpretation of the airplane as the perfect tool to survey the "unmappable nomad terrain" of Mesopotamia. The British used this new tool after the war as they took mandatory control of the region to subdue the "unruly tribes" with bombardment in order to allow the "development" of Iraq to proceed. Deeply ingrained views shaped by environmental determinism, though, led to portrayals of the tribes as tough inhabitants of a harsh environment that could tolerate random acts of violence in ways that others could not. Thus, Satia, concludes, was brutality justified in the name of technocratic development that had to overcome, in the British Arabian imaginary, a difficult and unknowable desert environment and people, a socioecological state of exception that haunts our world today.²³

Nearly a century earlier, in North Africa, the French similarly justified many colonial policies for dealing with the local populations based in large part on their environmental imaginary of the Maghreb. The widespread Anglo-European perception of the North African environment in the early nineteenth century was one of great fertility that had lapsed under negligent Ottoman administration. Soon after the French conquered Algeria in 1830, though, they developed a new colonial environmental narrative that blamed the local inhabitants, particularly the nomads, for apparently deforesting and desertifying the region over the last several hundred years since the "Arab invasions." This colonial narrative, Diana Davis argues in her chapter, was based on the erroneous belief that during the Roman period North Africa had been more fertile and much more heavily forested than when the French arrived in Algeria. She shows that most French settlers in Algeria, and later in Tunisia and Morocco, developed an identity that claimed Roman heritage. Moreover, many of these settlers vehemently believed that they had to restore the environment to its former Roman glory with reforestation projects and agricultural improvements in order to prove themselves the heirs of Rome. That is, their identity hinged in important ways on restoring the environment, which they saw as an environment of "self," to its rightful state. This contrasts with the exotic and "abnormal" environmental

imaginaries most other imperial/colonial powers constructed of their overseas territories. Davis suggests, furthermore, that the perceived need to restore the environment to its mythical former fertility also informed certain notions of French imperial and, to a certain degree, national identity, especially in the early twentieth century in ways not previously considered. Their colonial environmental history of North Africa allowed many of the French to identify themselves as heroes who had restored the ruined environment and proved themselves the true heirs of Rome.

In his chapter, George Trumbull charts what he terms the reimagining of the Sahara by the French in the era of decolonization, a crucial but overlooked component of the economic history of the great desert. Related, in part, to the environmental narratives described by Davis, Trumbull explains that the French vision of the Sahara as a sea of sand, as a place danger, of intractable thirst and frequently death, dominated in the nineteenth century. Although there was interest in trying to increase both water supplies and economic activities in the desert during that time, little was achieved. By the mid-twentieth century, though, the French imaginary of the Sahara was transformed, according to Trumbull, and reconceived as a utilitarian space, as they sought to economically develop the desert through mining and petroleum extraction during a period of national crisis. By this time, large amounts of subterranean water had been discovered, and this newfound resource generated dreams of populating the Sahara with workers and managers complete with cottages and gardens growing roses. He calls this a transformation of the environmental representation of the great desert one that is essentially a “passage from menace to management.” In this way, the Sahara, in the French mind, was reconfigured for mastery that could prove the grandeur of France even as it was losing the battle to control the rest of Algeria. Some even dreamed of eliminating the desert altogether, believing that enough irrigation and planting could change the climate itself, revealing the widespread underlying belief that deserts are “unnatural” aberrations. As Trumbull notes, the local peoples who had lived successfully in the Sahara for generations were ignored, as was their knowledge of water supplies and environmental management. The Algerians, however, had their own imaginary of their environment, including the desert. This is implied in the words of the famous nineteenth-century Algerian freedom fighter, ‘Abd al-Qâdir, as quoted by Trumbull, “If you knew the secrets of the desert, you [the French] would think like me; but you are ignorant of them.”

