CHAPTER 1

ARCHITECTURE IN THE MIDDLE EAST: A BACKGROUND

The Middle East region cannot be ignored when it comes to architectural production over the course of history, and neither should it be disregarded in relation to contemporary architectural trends, particularly in the Gulf area. This is due to the region's rich characteristics in terms of geographical situation, climate, topography, culture, history and environment. Despite globalism and internationalism, the Middle East has presented a kind of resistance to modernism – as have some other places with rich heritage antecedents, such as Italy where modernism was vehemently questioned before the rush to pursue an avant-gardism of sheer aesthetics devoid of its contextual essence.

This resistance to fast modernism requires some deciphering. It does not necessarily mean the blind pursuit of the trend of reproducing past architectural models. Rather, it involves exploring how contemporary architecture cohabits with the built heritage in the Middle East, not only in the modern era but also throughout the history of their civilisations. By revisiting this practice, the spirit of designing with context or rejecting it can reveal guiding and inspiring lessons for the current period.

Accordingly, it would seem necessary to focus on the different historical, cultural, geographical, environmental, ideological and political characteristics that influence the theory and practice of architecture. It is about how these characteristics contributed and are contributing to generating a portfolio of architectural antecedents. What is critical in this respect is to find how and when these antecedents were essentialised so as to evoke an emotional regionalism, or how and when their intrinsic potentials have been genuinely reactivated in today's design processes.

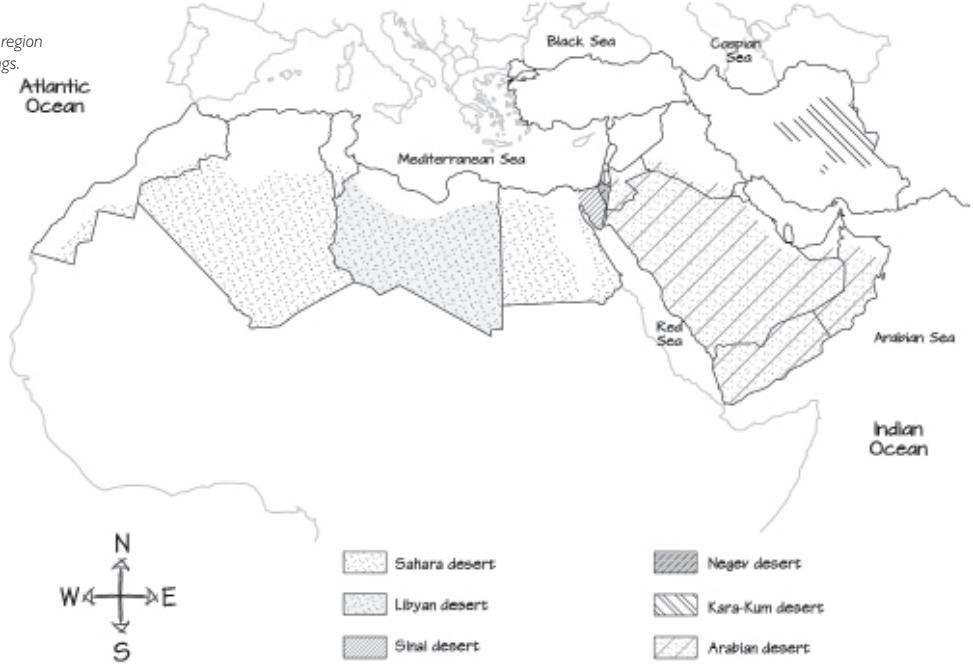
OPPOSITE
Hossein Amanat, Azadi Tower, Tehran, Iran, 1970
An expression of nationalism through architecture and urban planning.

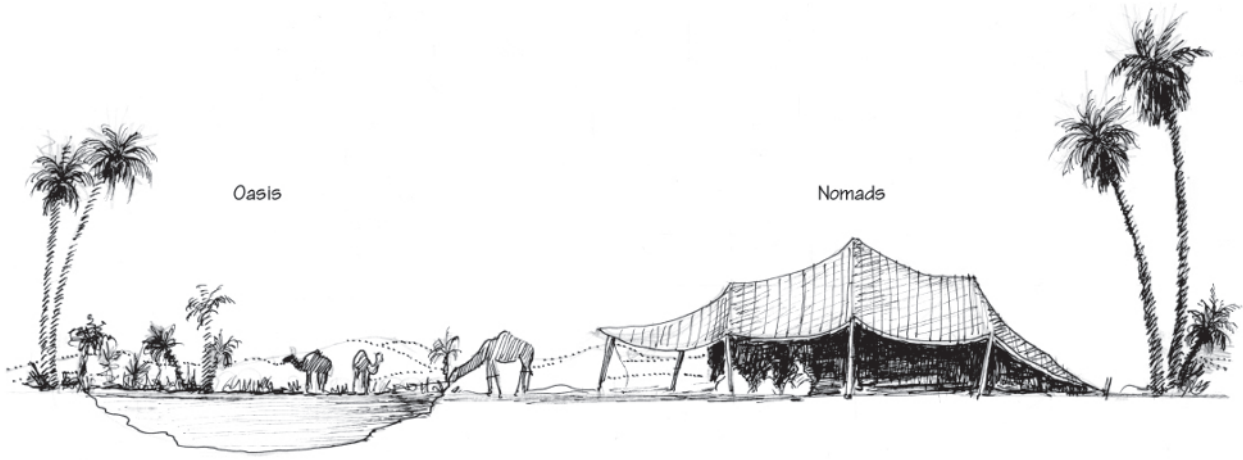
GEOPOLITICAL AND ENVIRONMENTAL CHARACTERISTICS

The Middle East is a vast geographical zone with incredibly diverse landscapes and climates that stretches between the Atlantic and Indian oceans. Despite the fact that the term 'Middle East' was invented at the beginning of the 20th century to denote the region between Europe and Asia, it is still problematic in terms of territorial and geographical limits, including some distant geographical areas under its umbrella such as North Africa. This is due mainly to cultural and linguistic bonds and some cases of environmental and climatic similarities (Held and Cummings 2014). However, the strategic geographical element that links all these areas of the Middle East, including North Africa, is the Mediterranean Sea and the Persian Gulf. Therefore, although the term Middle East is not fully accurate, it is commonly used to connote a territory that stretches from Morocco to Afghanistan (Drysdale and Blake 1985).

Its topography is mainly desert drylands, and includes known deserts such as the Arabian, Libyan, Sinai, Negev, Kara-Kum and Sahara deserts. However, these deserts contrast in the same region with series of chains of mountains such as the Atlas, Taurus, Asir, Hejaz, Caucasus, Pontic and Elburz mountains. The transition from the northern mountains to the southern deserts engenders rich plateaus such as those of Anatolia and Iran.

