Some Thoughts on Desert Urbanism

Brent D. Ryan

“If this is a desert, what are all these people doing here?”

Reynier Banham, Scenes in America Deserta, p. 68 (1980)

The desert, as is well known, is a harsh and unforgiving environment. Without careful preparation those who travel there do so at their peril. Threats to human well-being are numerous, ranging from blazing heat and lack of water to vicious sandstorms and, at least historically, the risk of attack by brigands. Some areas of the desert are so harsh that a person without water will be dead within hours.

The desert, infertile as it is for life, has always been fertile ground for city-building. The “Cradle of Civilization” in Mesopotamia is mostly a desert area, albeit with abundant water in places, and cities such as Damascus are among the oldest cities in the world. The rich civilization of Pharaonic Egypt, huddled on a knife’s edge between river and desert, and Egypt’s greatest monuments are desert monuments. At least one of the largest cities in the world (Cairo) and many of its holiest cities are desert cities. Whether this is by will or happenstance is perhaps best left to the imagination.

The past is made evident in the desert city in a way that it is not, and cannot be, elsewhere. Even as the desert destroys life, it preserves almost everything in death. Some of the most intact ruins of ancient civilizations are found in the harsh deserts of Africa and Peru. The desiccated climate preserves documents, bodies, and even entire cities, such as the Roman camp of Timgad in Algeria. Where a forest will consume a city within decades, desert cities, for all intents and purposes, last forever, even if they be buried in sand.

Why are there so many desert cities? Brute economics is certainly one explanation. In many cases, the apparent infertility of the desert masks a plethora of resources. This is particularly the case with oil, which lies beneath some of the most unforgiving terrain in Asia and whose revenue has generated a flurry of city-building on the sands above. Almost all of the recent urban activity in the Persian Gulf is in some way attributable to oil.

Technology is certainly another reason for the growth of desert cities. There is a third, more worrying possibility. Deserts are not static; they grow and shrink according to climate change and environmental abuse, particularly overgrazing and overcultivation. The reality of desertification is slow and bleak, a grinding aridity that leads first to loss of fertility and then to gradual abandonment as settlements and fields shift to more sympathetic climes. The baked salt pans of Mesopotamia were once fields of grain, and the abandoned Anasazi Pueblos of the American Southwest once looked over cornfields. There is little doubt that human resource (over)extraction can both inhabit and manufacture deserts.

The overriding need to adapt to the harshness of the desert or perish historically made climactic responsiveness the dominating theme of desert urbanism. Irrespective of their location on the globe, desert cities displayed geographical and typological similarities. Proximity to water, of course, was nonnegotiable, and the sound and sight of water consequently became an important formal component of many desert cities, particularly Islamic ones. Other similarities were architectural: in the face of hot sun and hard winds, desert cities by necessity were huddled masses of thick-walled buildings and narrow streets. The streets were for shade, and only the occasional plaza or the house interior were for sun.

The formal result of the historical desert city’s necessary adaptation to climate is often dramatic and exciting. There is a beautiful logic, for example, in the villages of the desert city located around oases. The dense clusters of homes located just at the edge of the cultivated greenery makes it easy to imagine the pleasure of cool desert nights spent on the roofs of these buildings, with the moon rising over the date palms, and perhaps the sound of water nearby. During the day the shade and water of the oasis moderated the heat of the sun, and made settlement there tolerable. This juxtaposition of water and heat in Damascus led Arab poets to declare the city the most beautiful place in the world, the embodiment of paradise on Earth.

Water or no, there is something irrational about building in the desert. On a psychological level the desert city can be seen as a collective act of courage, a bold statement that human enterprise can withstand and even reverse the harshest climactic conditions. For there is no more fundamental assertion one can make against nature than to build a desert city. There is a basic perversity, an illogically, in constructing a dense settlement in a place that seems to barely support life.

The very improbability of building a city in the desert has always made a fantasy an essential component of desert urbanism. Doubtless, the visual pleasure of finding civilization (and water!) after a long desert trek led many travelers to associate desert cities not only with excitement, but with other pleasures as well. The Western stereotype of desert decadence may be in part due to what Edward Said called “Orientalism,” but the desert itself must surely be partly to blame as well. For who, seeing a city shimmering at the edge of the waste, would not project a variety of pleasures there well beyond that of the first draught of water? Certainly the persistent psychic lure of the desert city cannot be accounted for by the attractions of its heat and scenery alone.