The chapters discussed up to this point all focus primarily on Western, Anglo-European environmental imaginaries of the Middle East and North

Africa, how and why they were formed and transformed, and how they affected a wide array of subjectivities, policies, and practices. As the example from contemporary Egypt shows, successive Egyptian regimes have invoked various elements of colonial environmental imaginaries in order to further state power and private profit in a variety of sectors including agriculture. The chapter by Sowers and that by Trumbull, though, provide glimpses of the different environmental imaginaries of more local, non-Western groups in the Middle East and North Africa in the nineteenth and twentieth centuries. Do these visions constitute an alternative to what has been suggested here as “environmental orientalism”? If they do, what are the implications and are they significant? By examining the narratives of farmers, government officials, extension agents, and political groups, in several Middle Eastern and North African countries, the remaining chapters in the volume provide examples with which we might begin to try to explore these questions further.²⁴

Leila Harris analyzes multiple local narratives of environmental change in contemporary southeastern Turkey in order to compare the stories of scientists, local, small-scale farmers, and agricultural extension agents. She argues that both divergent and convergent narratives, or “story lines,” are able to reveal underlying environmental imaginaries. Significantly, Harris shows how important it is to consider such narratives in the context of detailed histories of sociopolitical and economic change affecting the region at the local, national, and international levels. We find a common faith in technoscience shared by all the actors in this example that is widely believed to be able to increase the productivity of already good land, rather than as a “fix” for previously ruined land. This might be surprising in the light of the common Anglo-European imaginary of a degraded Middle Eastern and North African environment. As Harris explains, though, it is not surprising when one understands the long-standing treatment of the Kurds in the region, who aspire to attain “development” on a level with the rest of Turkey, or when one understands the desire of the Turkish state to be perceived as “modern” by the West to facilitate goals such as entry into the European Union. These indigenous voices, marshaling their own environmental visions and understandings, offer a “stark contrast to general crisis narratives” of resource degradation with foundations in the Anglo-European environmental imaginary. For environmental plans to succeed, for “sustainable” development to be possible, Harris concludes, these voices must be heard and heeded.

Competing “hydro-imaginaries” of the Jordan River basin form the subject of Samer Alatout’s chapter on the construction of the political

geography of the river and its lands in the 1950s, just after the creation of the state of Israel. Alatout shows very clearly how three different environmental imaginaries of the river basin—American, Arab, and Israeli—fostered three different narratives of hydrological reality with related prescriptive policies that in turn legitimized three very different political geographies of the region. The Americans employed a naturalizing and depoliticizing watershed perspective of the river and its basin that generated a cooperative planning approach in order to create a strong coalition of states able to rebuff anticipated Soviet incursions in the region, thus privileging U.S. foreign policy early in the cold war era. The plan of the Arab states drew on Arab nationalism and a kind of moral economy of water that gave importance to the sources of the Jordan waters, which, in turn, justified a pan-Arab politico-environmental approach excluding Israel. In its effort to define the Jordan River as a national resource for its development, the Israeli state employed an imaginary that was built on a highly efficient technonature in which the highest agricultural profit using the best technology justified who received water and, important since they were eager to pump river water to the Negev desert, where it was delivered. The details of the three different narratives analyzed by Alatout provide striking examples of how and why different and competing environmental imaginaries, hegemonic and local, can be extremely important in national and international politics, economics, development, and foreign relations.

The Palestinian environmental imaginary, as Alatout noted, was neglected in the 1950s water negotiations. This “indigenous” imaginary forms a primary subject of analysis, however, for Shaul Cohen in his chapter comparing the environmental imaginaries of Palestinians and Israelis in the context of nationalism(s) and environmentalism. He shares with Davis an interest in how visions of the environment, and how they have changed over time, inflect notions of social identity, national and otherwise. Cohen concludes that, for the moment, environmentalism is taking a backseat to other much more pressing issues for both the Israelis and Palestinians, such as security and national development. He provides, however, revealing details on the formulation and deployment of these two competing environmental imaginaries. As Cohen details, the Israelis have appropriated much of the Anglo-European environmental imaginary of a ruined landscape in need of restoration. In this case, the Arabs living under Ottoman administration, the Palestinians, are held responsible for degrading the environment, and therefore, it is argued, the Israelis are justified in owning the land so as to restore its “lost and rightful fertility.” For the Palestinians, in contrast, the vision of the environment hinges more on how their former “Palestinian