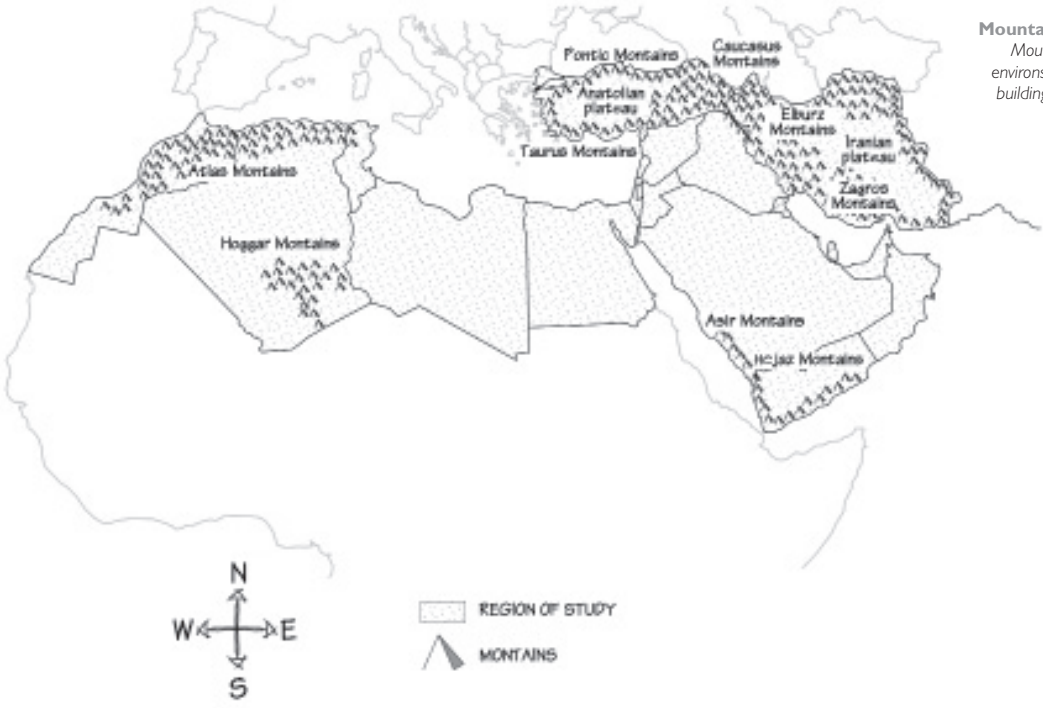
RIGHT
Deserts in the Middle East
The vast Sahara territories in this region explain the rooted nomadic settings.





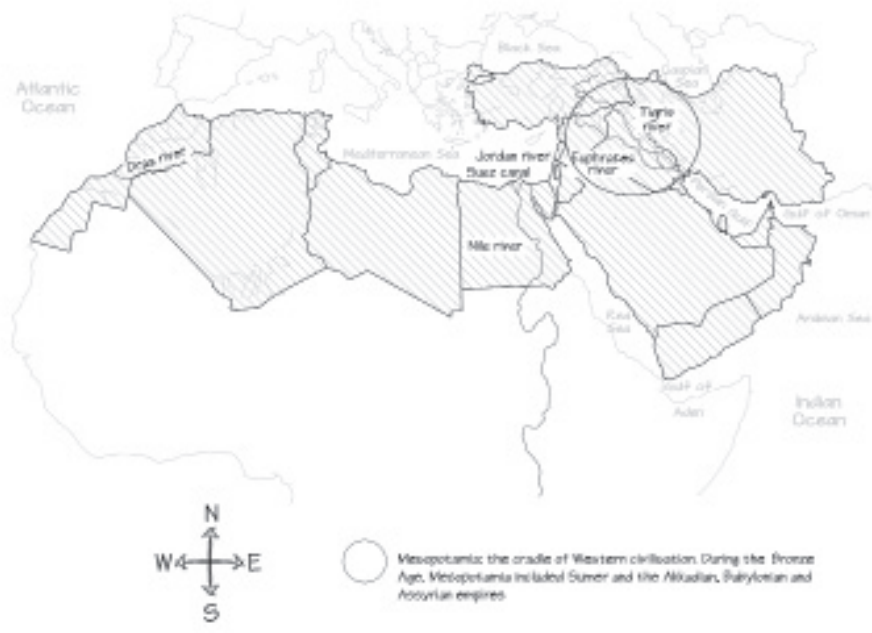
ABOVE
The culture of nomads
A nomadic environmental setting where form manifests lightness and endurance.

This descending nature of Middle Eastern topography also provides a series of rivers that contributed along with the large plateaus to the creation of suitable ecosystems for great human civilisations. Among these key rivers that shaped the geography of the region are: the Euphrates that flows from the Caucasus Mountains and crosses Turkey, Iraq and Syria; the Tigris that flows from the mountains of southern Turkey and crosses Iraq to frame, with the Euphrates, what was known as Mesopotamia; the Nile that flows from Burundi to cross Sudan and Egypt and end at the Mediterranean Sea; and the major rivers that flow through Morocco – that is, the Draa, the Sebou, the Moulouya and the Oum er-Rbia.



LEFT
Mountains in the Middle East
Mountains and their immediate environs generate ideal settings for building civilisations around arable lands.

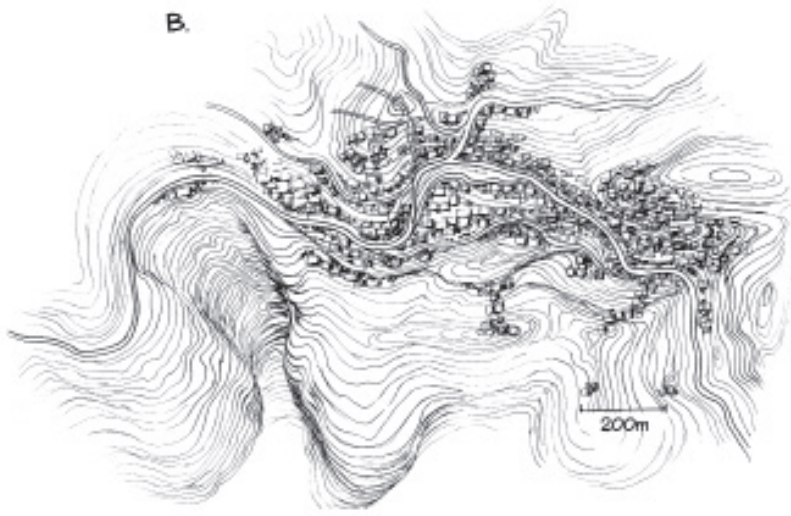
RIGHT
Rivers in the Middle East
The key rivers in the region were ideal environmental reservoirs around which to build civilisations.



From the rugged mountains to dry lowlands, the geography of the Middle East is archetypal of having several geographical and environmental landscapes such as steppes, oases, riverbeds, slopes, plains, coasts and mountains. These myriad types of sites offering endless building possibilities, in a semi-arid environment where sunlight is predominant, have helped to establish several well-grounded physical settlements and human establishments that have capitalised on the evolution of human know-how in terms of making cities and civilisations.

RIGHT
Civilisations and cities in Mesopotamia (now Iraq, Kuwait and parts of Syria, Turkey and Iran)
The Euphrates and Tigris rivers formed a strategic environmental territory for continuous empires.

Although its climate is generally arid and semi-arid, due to its location around the Mediterranean Sea, several zones in the Middle East are predominantly green and have a mild climate (Zhang et al 2005). The history of urban and architectural savoir-faire in the region is one of centuries of adaptation to geographical and topographical features that has shaped exquisite solutions for human existence on earth in harsh environments.



LEFT
Al Hajjara village, Haraz Mountains, Yemen, 12th century
An example of anchored settlement fully established by the 12th century on a mountain where security and sustainability were at play. The village of Al Hajjara was founded by the Sulaihid dynasty and stands at an altitude of 2,300 metres (7,500 feet). A: situation; B: layout; C: elevation.

RIGHT

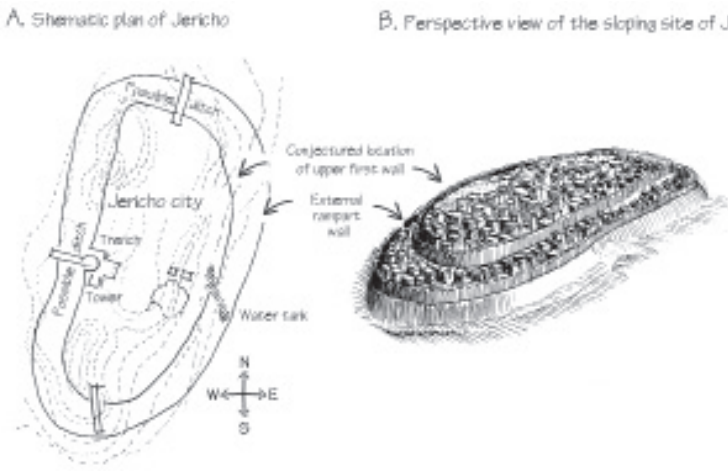
Babylon, Iraq, c 2500 bce: plan

Built under the Akkadian Empire on a site 100 kilometres (60 miles) south of the much later city of Baghdad, Babylon explored the environmental features around the river Euphrates, and advanced its urban infrastructure through canal systems.

