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# Khalifa versus Prometheus: Green ethics and the struggle for contemporary sustainable urbanism

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**Abstract**

In the last decades, contemporary urbanism in the global South has meant large urban transformations, tall architecture landmarks, and fierce city competition. However, cities and their planners are now confronting an ethical dilemma: how to grow and compete while caring for the disastrous impacts on Earth and human health caused by the mass extraction, processing, and consumption of resources linked to urbanization. In our article, we problematize the modern interpretation of technology, and in particular architecture and planning technologies, in society where sustainability is considered a product. By restudying the Quranic notion of the *khalifa* and the accidental, ecological formation of the *oasis*, we will argue for a post-promethean philosophy of *inhabiting* the Earth. We will exemplify this new ethical–technological shift by comparing planned and unplanned developments in Arabian Gulf cities.

**KEYWORDS**

architecture, green urbanism, Islamic architecture, khalifa, sustainability

# 1 | INTRODUCTION: THE BROKEN METABOLISM OF THE PROMETHEAN CITY

In the last decades, contemporary urbanism in the global south has meant large urban transformations, tall architecture landmarks, and fierce city competition. Starting from the 1980s in Southeast Asia and from the 1990s in the Arabian Peninsula, the acceleration of economic growth and societal transformations has brought massive changes to Asian cities and their hinterlands. The formation of extended urban regions (McGee, 2013), mega-urban regions (Yeung, 2002), and transnational urban corridors (Rizzo, 2021b; Rizzo & Khan, 2013; Wee, 1995) has redesigned the traditionally postcolonial relationship between cities as gateways to access and export colonies' resources, and rural outposts as centers for labor and the extraction of those resources.

In Asia, urbanization trends have been characterized by an active role of the state to spur megaprojects and free-trade zones to attract global capital (Douglass, 2000). As early as 1972, well before Friedmann and Wolff's (1982) seminal article on the World City hypothesis, Singapore's government sought the opportunity to transform the city-state into a "Global City" (as cited from the minister of foreign affairs S. Rajaratnam's speech in Chang et al., 2004). In fact, Singapore has been the front-runner state to re-engineer its territory as a gigantic platform for international investments. Likewise, with the discovery and successive exploitation of substantial oil reserves (from the 1970s), the tiny Arab states of the Persian Gulf region have gone through dramatic economic and social changes. The later push (from the late 1990s and with more emphasis in the 2000s) for the economic diversification of these net exporters of hydrocarbon commodities has resulted in massive investments in infrastructures (chiefly logistics) and mega-urban projects to support Gulf capitals' "global" aspirations (Rizzo, 2014). These aspirations are spelled in the governments' official visions (e.g., UAE Vision 2021, Qatar National Vision 2030, Saudi Vision 2030) which all share a drive for fast-track modernization and integration with the wider world economy. While Dubai, Doha, and Abu Dhabi are cases in point and arguably the most popular hot spots to see Gulf urbanism at work, similar trends are translated to a number of so-called emerging capitals in the Middle East and North Africa region and beyond (Choplin & Franck, 2010).

Anthropologist Ahmed Kanna (2012) has drawn an interesting comparative analysis of the urban development of Southeast Asia and the Gulf. Malaya (Malaysia plus the Straits colonies) and the Trucial States (today UAE) were (at different points in time) forced to enter into exclusive agreements and eventually fully incorporated into the British Empire as important trading posts between China, India, and Europe. Furthermore, to better secure the Asian route (from the Gulf to India and Southeast Asia) from competing world powers (France, Russia, etc.), Britain engineered a local political system that favored centralized states (with the sit of power located in today's capitals of Kuala Lumpur, Dubai, Doha, and Abu Dhabi) as the opposite of scattered, tribal systems. This process has over time fueled an urban elite that has played down nonurban interests over pro-growth economic policies centered in their capitals. In urban terms, the nexus of high oil revenues and centralized growth in capital regions has facilitated the emergence of mega-projects and mega-redevelopments such as harbor and airport cities, industrial economic zones, and leisure & financial cities. In this way, Gulf capitals have transformed from scattered, small settlements (Riad, 1981) toward ever-larger "quasi city-states" (Sidaway, 2008). As Vadim Rossman (2017) convincingly explains in his analysis of capital cities, by investing in existing and new capital cities, policymakers have attempted to

answer the question concerning both "state-building," that is, state security and coherent administration, and "national-building," that is, identity and ethnicity and religious balance.