Eden” has been lost and degraded by the creation of Israel, while claiming that they are better stewards of the land than are the Israelis. Both sides thus wear the “mantle of the victim,” and both form notions of identity with claims of superior environmental knowledge and care. They share, then, what amount to “nationalist narratives of the environment” and the goal of environmental protection. Indeed, as Cohen explains, it was hoped that environmental protection would help forge Israeli/Palestinian cooperation in the optimistic time following the Oslo accords of 1993 that might help lead to peace. Instead, resources and energy on both sides have gone into other, more urgent, sectors, namely security, while environmental protection has been mostly deferred.

As these three chapters illustrate, alternative, often nationalist, environmental imaginaries of the Middle East and North Africa have indeed adapted and reconfigured, to a greater or lesser degree, the Anglo-European preconceptions of “environmental orientalism.” Their development, like their deployment, is dependent on specific historical contexts that must be considered when analyzing them and their implications. It must also be taken into account, though, that a great deal of “scientific research” on the environment in the Middle East and North Africa has been conducted by Anglo-Europeans and others steeped in the Western environmental imaginary of a ruined landscape. The inaccurate narrative of degradation, alongside a valorization of technological fixes, has been incorporated into the educational and research systems of the postcolonial Middle East and North Africa to a significant degree, just as it has in the global North. As some of the chapters in this book show, many people born and raised in the region do subscribe to Anglo-European environmental imaginaries to varying degrees. What we can’t yet answer, but hopefully future research will, is how many people in the region have internalized such environmental imaginaries, to what degree, and with what results.

The example of the United Arab Emirates (UAE) provides an interesting opportunity to think about some of the potential implications of these questions. If many people in the Middle East and North Africa held some sort of common identity as the inhabitants of a degraded or desertified environment, what would be the social, political, and economic ramifications? The UAE, a federation of seven sheikhdoms on the Gulf coast of the Saudi Arabian peninsula, formerly called the Trucial States, gained its independence in 1971 after 120 years of British protection. Since independence, primarily under the leadership of its first president, Sheikh Zayed bin Sultan Al Nayhan (1918–2004), the UAE has maintained an official campaign to “roll back the desert,” which constitutes 80 percent of

its territory. It has, for example, planted more than one hundred million trees and created many parks and “green spaces.”²⁵ In Abu Dhabi, the largest state, the rate of afforestation since 1980 is an astounding 26 percent annually.²⁶ In addition, UAE agriculture has been greatly expanded, and the sectors of agriculture, afforestation, and parks creation account for at least 80 percent of all water consumption.²⁷ This intensive effort to green the Emirates, however, has created problems of pollution from fertilizers and the overuse of groundwater—over 80 percent of total groundwater has already been withdrawn, much of it nonrenewable fossil aquifer water.²⁸ Desalinization is increasingly being relied on, a technology that is hugely energy-intensive and that emits large amounts of CO₂ and hot water detrimental to marine life. As of 2008, desalinated water provided most of the municipal (nonagricultural) water supplies, and treated sewage is increasingly being used to irrigate landscaping.²⁹