RIGHT

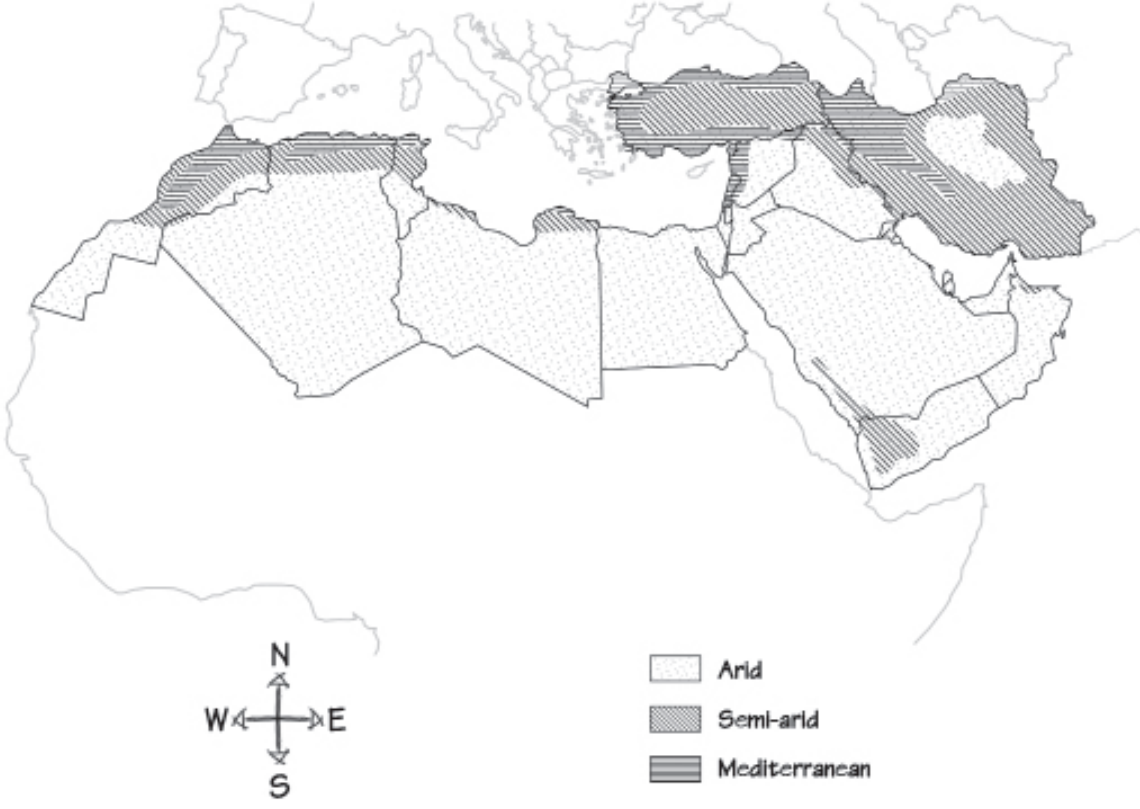
Ur, Iraq, c 4000 bce: plan

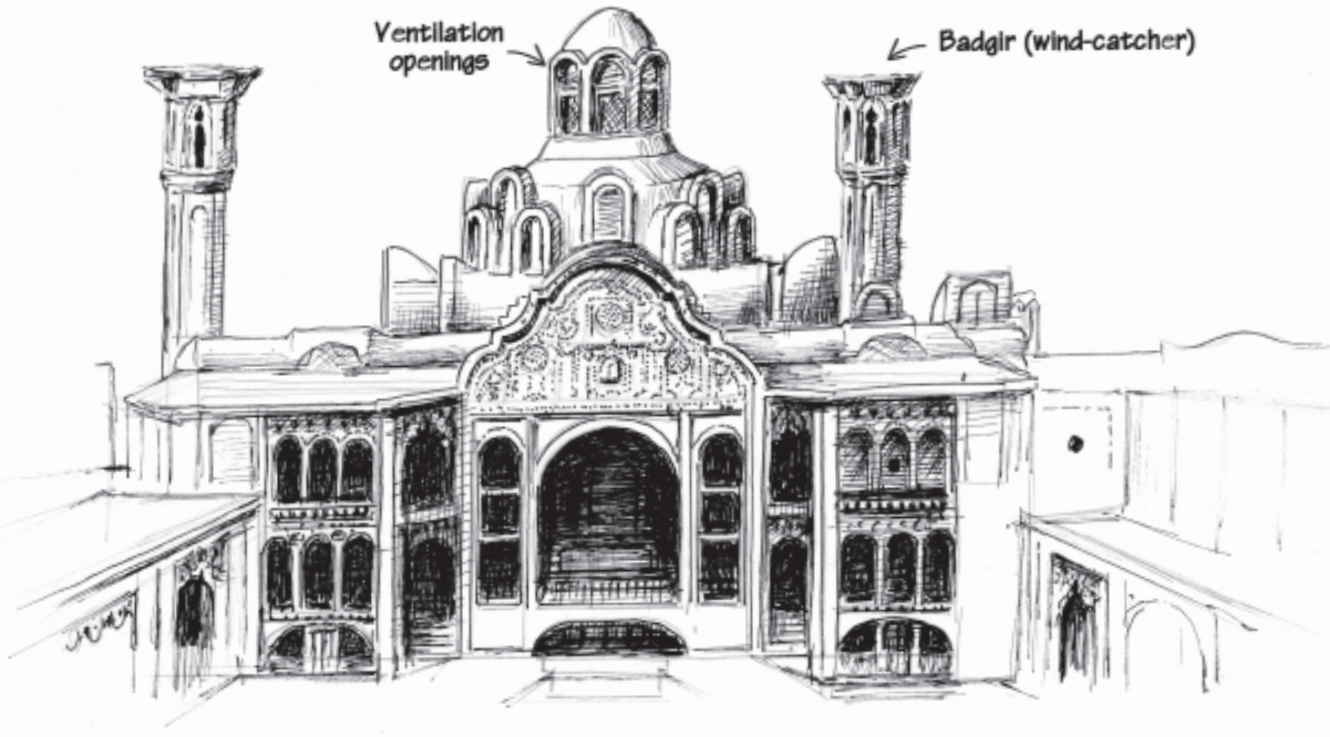
The Sumerian city of Ur was set next to the river Euphrates, at the site of modern Tell al-Muqayyar near the Persian Gulf, and witnessed the rise of ports.



LEFT
Jericho, West Bank, Palestine, c 9600 bce
The city espoused a sloping site on the banks of the river Jordan that boosted its defences and facilitated its water drainage.

LEFT
Climates of the Middle East
The majority of the region is arid, with some semi-arid and some greener areas around the Mediterranean.





ABOVE
Ustad Ali Maryam, Borujerdi house, Kashan, Iran, 1857
The Persian architect Ustad Ali Maryam here used the traditional Persian feature of the badgir (wind-catcher or wind tower) as a smart cooling system.

The present-day Middle East is witnessing tremendous changes that are shaping the way architecture and cities are realised. This has been made possible in some parts of the region thanks to huge energy resources. Being the region of the richest oil reserves, with almost 60 per cent of the world's total, its reliance on artificial and mechanical systems to make buildings and cities is also alarming, with the highest carbon footprint on the planet.