However, Asian cities, among them Gulf capitals, and their planners are now confronting an ethical dilemma: How to grow and compete while caring for the disastrous impacts on Earth and human health caused by the mass extraction, processing, and consumption of resources linked to urbanization. The impact of urban megaprojects has been far-reaching. Apart from the physical and demographic transformation of the cities themselves, perhaps the most immediately obvious changes are environmental (Rizzo, 2016). In the Gulf, the construction of megaprojects relies on resources that are not there in the first place (Rizzo, 2019, 2021a). Construction materials, gabbro, marble, and so forth are sourced from anywhere that is possible and cheap. Land infills, water desalinization, and energy generation have reshaped the current fauna and flora of the Gulf to the extent that it is now threatened to disappear for good (Figure 1). Luomi (2012, p. 25) has argued that "[land] and marine biodiversity is threatened by population and urban growth, construction activities, industrialization, international shipping, overfishing, overgrazing, and climate change." It is estimated that about 70% of the Gulf's coral reef has been permanently lost as the result of sea reclamation projects, intensive fishing techniques, and the discharge of waste brine from desalination facilities and oil and gas drilling (Burt, 2014).

On the other end of Asia, recent studies on pollutants in the Johor Straits have established a link between recent urbanization and increased concentration levels of copper and zinc in the Straits' waters (Azman et al., 2012). This has direct implications for the local Johorian mussels since they might be affected by the lower quality of the waters. The cultivation of mussels is an important source of income for locals. Moreover, large waterfront projects have "eaten" natural mangroves, causing coastal erosion and affecting the survival of marine fauna (Barau, 2017). Thus, indirectly urbanization and land-use change displace local fishers who have to relocate to better water farming grounds. On top of this, urbanization is decreasing the disposable arable land for agriculture (Barau, 2017), thus displacing local farmers. Likewise, the building of the Multimedia Super Corridor in Kuala Lumpur, the corridor stretching from the Petronas Towers to KLIA, has erased the existing living habitat of low-income farmers (Bunnell et al., 2002).

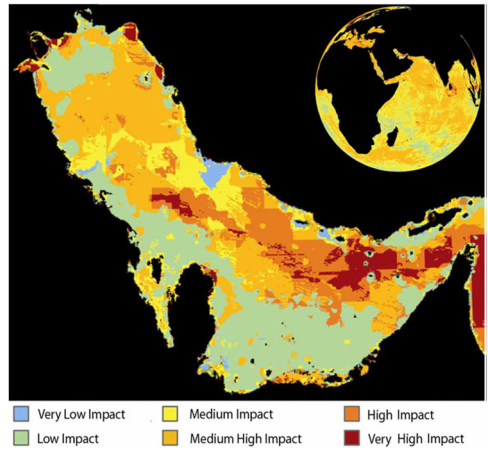


**FIGURE 1** Human impacts on marine ecosystems in the Gulf due to human drivers such as fishing activity, oil extraction, shipping, pollution, climate change, and population pressure (Burt, 2014).

Shatkin (2016) has argued that many of these practices have served as a template for land grabbing in developing Asia.

In our article, we will show that the modern idea of society as the master with absolute rights over nature is a deviation from the basic texts of the three monotheistic religions (Islam, Christianity, and Judaism). This problematic involution is made evident by the prominent role assigned to modern technologies (and by extension to so-called smart architecture and city planning) over other forms of knowing nature. In Section 2, we look into the Quranic notion of the "khalifa," the person as the keeper rather than the sole owner, of nature's gifts (otherwise known as resources), to exemplify alternative ways to imagine modernity and to try to develop new foundations for our field of study, for example, architecture education. By reviewing (Section 3) contemporary urban projects from the Middle East and North Africa (MENA) region as well as their "accidents," such as the case of the natural oasis Al Nakhla in Doha that was spontaneously created by nearby wastewaters, we argue, in Section 4, that an indispensable condition for contemporary architecture not to become a carousel of quantitative and serial phenomena is a renewed philosophy of inhabiting planet Earth. This latter philosophy is coherent and applicable to the modern metropolis, where (symbolically) the modern world citizen Prometheus can rediscover and reinterpret the notion of the Khalifa.