In other sectors, such as real estate development, nature has also been “improved,” as in the case of the human-generated archipelago of three hundred islands called “the world,” which contains individual islands with expensive private villas, or the manipulations of the creek Khor Dubai to create a wildlife-filled lagoon with seven artificial islands in the middle of the planned “Business Bay” financial center.³⁰ The Palazzo Versace Hotel in Dubai has apparently built (or is planning to build) what is claimed to be the world’s first refrigerated beach to complement their “chilled public lagoon pool.”³¹ In Dubai developers have also built the “largest indoor snow park in the world” with five ski runs and conifers apparently growing in the winter wonderland.³² The resort has been open since December 2005, and in November 2009 they developed the technology to make it snow indoors during the day when people are actually skiing, thus bringing “a unique sight and environment to people who haven’t been to the mountains of Europe.”³³ The long-term outcome, though, may include the collapse of such mega-projects in Dubai and the rest of the UAE that appear unsustainable if current energy and water consumption trends continue.

Scholars who have studied these phenomena in the UAE tend to attribute the desire to “green” the emirates partly to the idea that within Islamic culture paradise is conceived as a green garden, partly to efforts to legitimize state power and boost nation-building, partly to elite desires to appear to be a “modern” state, and partly to government and commercial interests in attracting Western business and tourism.³⁴ What is less well accounted for, however, is the effect of Anglo-European environmental imaginaries of a degraded or marginal environment that can be made “better” and more “normal” with more vegetation, more water, and “cooling” of



Figure 0.2. Inside Ski Dubai, where it is kept cold enough to produce snow while outside temperatures soar above 100 degrees Fahrenheit. *Photo by Keirn OConnor, posted to Wikimedia Commons: http://commons.wikimedia.org/wiki/File:Ski_Dubai_Chair.jpg. Licensed for sharing, copying, and distributing.*

the torrid desert sands. The Anglo-European environment in conjunction with Western models of consumption and leisure are implicitly and explicitly held up as the ideal to attain. This was expressed well by one Emirati woman at Ski Dubai not long after it had opened. At the end of a ski run, with a big smile on her face, she proclaimed proudly, “Now it is Europe here too.”³⁵ In this case, though, unlike many others, blame has not been attributed, in any of the official narratives, to a particular human group for ruining the environment. President Zayed said, for instance, that “a man without resources cannot change a country and so is not to be blamed for it. This was the case when our ancestors could not do anything.”³⁶ In other parts of the Middle East and North Africa, however, as the chapters in this volume attest, this same imaginary has produced repressive policies, including forced sedentarization and relocation for groups deemed to be environmentally destructive, such as nomads. Critically interrogating the environmental imaginaries of the Middle East and North Africa, as this volume has begun to do, holds promise for future research that may be able to inform more environmentally sustainable and socially equitable development in the region.

Notes

1. See UNEP, *Global Deserts Outlook* (Nairobi, Kenya: United Nations Environment Programme, 2006), available at <http://www.unep.org/geo/GDOOutlook>, last accessed 25 February 2010. The primary environmental problems in the Middle East are those of pollution and overusing limited water supplies, not of massive deforestation, overgrazing, and desertification. For more details, see Diana K. Davis, "The Middle East," in *Encyclopedia of World Environmental History*, ed. Shepard Krech, John R. McNeill, and Carolyn Merchant (New York: Routledge, 2003), 840–44; Mark A. Blumler, "Biogeography of Land-Use Impacts in the Near East," in *Nature's Geography: New Lessons for Conservation in Developing Countries*, ed. Karl Zimmerer and Kenneth Young (Madison: University of Wisconsin Press, 1998), 215–36; Avi Perevolotsky and No'am Seligman, "Role of Grazing in Mediterranean Rangeland Ecosystems," *BioScience* 48, no. 12 (1998): 1007–17; Linda Olsvig-Whittaker, Eliezer Frankenberg, Avi Perevolotsky, et al., "Grazing, Overgrazing and Conservation: Changing Concepts and Practices in the Negev Rangelands," *Sécheresse* 17, nos. 1 and 2 (2006): 195–99; Sharon E. Nicholson, "Desertification," in *Encyclopedia of World Environmental History*, ed. Shepard Krech, John R. McNeill, and Carolyn Merchant (New York: Routledge, 2003), 297–303; James F. Reynolds and D. Mark Stafford Smith, eds., *Global Desertification: Do Humans Cause Deserts?* (Berlin: Dahlem University Press, 2002); William M. Adams, *Green Development: Environment and Sustainability in a Developing World*, 3rd ed. (London: Routledge, 2009), chap. 8; Bruno Messerli and Matthias Winiger, "Climate, Environmental Change, and Resources of the African Mountains from the Mediterranean to the Equator," *Mountain Research and Development* 12, no. 4 (1992): 315–36; Diana K. Davis, "Scorched Earth: The Problematic Environmental History that Defines the Middle East," in *Is There a Middle East?*, ed. Michael E. Bonine, Abbas Amanat, and Michael Ezekiel Gasper (Stanford, Calif.: Stanford University Press, in press); and Diana K. Davis, *Resurrecting the Granary of Rome: Environmental History and French Colonial Expansion in North Africa* (Athens: Ohio University Press, 2007), 177–86.