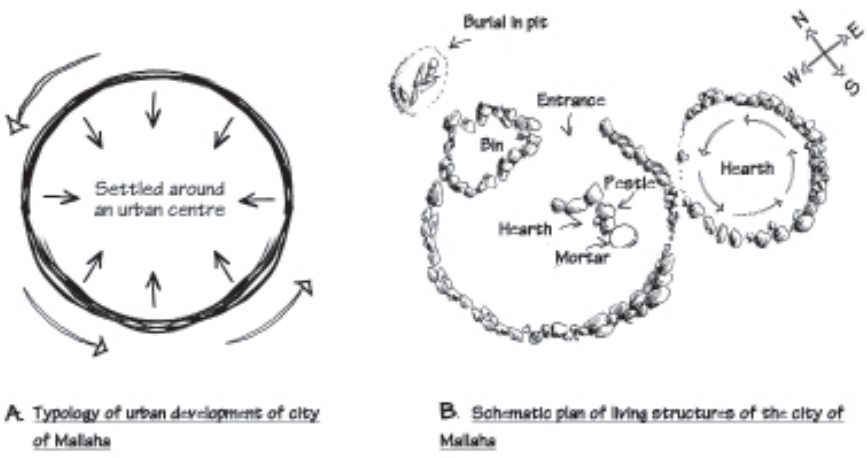
How architects design in this region thus requires a rethink. With growing global concern over climate change due to carbon emissions, mainly in places where energy consumption is the highest, the pressure on the atmosphere needs to be alleviated. The Middle East, particularly the Gulf region, is indeed a critical area in this regard.

CULTURAL AND RELIGIOUS INFLUENCES

Being a strategic corridor between the North and the South, from the Mediterranean Sea to the Persian Gulf, and crossroads between Europe, Africa and Asia, the Middle East has always constituted a place of continuous trade and exchange of ideas and know-how. Thus, its material culture is very diverse, generating complex artistic and architectural production. Notwithstanding constant attempts to portray all regions of the Middle East as culturally homogeneous, it is essential to consider differences between their various territories.

The ethnic complexity and religious mixture of the Middle East makes it one of the most complex regions to study in terms of material and visual culture. Who influenced whom and how architecture has been shaped over centuries of coexistence are crucial questions. Besides the predominant monotheistic religions of Islam, Christianity and Judaism that have clearly dominated cultural typologies in the Middle East, other faiths are not to be disregarded when it comes to contributions to the artistic and architectural constructs in the region – such as Buddhism, Hinduism and Zoroastrianism. Religion has certainly influenced the built environment, mainly in terms of religious buildings and sites, but the diverse political systems under which the Middle East was ruled established different sedentary modes and city settings where these buildings and sites existed.

Since the rise of the first civilisation around the Tigris and the Euphrates rivers by 3500 bce, the Middle East has been a generator of world civilisations around the Mediterranean area. It was here that the second Egyptian civilisation rose around the Nile to create premeditated urban centres. The enduring cultural, political and economic forms in a harsh physical context thus generated intellectual and artistic exchanges around established cities that presented civilisational forms of architecture and the art of living.



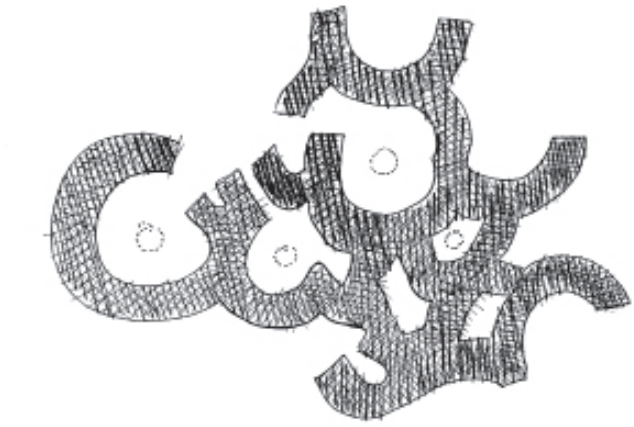
A. Typology of urban development of city of Mallaha

B. Schematic plan of living structures of the city of Mallaha

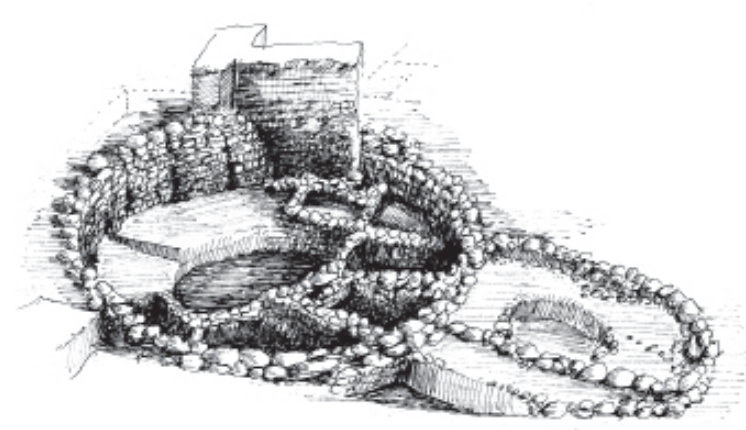
LEFT
Mallaha, Jordan valley, 12,000–10,000 bce: diagrams
Living by fishing and hunting, a group of late Palaeolithic and early Neolithic people established this first urban centre (50 houses and around 200 inhabitants) for social rather than religious ends.

Ancient cities of the Middle East such as Çatalhöyük (*c* 7000 bce), Ur (*c* 4000 bce), Babylon (*c* 2500 bce), El-Lahun (*c* 1800 bce) and Dur-Sharrukin (*c* 720 bce) constituted the first human spirit of adapting to different site typologies in order to create architectural and urban innovations, from the Neolithic period to the Iron Age. From the Sumerians and Akkadians to the Egyptians and Persians, city-states were repositories of contextual savoir-faire.

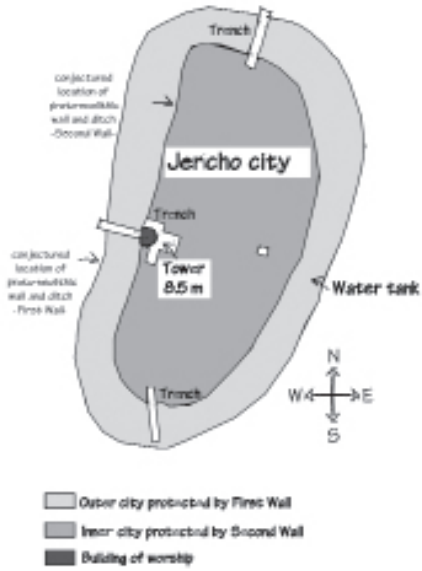
RIGHT
Mureybet, Al-Raqqah province, Syria, c 9000–8500 bce: diagrams
Mureybetian culture was developed in the Neolithic era around premeditated urban centres on the left bank of the river Euphrates.



A. Schematic plan of the urban development of the city of Mureybet

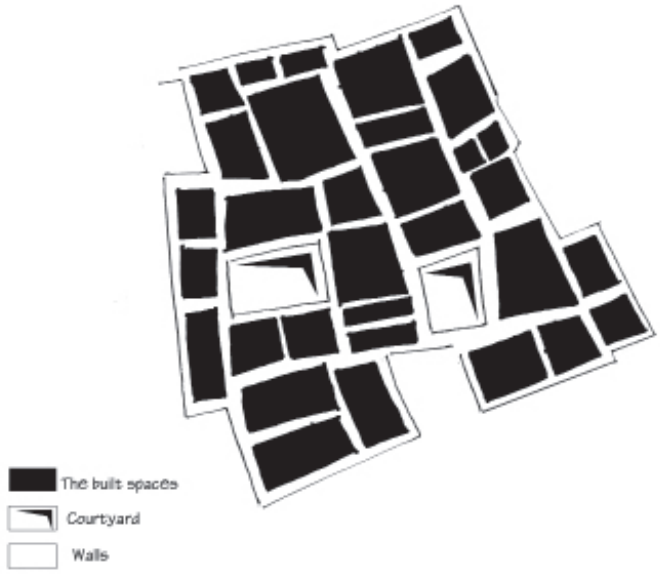


B. The sunken single-storey houses around a community building



LEFT
Jericho, West Bank, Palestine, c.9600 bce: schematic plan
One of the first centres that reached an urban maturity of a real city, Jericho contained architectural symbols such as its 8.5-metre (28-foot) tower and building of worship.