## 2 | A NEW ETHICS IN CITY-MAKING: KHALIFA AND THE OASIS AS A NEW METAPHOR FOR HUMAN FLOURISHING

In contemporary Western society, technology is described by philosophers as a train launched at great speed; but the driver is absent. In the wagons, the passengers look at the landscape, they are absorbed in a book, they doze. In Aeschylus' tragedy, Prometheus is punished for having taught humanity technology, making it "mistress of its own mind" (Aeschylus, 1954). In ancient times, technology was not disquieting, as it was not capable of going beyond the immutable order of nature. Nature was man's limit, and in it, he revived the system of his certainties. In the Biblical world of Genesis, God makes man in the image and likeness of himself and makes man *dominus* of nature (Biblia Sacra, 1959). Nature is no longer the expression of an immutable order, but subject to the dominus, that transforms it, using technology as a means, to adapt it to its own aims. Genesis establishes a new anthropocentric order, in which nature is an available material, beyond any ethical consideration. Today the technical means have become so magnified in power and extension as to as to possibly overturn the scenario. The subject of history is no longer man, but technology that has nature as its background and man as its officer (Severino, 2003, p. 14). Western scientific thought seems to have entered a dead-end street, where it is shaken between two options: the active nihilism of technology and vague calls for the elevation of humanity to the height of technical work (Galimberti, 2000, p. 48).

If we have mentioned the inclined plane on which Western thought has slipped, it is not to propose an Orientalist perspective, but the observation that calamities, generated by dangerous practices such as desertification, wild urbanization, the denaturalization of agriculture (Simons, 2007), the waste of natural resources—even if hidden behind the shattering of knowledge in strictly circumscribed fields of science—occur in the southern hemisphere too and create doubts in the consciousness of *Homo Islamicus*.

In traditional cultures, a technique did not have the sense of practical art to manufacture an object, but rather it expressed the profound essence of the object itself (Petruccioli, 2003, 2007; Figure 2). Today, instead, lazy mainstream academia and bureaucratic institutions advocate for a superficial idea of (smart) green urbanism that narrowly focuses on technological components, that is, gadgets, for making a house, neighborhood, or landscape sustainable *a posteriori*. It is thought that if technology creates troubles, the solution must be found in a further technological application, in an endless process in which sustainability is considered a product (in the form of certification or a miraculous app). It is surprising how this profound change happened over the course of a single generation: as if the children, modern Prometheus, had forgotten in one stroke the enormous wealth of knowledge and philosophy of their parents.

We find, therefore, useful to look for inspiration in ethical systems that are different from the one that dominates today's modern society. For example, *shari'a* builds a system of principles and norms, which define the conscience of the believer and regulate the relationship between him and nature, establishing the principle of responsibility toward creation. The Universe is a companion of the Muslim in devotion to God (Quran,[1] XXII, 18); God made the animal world (Quran, XVI, 4–8) and the plant world (Quran, XVI, 10–11) available to man. This Universe represents the home of man, a place of pleasure but for a limited time (Quran, II, 36). It is a question of understanding whether the gifts of God, the mountains, the birds, the stars, and the trees are signs of divine greatness or things (Quran, XXI, 79—XXXVIII, 18—XIII, 13). In the first case, the recurrent exhortation to establish a relationship of affection and love with the creation of nature suggests an ecocentric vision. In the second case, the anthropocentric framework of the message is strengthened, whereby the universe and its creatures are at the service of man, chosen and privileged by God: "We have led them to land and sea and have granted them excellent food and we made them excel over many of our creatures" (Quran, XVII, 70). The word excel has determined a wrong interpretation by the ruling Muslim class in favor of ostentation.