Modernization has destroyed many of the distinctive historical qualities of desert cities. With the sudden availability and affordability of open, glassy, and air-conditioned buildings, the densely packed mud dwellings of the old city (or the pueblo) are now perceived as both antique and stigmatized. Who but the poor would choose to continue living in such hovels? And water, once a preciously scarce resource, has been made magically (if ephemerally) abundant by new technologies that draw it from deep beneath the earth, from faraway rivers, or from the sea itself. The desert lake is no longer a mirage but a reality that answers the persistent desire for “amenity” in new luxury developments. A third major change has come from motorization. Reynier Banham, in his 1982 Scenes in America Deserta, observed with pleasure the superiority of automobile transit through the desert over that of the railroad and the ease of accessing once.
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The past is made evident in the desert city in a way that it is not, and cannot be, elsewhere. Even as the desert destroys life, it preserves almost everything in death. Some of the most intact ruins of ancient civilizations are found in the harsh deserts of Africa and Peru. The desiccated climate preserves documents, bodies, and even entire cities, such as the Roman camp of Timgad in Algeria. Where a forest will consume a city within decades, desert cities, for all intents and purposes, last forever, even if they be buried in sand.

Why are there so many desert cities? Brute economics is certainly one explanation. In many cases, the apparent infertility of the desert masks a plethora of resources. This is particularly the case with oil, which lies beneath some of the most unforgiving terrain in Asia and whose revenue has generated a flurry of city-building on the sands above. Almost all of the recent urban activity in the Persian Gulf is in some way attributable to oil.

Technology is certainly another reason for the growth of desert cities. There is no more fundamental assertion one can make than the fact that water to be transferred to these locations. This technological capacity thus far appears inexhaustible, although the environment's ability to sustain it is another question.

There is a third, more worrying possibility. Deserts are not static; they grow. The very improbability of building a city in the desert has always made a fantasy an essential component of desert urbanism. Doubtless, the visual pleasure of finding civilization (and water!) after a long desert trek led many travelers to associate desert cities not only with excitement, but with other pleasures as well. The Western stereotype of desert decadence may be in part due to what Edward Said called "Orientalism," but the desert itself must surely be partly to blame as well. For who, seeing a city shimmering at the edge of the waste, would not project a variety of pleasures there well beyond that of the first drought of water? Certainly the persistent psychic lure of the desert city cannot be accounted for by the attractions of its heat and scenery alone.

Modernization has destroyed many of the distinctive historical qualities of desert cities. With the sudden availability and affordability of open, glassy, and air-conditioned buildings, the densely packed mud dwellings of the old city (or the pueblo) are now perceived as both antique and stigmatized. Who but the poor would choose to continue living in such hovels? And water, once a precious resource, has been made magically (if ephemerally) abundant by new technologies that draw it from deep beneath the earth, from faraway rivers, or from the sea itself. The desert lake is no longer a mirage but a reality that answers the persistent desire for "amenity" in new luxury developments. A third major change has come from motorization. Reyner Banham, in his 1982 Scenes in America Deserta, observed with pleasure the superiority of automobile transit through the desert over that of the railroad and the ease of accessing once
inaccessible areas by car. One can certainly understand the eagerness of those who have recently transitioned from laborious camel or caravan treks to the Land Rover or Lamborghini. Even the Sahara, once perceived as an insuperable barrier requiring months of caravan travel, has become the site of an annual auto rally that takes less than two weeks to travel from the Strait of Gibraltar to the Malian border by car, truck, or motorcycle.

Although all of these forces have made it much easier and more pleasant to live in the desert, they have exerted a scattering effect on desert cities. Even as the desert city has become greener, cooler, and easier to access than ever before, its typological coherence has been lost. Buildings are now sited far from obvious sources of water, often along major arterials, and they are widely spaced, each surrounded (if the owner can afford it) with a patch of green. The desert city is no longer dependent on proximity, shade, or the oasis for survival. One could easily conclude from all of this that the historical determinants of desert city form are comprehensively obsolete.

Technological change presents a compelling dilemma for the designer or planner who remains interested not only in historical desert city form but also in the environmental dyad of settlement and water that once characterized these places. One dilemma is typological. Should the form of new desert settlements mimic any of the qualities of historical places? Are there legitimate reasons for doing so beyond simply achieving a scenographic imitation of the past? Another is economic. Is there a continued reason for being for those historical desert settlements that survive, apart from being a place to move out of as soon as one has the means to do so? Is the inevitable fate of the historical desert city that of a preserved, uninhabited monument? Both dilemmas ask the same question of the designer: How does one in fact best respond to such a culture of abandonment that remains interested not only in historical desert city form but also in the environmental dyad of settlement and water that once characterized these places?

Responding optimistically to this challenge, one can hypothesize at least three principles that might lead future urban form and settlement in the desert to retain some of the spatial logic that characterized such settlement in the past. Each offers a promising direction for future urbanistic efforts, and each is exemplified by a current project now in progress.