The architectural and urban typologies of these civilisations took different forms, starting from primitive settlements and moving on to sophisticated urban fabric. Most buildings often pursued an urban pattern dictated mainly by site, community and security concerns. Architecture was not an end in itself, as it was more a medium to reflect the significant buildings as symbols of power or religion. Palaces, temples, pyramids, ziggurats and other monuments portrayed the local ideology and power with a great sense of monumentality, while the major urban fabric was more organic for communal, commercial or industrial ends.

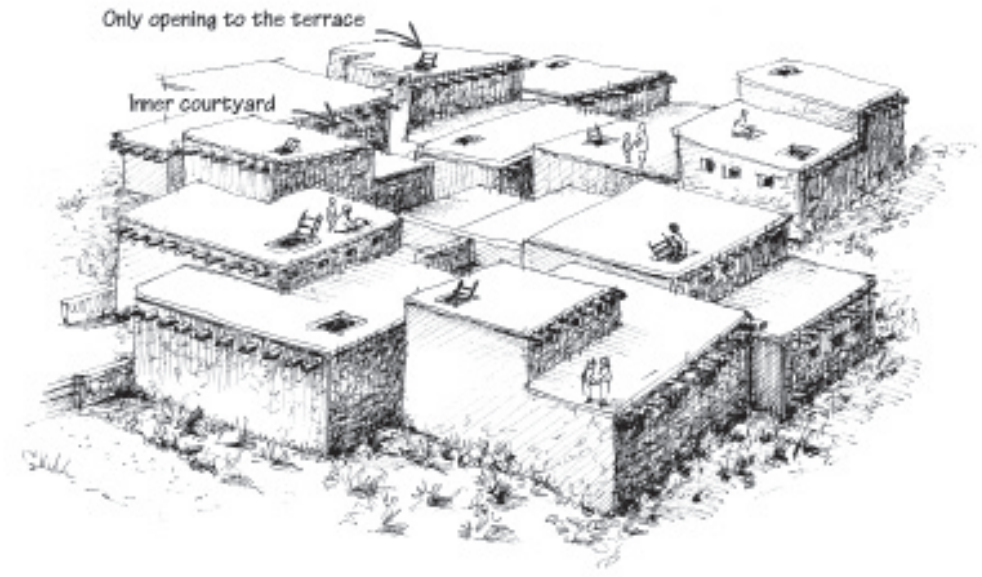


LEFT
Çatalhöyük, Konya Plain, Anatolia, Turkey, c 7000 bce: schematic plan
Çatalhöyük was a city with no religious or political buildings, that relied on its outside agriculture to survive.

RIGHT

Çatalhöyük, Konya Plain, Anatolia, Turkey, c 7000 bce: perspective view

A city plan without streets: buildings communicated through their terraces, to aid defence, and inner courtyards appeared for the first time.



BELOW

Ur, Iraq, c 4000 bce: plan

The functions of the city are well structured according to political, religious and civic requirements, and generated the first physical manifestation of a city in urban and architectural forms.

City state:
1- Ziggurat
2- Court of Nannar
3- Temple of E-nou-makh
4- Giparu
5- Palace of E-khursag: royal palace
6- Dublamah Temple
7- Archaic royal tomb
8- Royal mausolea
9- Wall enclosing the sacred precinct

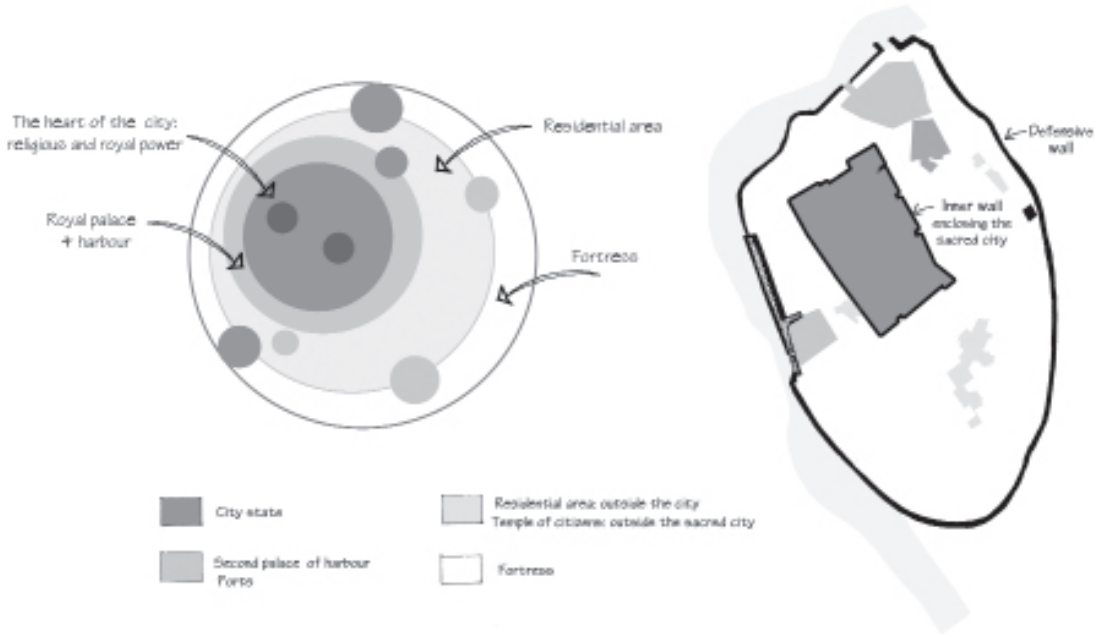
Second palace of harbour:
10- Nabonidus's palace
11- Harbour temple
12- Houses EM

Residence area: outside the city
13- House AH
14- Residences
15- Residences

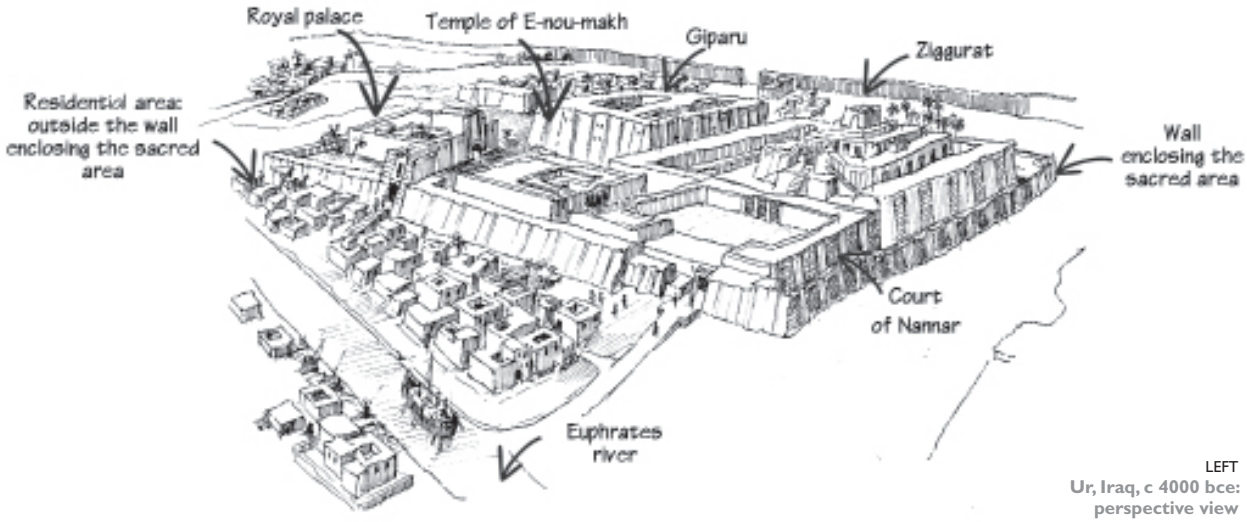
Ports
16- ports: from Euphrates river

Temple of citizens: outside the sacred cit
17- Temple of Enki

Fortress:
18- Fortification gate
19- Kassite fortress



ABOVE
Ur, Iraq, c 4000 bce: concept diagram
Ur was the first city-state represented by its central religious ziggurat and temples.