Competition coupled with the pursuit of unlimited profit results in singular architectural interventions in the cities of the Gulf, in which the spectacularization has exceeded the quantitative and qualitative levels to touch illusionistic effects. With our eyes full of a YouTube video of the Burj Khalifa surrounded by a storm of fireworks, installed by the modern Prometheus' city, we meditate on the concept of balance: "Everything we created in just measure" (Quran, LIV, 49): God, to circumscribe the principle of lordship over nature, invites the Muslim to consider the surrounding creatures as communities similar to his community (Quran, VI, 38) and affirms: "I will place my vicar on earth" (Quran, II, 30). *Khalifa*[2] in Arabic

**FIGURE 2** Old mosque near Abu Nakhla pond (Alex Sergeev).

means both vicar and successor. Since God has no successors in this verse the sense of vicar applies. Moreover, "We made you *khalifa* on earth. Arbitrator between men by means of the truth [...]" (Sura XXXVIII, 26/26), where the figure of the vicar is adorned with the purple of the leader, at the same time master of nature and servant of God. The theme of man as vicar in nature is fundamental in the Quranic doctrine of the human condition (Paret, 1970) even if it finds it difficult to be understood by populace. It should be combined with the theme of *aya*[3] or nature as a sequence of testimonies of Divine Grace: harvest, pregnancy, the winds ... in front of which one touches with gratitude the sacredness of nature (Cragg, 1968). In reminding man, who has the right to dispose of natural resources, which belong only to the Creator of the Universe, to satisfy his needs without disturbing the balance of nature, not to break the order established by Allah, but to protect it. Finally, responsibility and respect govern the relationship between man and the environment: "There is a reward for kindness towards every living being" (Sahih of Al-Bukhari, 5663); "Do not spread corruption on the earth, after it has been made prosperous" (Quran, VII, 56).

According to Lynn White (1967) the man–nature dualism in the context of an accentuated anthropocentrism and the conception of history as a linear development toward continuous progress, typical of the three monotheistic religions, would have been adopted by the Prophet Muhammad by cultural osmosis. In our view, the author overlooks the fact that the accentuated anthropocentrism in the Prophet's preaching was justified in the seventh century by his fight against idolatry and lithoatry (worship of stones) practiced by the Arab tribes of the Arabian Peninsula. The anthropocentrism of the Quran reflects the need to de-soul objects and phenomena of nature, and it might generate in the uneducated people indifference to the feelings of living and nonliving objects of nature.

The Quranic Law offers a solid legal framework and clear ethics to counteract bad practices toward the environment, but the basic question remains: what are the causes that have induced so frequent deviations from the right path in the Dar al Islam? These violations are not due to financial insufficiencies, but rather to a gap between religious precepts and current practices of leaders and policymakers and a self-absolution mentality, which is rooted in the anthropocentric vision. The temptation to become a garden landlord from a garden khalifa is very strong in human beings. Furthermore, the Earth, considered sacred in traditional Islam, has gradually materialized into an exploitable resource, according to the universal capitalist practice. Islamic societies have responded to these pressures with ecological awareness and educational programs. The acceptance without distinction of technical globalization, in the erroneous presumption that technology is neutral, should be added to the account of the causes. In the rich Gulf countries, technology proved to be a powerful tool in the hands of all khalifas, who wanted to make themselves landlords.

From the point of view of the discipline of architecture, there is no need to risk a conflict between religion and science, but rather to suggest a change of paradigm. Thomas Kuhn (1970) explains the jerky, nonlinear development of science as paradigm shifts (Wray, 2021). Whenever the stability of the system goes into crisis, the basic framework or current paradigm is changed for one of greater explanatory power. When the new paradigm is established, the crisis of science is resolved and the scientific research work resumes without jolts. In light of the profound upheavals affecting the entire planet with the downsizing of the globalized economy, the restless return of nature in the form of pandemics and last but not least the advent of artificial intelligence, which could escape human control, with reference to the natural and built environment, it is not senseless to think of a change of cultural paradigm.