2. In some cases, such irrigation systems also illustrate the follies of several states' efforts to gain power and prestige with environmentally inappropriate water-control projects throughout history. Providing adequate drainage, for example, has been a problem for thousands of years. See Edmund Burke III, "The Transformation of the Middle Eastern Environment, 1500 BCE–2000 CE," in *The Environment in World History*, ed. Edmund Burke III and Kenneth Pomeranz (Berkeley: University of California Press, 2009), 81–117.

3. Although the primary imperial powers in the Middle East and North Africa in the late nineteenth and early twentieth centuries were the British and the French, I use the term "Anglo-European" here to denote the broad array of Western countries with interests in the region and whose scholars, artists, and travelers made significant contributions to its representation. These countries

include, but are not limited to, France, Britain, the United States of America, Germany, and Italy.

4. Davis, *Resurrecting*.

5. Shaul E. Cohen, *The Politics of Planting: Jewish-Palestinian Competition for Control of Land in the Jerusalem Periphery* (Chicago: University of Chicago Press, 1993).

6. Louis-François Cassas (1756–1827) traveled widely in southern Europe and the Near East for his work as a draftsman, engraver, and archaeologist. From 1784 to 1787 he lived in the Ottoman empire and traveled to places we now know as Turkey, Syria, Egypt, Israel/Palestine, and Cyprus. See Joshua Drapkin, “Cassas, Louis-François,” Grove Art Online: <http://www.oxfordartonline.com>, last accessed 20 December 2010. The ink and watercolor rendering of the *View of the Cedar Forests of Lebanon seen from the Tripoli Road* (1800–1801) seen on the cover of this book illustrates well the romantic view of the forests of the Middle East common among Europeans at that time. Despite the popularity of this romantic view, later in the nineteenth century, the deforestation narrative became dominant and remains so today. Contemporary research, however, has undermined this deforestation narrative and shown deforestation history in the region to be more complicated than previously thought, with some deforestation in some areas but not others. See discussion of the paleoecological data in Davis, “Scorched Earth,” and also more recent research including Lara Hajar et al., “Environmental Changes in Lebanon during the Holocene: Man vs. Climate Impacts,” *Journal of Arid Environments* 74, no. 7 (2010): 746–55, and F. H. Neumann et al., “Vegetation History and Climate Fluctuations on a Transect along the Dead Sea West Shore and Their Impact on Past Societies over the Last 3500 Years,” *Journal of Arid Environments* 74, no. 4 (2010): 756–64. The cedars of Lebanon, in fact, may well be relicts from the last ice age rather than a species wholly destroyed by human improvidence as so often claimed. See Lara Hajar et al., “*Cedrus libani* (A. Rich) Distribution in Lebanon: Past, Present and Future,” *Comptes Rendus Biologies* 333, no. 18 (2010): 622–30, esp. 626.