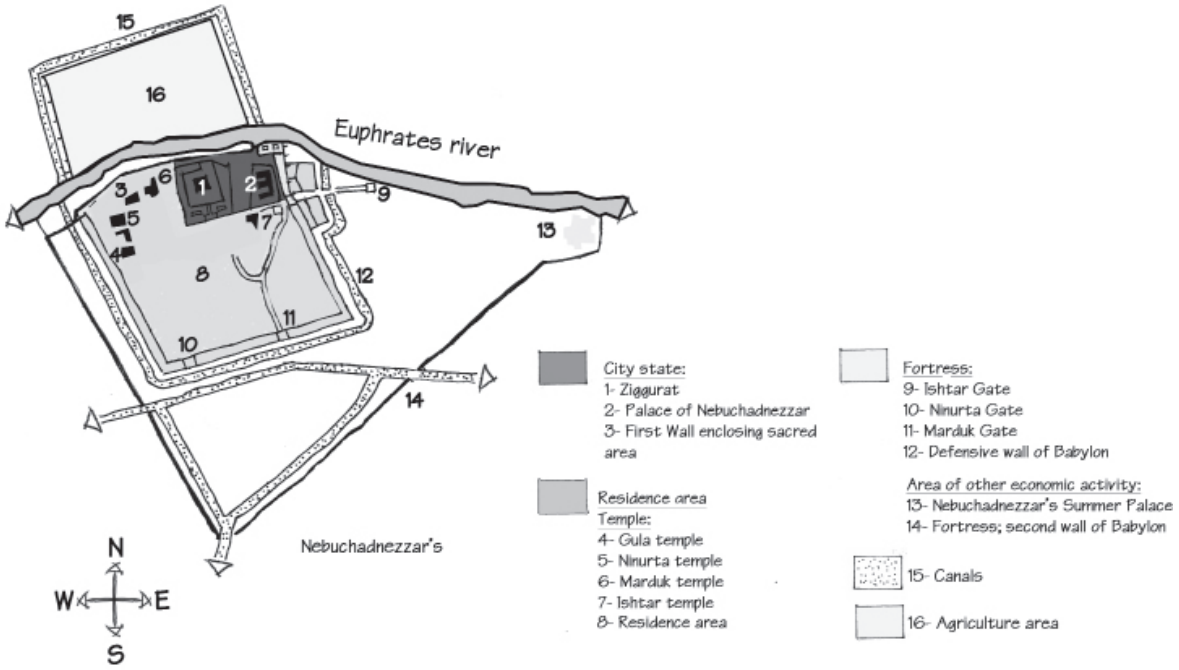
LEFT
Ur, Iraq, c 4000 bce: perspective view
The Sumerians used scale and size in order to underline the strategic buildings in their city-states.

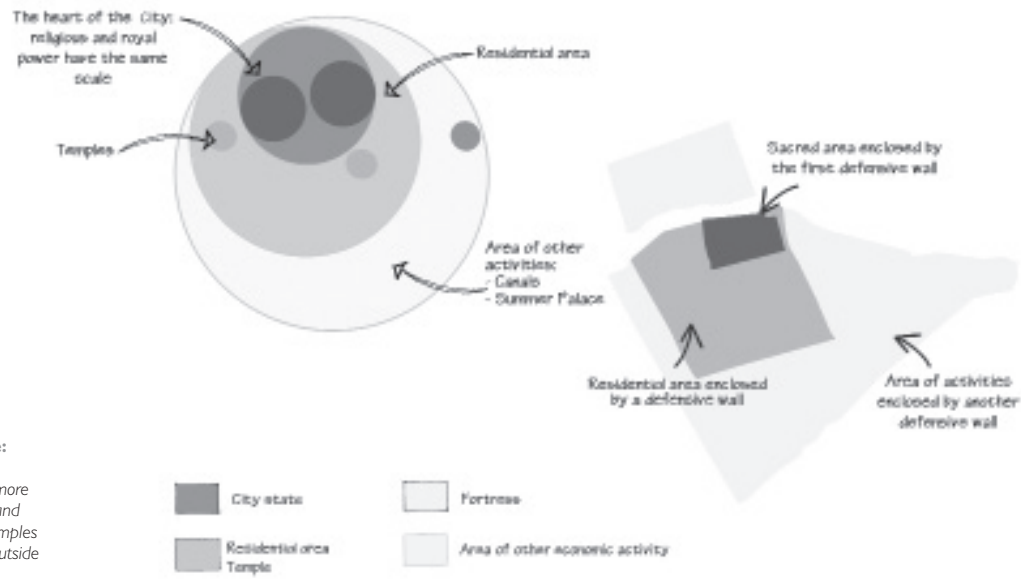
BELOW

Babylon, Iraq, c 2500 bce: plan

The monumental city in which architecture translates the grandeur of power.

Nonetheless, most ancient cities of the Middle East showed a premeditated sense of planning with different levels of orthogonality that generated a sort of hybrid architecture with a range of architectural idioms. Cities like Çatalhöyük, Ur and Babylon were shaped according to different orders.