It is also useful to use the Quranic concept of balance as exemplified by the mīzān to highlight the modern architecture struggle to balance industrial with natural values (Shaker, 2015). Mīzān attributes to the single person the responsibility of using the just measure. In economic terms, we could say to reduce externalities, that is, waste. Likewise, a number of urban planning theoreticians have suggested "green city" models that could balance urban externalities (pollution, traffic, stress, etc.) with an increased focus on nature. Howard (as cited in Hall & Tewdwr-Jones, 2010) suggested the model of the three magnets (town, country, and town-country) to formulate his idea of the garden city, a city that would balance the best of both urban and countryside living while minimizing their combined drawbacks (social isolation, pollution, lack of opportunities, etc.). On it, Abercrombie developed further the concept of controlled, rural urbanization by formulating the "green belt," a green/rural area containing urban sprawl in the capital region while fostering a regional urbanization model that leveraged the modern (at the time) railway transport technologies—to link the new towns to the metropolitan center (Hall & Tewdwr-Jones, 2010). In other contexts where industrialization started later (e.g., in Scandinavia), new industrial towns were proposed and designed by well-known academics and practitioners to work the transition out from rural living without totally losing the connection, or balance, between people and nature. Architects such as Aalto, Erskine, and Gropius designed a number of self-enclosed industrial towns (surrounding wood and pulp mills, mining settlements, etc.) that provided the most necessary services for human living (schools, community clubs, health care, etc.) in the harsh winter environment of the north. Aalto, for example, formulated the idea of the forest city as a settlement deeply integrated with nature (Hautamäki, 2022). Likewise, Erskine developed climate-adapted architecture to increase living comfort in the cold months of the arctic mining towns in Sweden (and abroad) and balance nature with new industrial values.

## 3 | CASE STUDIES

### 3.1 | Abu Nakhla

The Abu Nakhla pond in the municipality of Shahaniya, 15 km southwest of the center of Doha, not only bears witness to bad practices in the region but is paradigmatic of how much (even in a Muslim country that is attentive to environmental sustainability such as Qatar), the technology is taking the lead and moving at a faster speed than the operators. Every morning the row of orange tankers marks the horizon of Orbital Highway to deliver the sewage of the city, and the nearby industrial area, to the West Sewage Treatment Plant (WSTP). Starting from the second half of the 1980s, the wastewater was discharged into the depressions of the land in the area of Abu Nakhla forming ponds. Over time, an oasis with its own biodiversity was in the middle of the desert (Figure 3). The pond had a rich and diverse population of birds, fish, and frogs, hosting about 260 bird species, such as 150 Greater Flamingo (*Phoenicopterus roseus*). It also hosted about 10% of the total plant species in Qatar.

> For many years, this pond was the source of many adverse environmental effects such as bad odor, vermin, and elevated groundwater levels in the neighboring residential areas. The claims that some of the disposed water was untreated aggravated the situation and the local community considered the pond as impure body of water. (Elobaid et al., 2018)

FIGURE 3 The Abu Nakhla pond (Alex Sergeev).

The 2001 microbiological study of the wastewater and its sediment[4] around Abu-Hamour (untreated wastewater pond) and Abu-Nakhla ponds (treated wastewater pond), revealed that coliform bacteria, a form of disease-causing organisms (pathogens), were prominently present in the former rather than in the latter one. Again, the chemical analysis of the water conducted in 2014–2015 by a local team, has shown that the water in the Abu-Nakhla pond was of good quality, in terms of both physiochemistry and biological and microbial contaminants. The report also recommended transforming the oasis into a nature reserve with a meteorological station (Elobaid et al., 2018).

Nevertheless, the disposal of water was suspended and it was decided to drain the pond. At the same time, it was decided to multiply the treatment plants next to WSTP, bringing production progressively from 70,000 to 175,000 $m^3$/d in 2012 and finally 280,000 $m^3$/d in 2015. At the same time, injection wells were installed to pump wastewater deep into the porous ground between impermeable layers and aquifers. Injection wells are an American by-product of fracking technics, which has generated much litigation in California.[5]

Conversely, the new techniques of bioremediation and phytoremediation, which adopt algae, bacteria, and aquatic native plants, capable of absorbing heavy metals and degrading pollutants—*Phragmites australis* and *Aeluropus lagopoides* in the old pond of Abu Amour and *Typha domingensis* and phytoplaktons in Abu Nakhla's pond naturally domesticated—attract the attention of researchers and opened up new perspectives (al-Thani & Yasseen, 2021). Infilling the lowlands and creating many ponds with filter plants, a truly sustainable solution to the wastewater problem can be activated, and with the opportunity to transform the desert landscape of the southwestern outskirts of the city into a concatenation of oases and agricultural areas. Engineers plan to use part of the water treated in the new plants to irrigate the 250 ha of the sports fields of the FIFA World Cup. In a logic of circular economy, where the outputs of one process are reused as the inputs of other processes in a nonlinear fashion (Katsou et al., 2020; Wautelet, 2018), the optimal solution would be to build a gray water network to irrigate all the public and private gardens of the city, as well as industrial activities, but it does not seem easy to overcome the resistance and skepticism of the inhabitants.