7. Davis, “Scorched Earth.”

8. For example, the work of Jean-Paul Sartre and Jacques Lacan has not greatly influenced my use here of the term “imaginary.” I draw more on the work of human geographers, particularly political ecologists, who have attempted to delineate how such social-environmental imaginaries are constructed and how they are used in a variety of settings. For more details, see Richard Peet and Michael Watts, eds., *Liberation Ecologies: Environment, Development, Social Movements* (New York: Routledge, 1996), 37, 267–69. For a case study, see J. Todd Nesbitt and Daniel Weiner, “Conflicting Environmental Imaginaries and the Politics of Nature in Central Appalachia,” *Geoforum* 32, no. 3 (2001): 333–49.

9. What we understand as environmental history is most often the single environmental narrative (usually among several competing narratives) that has for one reason or another become dominant, or the most widely accepted

narrative, in a given social group. In certain cases, environmental imaginaries and the narratives and policies for development that accompany them become hegemonic. In such cases, the imaginaries and associated policies may be carried to other environments where their application is inappropriate and often harmful to the environment and the people living in it. See Peet and Watts, *Liberation*, 268. See also Kate B. Showers, *Imperial Gullies: Soil Erosion and Conservation in Lesotho* (Athens: Ohio University Press, 2005), for an excellent discussion of hegemonic narratives of soil erosion developed in the west and the problems created when they are transferred to a very different environment in southern Africa.

10. For an excellent discussion, see Jeremy Swift, “Desertification: Narratives, Winners and Losers,” in *The Lie of the Land: Challenging Received Wisdom on the African Environment*, ed. Melissa Leach and Robin Mearns (London: International African Institute, 1996), 73–90. For a more sophisticated, theoretical discussion of these ideas, see Paul Robbins, *Political Ecology* (Oxford: Blackwell, 2004), esp. 107–26.

11. Peet and Watts, *Liberation*, 267.

12. Of course, later in the colonial period in places like India and Algeria many people of European heritage had been born in the “colony,” but by that time the dominant environmental imaginary had been constructed and did not often change significantly.

13. For excellent discussions of representations of “foreign nature” and “tropicality,” see David Arnold, *The Problem of Nature: Environment, Culture and European Expansion* (Oxford: Blackwell, 1996); Derek Gregory, “(Post) Colonialism and the Production of Nature,” in *Social Nature: Theory, Practice, and Politics*, ed. Noel Castree and Bruce Braun (Malden, Mass.: Blackwell, 2001), 84–111; and Nancy Leys Stepan, *Picturing Tropical Nature* (Ithaca, N.Y.: Cornell University Press, 2001). See also Davis this volume.

14. The only other scholarly work to use the term “environmental orientalism” and to try to grapple with its implications is Suzana Sawyer and Arun Agrawal, “Environmental Orientalisms,” *Cultural Critique* 45, no. 1 (2000): 71–108. This article does not, though, treat the Middle East or North Africa; it focuses on the Americas.

15. For details, see Burke, “Transformation.”

16. For a detailed example from colonial North Africa related to Mediterranean basin “natural vegetation” maps, see Davis, *Resurrecting*, 131–64.

17. For a few recent examples, see Zachary Lockman, *Contending Visions of the Middle East: The History and Politics of Orientalism*, 2nd ed. (Cambridge: Cambridge University Press, 2009); Edmund Burke III and David Prochaska, eds. *Genealogies of Orientalism: History, Theory, Politics* (Lincoln: University of Nebraska Press, 2008); Derek Gregory, *The Colonial Present: Afghanistan, Palestine, Iraq* (Oxford: Blackwell, 2004); Alexander Macfie, *Orientalism* (London: Longman, 2002); and Thierry Hentsch, *Imagining the Middle East*, trans. Fred

Reed (Montreal: Black Rose Books, 1992). See also Edward Said, *Orientalism* (New York: Vintage Books, 1978).