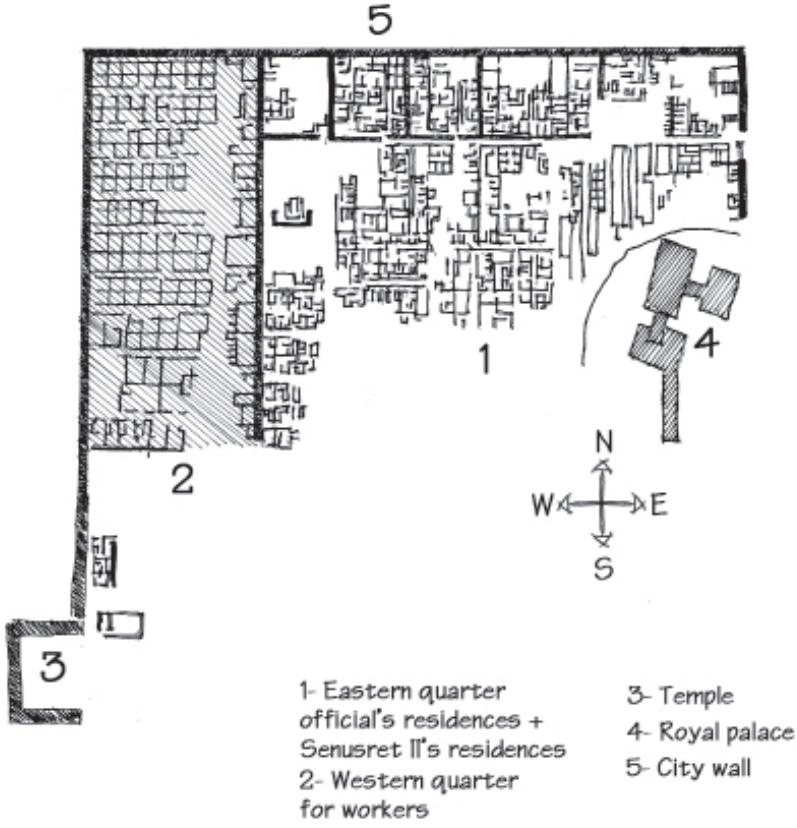
RIGHT

Babylon, Iraq, c 2500 bce: concept plan

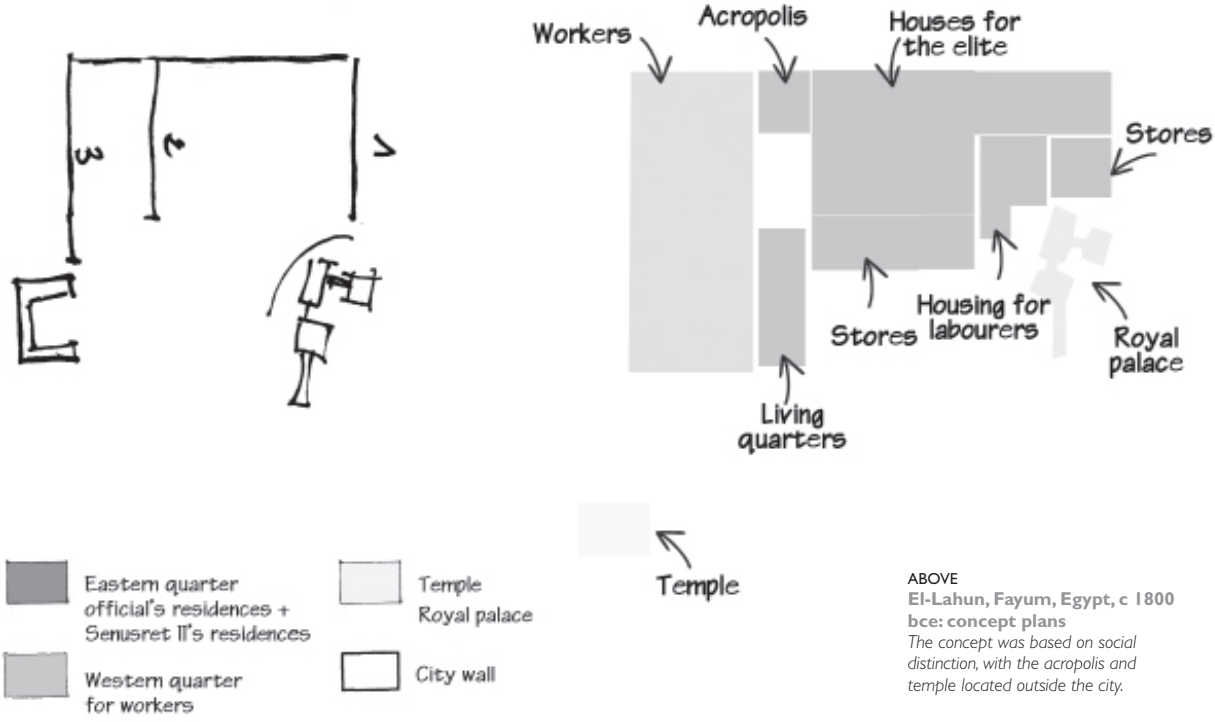
An evolved urban layout with more political and spiritual (palace and ziggurat) centrality than Ur; temples and residences were located outside the first wall

ABOVE
Babylon, Iraq, c 2500 bce: perspective view
Scale and size were used to underline the strategic buildings in the city-states: here, the ziggurat (religious) and royal palace (political) are the same size, implying that they hold the same importance.

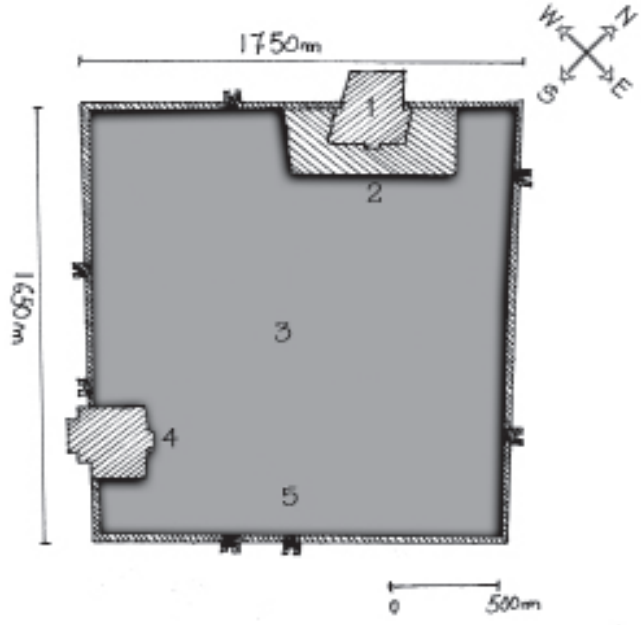
Therefore, these cities never followed an absolute aesthetic order, as in the case of Roman and Greek cities. The absolute urban order of the latter, with a strict rectilinear street arrangement, was but a translation of the layout of military camps, where architecture served as an ornament to aesthetically underscore a firm hierarchy. This sense of urban orthogonality beyond contextual parameters that favoured an architecture of a sheer aesthetic order had existed previously, but without dictating that the whole city-form be interlocked in strict geometric contours.



LEFT
El-Lahun, Fayum, Egypt, c 1800 bce: plan
The ancient Egyptian city of El-Lahun consisted of a regular orthogonal layout.



ABOVE
El-Lahun, Fayum, Egypt, c 1800 bce: concept plans
The concept was based on social distinction, with the acropolis and temple located outside the city.



1- Political complex: royal palace and court of monarch

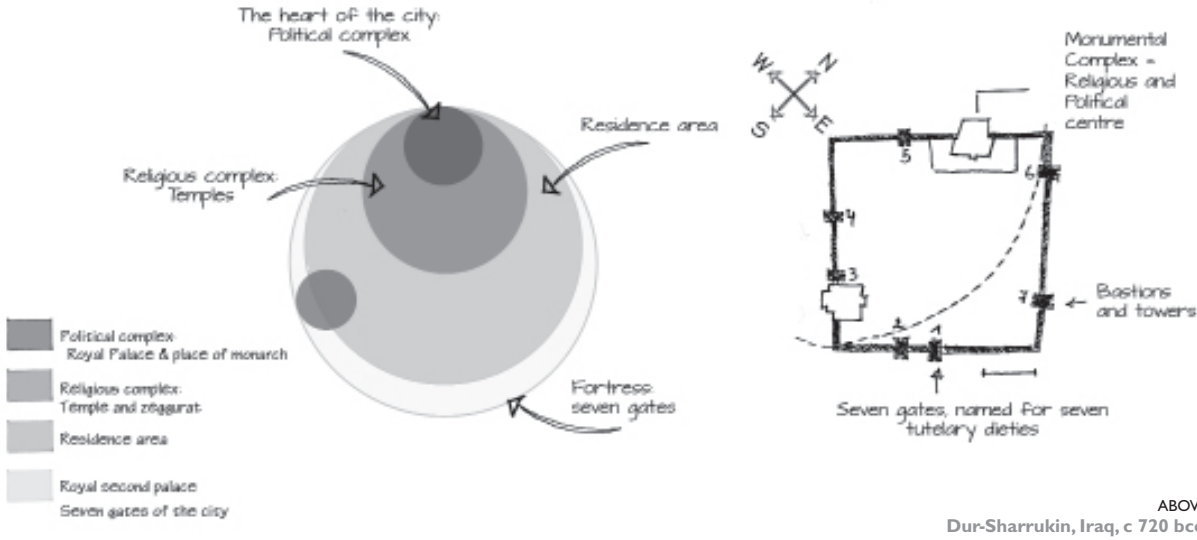
2- Religious complex: temple and ziggurat