## 3.2 | Masdar City

Masdar City in Abu Dhabi continues the green city tradition of self-enclosed, paternalistic new-town models (see Section 2) where most services are provided within a distinct settlement that

is separated from the rest of the city. Built between the existing Khalifa City and the Airport, Masdar City is also an urban experiment in the age of climate change and adaptation. In their research on ecological urbanism, Castán Broto and Bulkeley (2013) have recorded a myriad of such urban experiments around the world, both in the global North and South. The hope with these endeavors is to find the "secret recipe" to change the DNA of our "sick" cities and make them sustainable. Masdar City is also the first and most known worldwide attempt to create an eco-city from scratch by employing climate-sensitive design thinking and a large dose of technological ingenuity. Designed by Foster and Partners, the masterplan of Masdar is shaped after a combination of perfect geometric quadrats intersected by a sinuous light-rail transit to downtown Abu Dhabi, all surrounded by a generous system of edge parks that separate the area from its surroundings. The heart of the project, more or less the part that has been built so far, hosts a university campus, the International Renewable Energy Agency, and a few residential blocks (Figure 4a,b). A more experimental part is located to the north of the area, where a large solar park and a cluster of pilot projects for smart buildings are located. The core area should have been connected underneath by a futuristic personal transport system that has been abandoned due to its economic unfeasibility.

Masdar City is, in Cugurullo's (2013) words, a true living lab whereby every single lot is potentially a 1:1 experiment developed by private companies (such as Siemens) in collaboration with the Masdar Initiative (the main developer). After testing, the city block is showcased worldwide for implementation elsewhere. In this sense, Masdar's residents include students, engineers, and other professionals as much as companies without which "the entire city would collapse" (Cugurullo, 2013, p. 31). In his work, Cugurullo (2013) shows that the eco-city idea is strongly permeated by economic concerns rather than environmental ones. Masdar City's core idea was to build a net-zero carbon city where all of the energy needed for its operations was produced on-site by renewable energy sources (hence the solar park). However, after hefty budget cuts (made in 2008) "[the] city stopped being zero carbon and became carbon neutral, thereby considerably lowering the original target" (Cugurullo, 2013, p. 28). For Cugurullo (2013, p. 29), the economic downturn has not changed the fundamental nature of Masdar "but

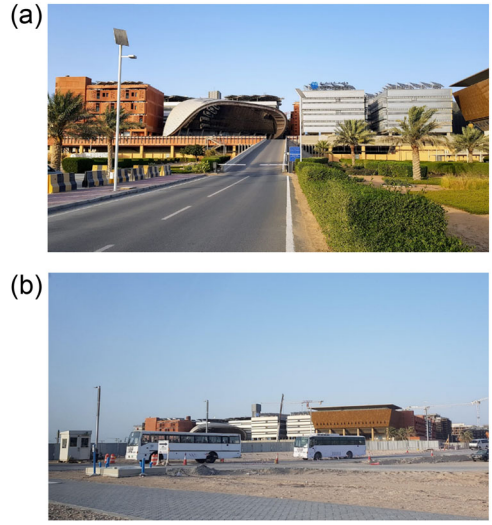


FIGURE 4 (a and b) Masdar City (Rizzo, 2019).

rather strengthened and revealed it." Masdar is, in effect, a gigantic display room for green technologies sponsored by the most powerful green industries (such as Siemens) to sell products to other cities. At the same time, it is also the display of top-down government power and its absolutistic stance on society and city development (Rizzo, 2020). The focus on techno-economic solutions has allowed for setting "aside the institutional and social dimension of sustainability which may constitute a more sensitive aspect of the pursuit of sustainable development in the UAE" (Crot, 2013, p. 2815).