The first is a reconsideration of the value of climactic responsiveness, particularly sensitivity to heat and sunlight. This has obvious environmental benefits at the city scale, where more closely grouped structures make walking between buildings easier, more pleasant, and more visually rewarding, reducing the omnipresent dependence on the automobile that currently typifies all but the poorest areas of desert cities, and regenerating some of the formal complexity and unpredictability that made the historical city both comforting and mysterious.

An ambitious attempt to recast the form of the desert city from top to bottom is currently under construction in the desert outside Abu Dhabi, where the new city of Masdar is being planned under the aegis of Norman Foster and the Emirate. Conceived in the grand tradition of top-to-bottom master plans, Masdar is envisioned as a comprehensively zero-emission, car-free city that reincorporates vernacular construction methods and urbanistic configurations (densely packed buildings and narrow, shaded streets) into a large-scale design for an envisioned total of 40,000 people. Water will be supplied by a solar-powered desalination plant. In one fell swoop, Foster + Partners is attempting to reverse the entirety of the trends that have led to the decentralization of the desert city. The scheme is almost Utopian, and one can imagine a variety of ways in which the exigencies of politics, society, or economics could adversely impact the vision. Yet as with all Utopias, Masdar offers promise not in the likelihood of its total realization but in the variety of alternatives it offers to an urbanization model that clearly needs reconceptualization.

Reconsidering the sourcing and conservation of water is perhaps the most urgent issue for desert cities. Hydrological sensitivity was always a dominant consideration in the desert, and its gross violation in recent decades is perhaps the most disturbing aspect of recent urbanization. In the absence of alternative means of sourcing distant water without incurring significant environmental costs (particularly consumption of fossil fuel and/or the deprivation of distant areas of their water), water conservation seems the most productive measure. This can be imposed at the sourcing end through legislation, but is perhaps more productively employed at the usage end through reduced water waste on greenery and increased water efficiency in structures.

Such increasing strictures have been imposed recently in the United States by the city of Las Vegas, Nevada, which grew in population more than 300 percent during the past two decades, mostly through low-density sprawl into the desert. Las Vegas has effectively tapped out its principal source of water, the Colorado River, and Lake Mead, the city’s reservoir, has dropped to 50 percent capacity and is likely to continue dropping. Unable to effectively restrict the development of land or migration to the region, the regional water authority has imposed rules governing not only the type of vegetation that may be planted around new buildings but has also imposed “water efficiency plans” for all new projects. These plans must demonstrate that the new development will use only 50 percent of the water used in “typical” projects elsewhere in the country where water is less scarce. Las Vegas’s conservation approach is far more pragmatic and arguably less ambitious than the Masdar scheme, but it holds the additional promise of being able to incrementally influence the behavior and environmental performance, if not the urban form, of the existing settlement of more than 700,000 people, and of potentially having a greater environmental benefit as a result.

Many historical desert settlements, designed by necessity according to the very same principles that are at the leading edge of today’s planning efforts, face a bleak future. No longer desirable as living areas for the very simple reason that their inhabitants aspire to the better life seen everywhere around them, they either fall into abandonment and destruction, or are physically restored but emptied of their inhabitants, preserved forever as museums of the past.

Is there an alternative future? The same question might well be asked of historical vernacular settlements around the world faced with the same choice of abandonment, commodification, or remaining impoverished. Although to pretend that an ideal solution to this dilemma exists is perhaps unrealistic, the Siwa Sustainable Development Initiative in Egypt, funded by the United Nations Development Programme and the International Finance Corporation (IFC) of the World Bank, is tackling the challenge on multiple fronts.
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How valid is the past in shaping the future of desert habitation? Is there a continued reason for being for those historical desert settlements that survive, apart from being a place to move out of as soon as one has the means to do so? Is the inevitable fate of the historical desert city that of a preserved, uninhabited monument? Both dilemmas ask the same question of the designer: How are the past and future to be factored into the process of shaping the future of desert cities today?

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Recognizing that the economic activity of the oasis settlement is the key to the settlement’s continued utility and therefore survival, the IFC is financing a microcredit scheme to permit both the restoration of historical structures and a “cottage industry aimed at revitalizing Siwa’s traditional handicrafts and promoting a culture of artisanship among (oasis) women.” These initiatives are occurring in conjunction with a parallel effort to promote organic agriculture schemes in the cultivated oasis landscape, keeping these landscapes alive in parallel with the historical settlement.

Considered together, these three projects present a range of innovative ideas, each of which in its own way is far ahead of conventional design and planning practice. Yet together they also present a somewhat ironic contrast with each other: desert design and planning is attempting to recapture traditional urbanistic and spatial principles precisely as the few remaining historical settlements are experiencing pressure from globalization. Are efforts to recover environmental responsiveness and preserve historical settlement patterns marginal attempts to go against an inevitable tide of modernization, or might they possibly represent the leading edge of urban trends that will shape the desert city of the future just as the air conditioner and the automobile shaped the desert city of today?