18. See Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002).

19. Davis, *Resurrecting*, is another, more recent, book that does this.

20. Mitchell, *Rule*, 209. See “The Object of Development,” 209–43, for details. The very real problems of the provision of social services to the large Egyptian population and the feelings of being “squeezed” by average Egyptians should not be ignored or downplayed. Mitchell’s analysis, rather, shows that the priorities of the state, and its spending, tend to go elsewhere, using the crisis narrative for legitimation.

21. It should be noted that there were people with long experience in Egypt (and India) who tried to warn about the likely problems of perennial irrigation, like the engineer William Willcocks, but all too often their advice was not heeded.

22. Iraq and the surrounding region were variously referred to as Arabia, Mesopotamia, and sometimes the Holy Land during the early part of the twentieth century.

23. Unfortunately, such crude environmental determinism and associated racist worldviews are still with us and are of particular geopolitical importance in the Middle East. See Diana K. Davis, “Power, Knowledge and Environmental History in the Middle East,” *International Journal of Middle East Studies* 42, no. 4 (2010): 657–59. For an interrogation of the state (space) of exception in the region today, see Gregory, *Colonial Present*.

24. It is worth noting that “indigenous” is not synonymous with “local,” “vernacular,” “peasant,” or “subaltern.” The term is used here in opposition to “Western” or “Anglo-European” to highlight potential differences in environmental imaginaries and narratives of those of Middle East and North African origin.

25. Chris Ryan and Morag Stewart, “Eco-Tourism and Luxury—The Case of Al Maha, Dubai,” *Journal of Sustainable Tourism* 17, no. 3 (2009): 292.

26. Pernilla Ouis, “Engineering the Emirates: The Evolution of a New Environment,” in *Engineering Earth: The Impacts of Megaengineering Projects*, ed. Stanley Brunn (Boston: Kluwer, 2011), 1409–23.

27. Pernilla Ouis, “‘Greening the Emirates’: The Modern Construction of Nature in the United Arab Emirates,” *Cultural Geographies* 9, no. 3 (2002): 337.

28. Ouis, “Engineering.”

29. See the UNFAO’s AQUASTAT database for the UAE at http://www.fao.org/nr/water/aquastat/countries/unt_d_arab_em/index.stm, last accessed 10 September 2010. It is worth noting that water for agriculture is provided free of charge and that municipal supplies are subsidized by the state. *Ibid.*

30. Ouis, “Engineering.” For a scathing commentary on development in Dubai and the “indentured Asian labour force that sustains them,” see Mike Davis, “Fear and Money in Dubai,” *New Left Review* 41 (September–October 2006): 47–68.

31. See the Palazzo Versace Gold Coast and Dubai Fact Sheet: <http://www.tdireconsultancy.com/images/propertyimg/Palazzo%20Fact%20Sheet.pdf>, last accessed 11 September 2010. See also Jonathan Leake, "Chill Out, You Beautiful People, the Versace Beach Is Refrigerated," *Sunday Times*, 14 December 2008, online at <http://www.timesonline.co.uk/tol/news/environment/article5338099.ece>, last accessed 4 November 2010.

32. For information, photos, and virtual tours, see <http://www.skidubai.com/ski-dubai/resort>, last accessed 2 March 2010. It is not clear whether the trees are real or ornamental.

33. See anonymous article "Let It Snow at Ski Dubai," Ski Dubai website, <http://www.skidxb.com/news/news-2.aspx>, last accessed 2 March 2010.

34. For examples, see Ryan and Stewart, "Eco-Tourism," and Ouis, "Greening."

35. Quote from a story on the BBC World News television broadcast, 16 February 2006.

36. Quote from the introductory material of the Zayed Bin Sultan Al Nahayan Charitable and Humanitarian Foundation, <http://www.zayedfoundation.com/home.aspx>, last accessed 26 February 2010.

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