In a recent collection of essays, Günel (2019) likens Masdar City to a "spaceship" that has very little relation to the context. Similarly to the green megaproject narrative, the spaceship approach allows optimistic and positivistic rhetoric whereby an *intra-moenia* technological fix is preferred over a more general rediscussion of social and ecological injustice of contemporary economic development. Günel (2019) shows that architects and planners have been instrumental to establish the spaceship rhetoric and in so doing rekindling their profession. In the case of Masdar City, Norman Foster, the world-famous architect of the city, strongly endorsed this logic by stating that "practicing architecture in the Gulf [is] similar to lunar exploration" (as cited in Günel, 2019, p. 200). Perhaps it is not a coincidence that star architect Bjarke Ingels has proposed to establish a Mars simulation city in the nearby emirate of Dubai (Mairs, 2017).

The spaceship logic is older and can be traced back to work of 1960s American architect Buckminster Fuller, one of the mentors of Norman Foster. What the spaceship rhetoric does is to renormalize our current lifestyle, dissolving the conflictuality between our actions (geared toward consumption) and thoughts (the sense of guilt for the mass extinction of the planet). It conveys also the message of replicability to other contexts, which is in essence why Masdar City is so appealing to companies. However, Günel (2019) shows the weaknesses of the spaceship by pointing to low-tech, low-paid labor solutions to remove the desert dust from photovoltaics. She also points to the irrelevance of the megaproject to improve the conditions of the many low-paid workers employed in Masdar City. Thus, Masdar City's main message is that software will be able to manage, on our behalf, the unacceptable externalities that our lifestyle produces (Rizzo, 2017).

## 4 | CONCLUSIONS

The implicit question of our article was how successful are smart urbanism and green architecture in addressing the ecological deficit associated with the Promethean living? We showed that green megaprojects such as Masdar City are unable to address the conflictuality of mass urban consumption and socio-environmental destruction. Smart and green architecture, just like any other form of technology, has fuelled mass resource extraction for the smart components (chipsets, screens, etc.) needed to control the city. The case studies show that green architecture and urban design are technologies that have been able to produce self-referential megaprojects or, in the words of Günel, spaceships with no meaningful impact on society/nature. Rather, the market logic that is behind environmental destruction and social estrangement continues to dominate city-making. Funnily enough, the case study of Abu Nakhla oasis, an accident of modern urban logics, shows the resilience of nature that is able to cope, although at the micro-scale, with the destruction caused by market-driven urbanization.

In light of the current crisis and restructuring of the concept of globalization, place, identity, and regionalism are gaining momentum. Landscape and landscape making are no longer a display of power and technology for their own sake, but should render the sense and values of a place. In this sense, it is enlightening reading the ayat and interpret the figure of the khalifa whose references to proportion and moderation give the true meaning of the word sustainability; this latter being no more a rhetoric of the miraculous product (perhaps conceived in New York, industrialized in Shanghai, and implemented in Saudi Arabia) or trade of certificates, but a philosophy of being in the world. The role of the architect will have to be called into question, no longer a demiurge/artist, inventor of self-referential, arbitrary, and unscientific design principles, but a researcher of the right principles, which are embedded in the history of the place.

Without being nostalgic or indulging in Orientalism, we proposed to relearn the notion of khalifa. The spirit of guardianship of the world, which generated adherence to the nature of the khalifa, found its highest expression in the oasis. The anthropic masterpiece oasis is an artificial organism that is always precarious under the pressure of a greedy nature, which survives thanks to the complementarity of the parts and the ability to self-regenerate. An indispensable condition for the new landscapes not to become a carousel of quantitative and serial phenomena is to find a new balance (mīzān) between man and nature. We think that the oasis, as a metaphorical object, is a meaningful starting point to rethink our contemporary philosophy of inhabiting planet Earth. By this, we mean that the oasis is not, or not only, a geographical accident, but a new philosophy of inhabiting, where symbolically Prometheus can rediscover the khalifa.

In this sense, rethinking architecture education in the Gulf, and around the world, is crucial to create the means for a societal shift toward the ethics of the khalifa. All around Asia and the world, there is a myriad of small examples whereby such thoughts are put into practice. That is where citizens and the society at large are able to co-create their living environment in ways that are well represented by the metaphor of the oasis. The challenge is then to convince governments to pump public resources and train architects to engage these small-scale, scattered, and resourceful (rather than smart) experiments. To a certain extent, this is already happening, and it promises a peaceful urban revolution.

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## ENDNOTES

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