3- Residential area

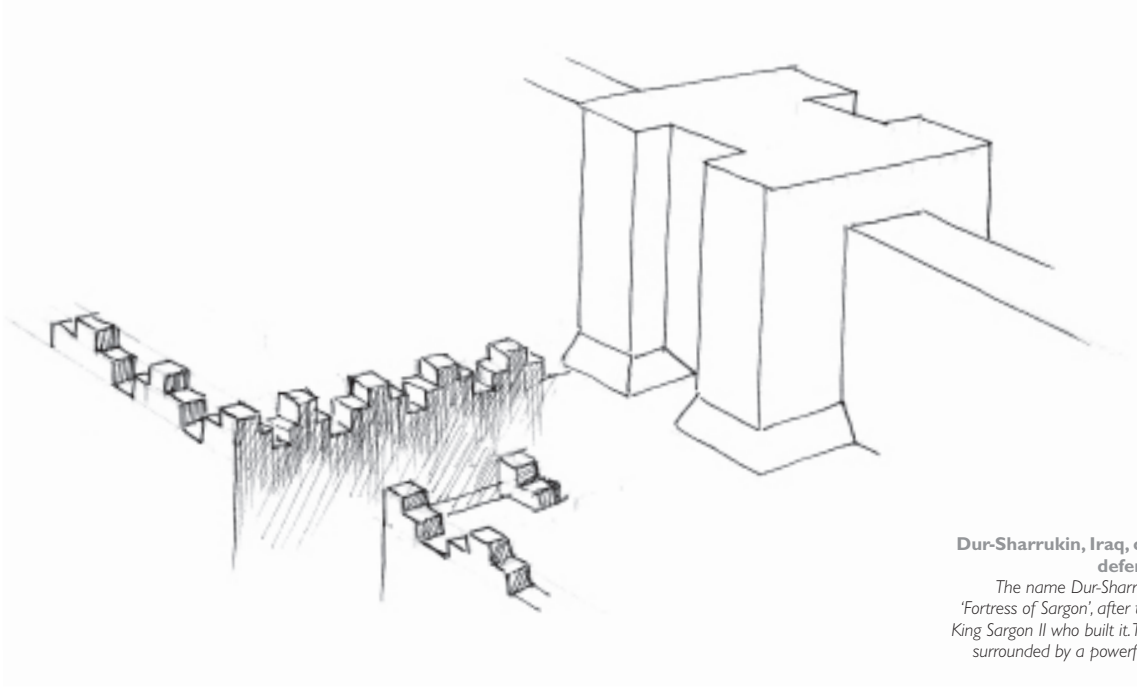
4- Second royal palace

5- Seven gates of the city

LEFT
Dur-Sharrukin, Iraq, c 720 bce: plan
The Assyrian city of Dur-Sharrukin – on the site of what is now the village of Khorsabad, near Mosul in northern Iraq – was laid out according to an orthogonal structure.



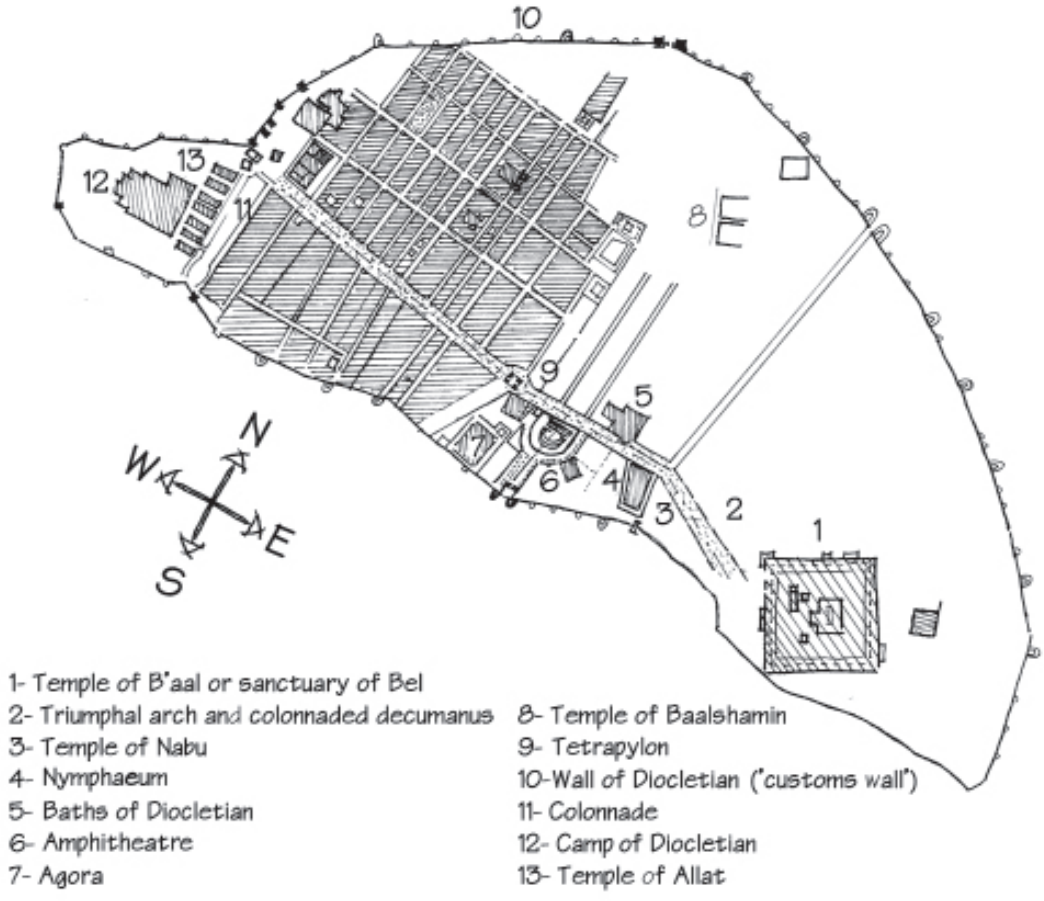
ABOVE
Dur-Sharrukin, Iraq, c 720 bce: concept diagrams
The city was organised in accordance with a strong political (monarchic) order with a well-developed royal and religious complex around it.

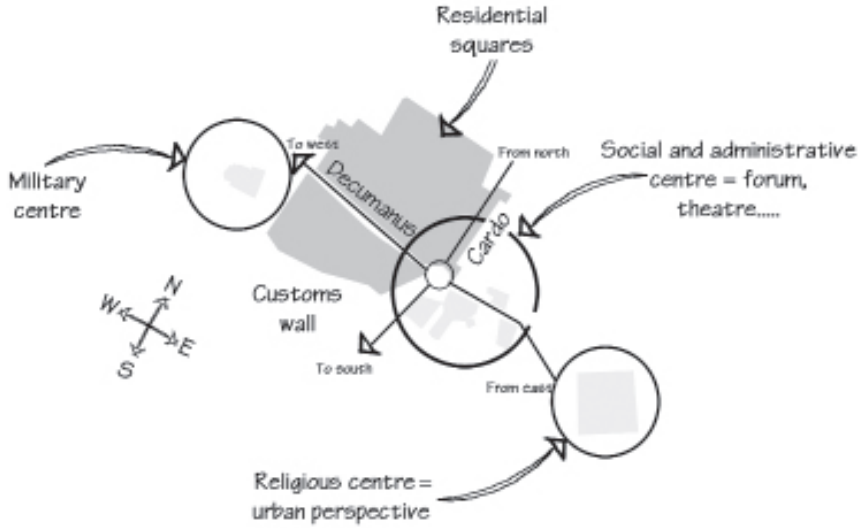


LEFT
Dur-Sharrukin, Iraq, c 720 bce: defensive wall
The name Dur-Sharrukin means 'Fortress of Sargon', after the Assyrian King Sargon II who built it. The city was surrounded by a powerful defensive wall.

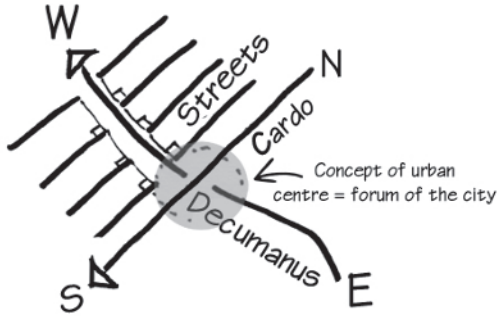
However, this rich ancient and classical urban and architectural heritage was widely explored in the Islamic period – around the 8th and 9th centuries – when a new urban typology emerged through the model of the medina (Michell 1978). From North Africa and Southern Europe to the Far East, cities like Baghdad, Damascus, Fez, Sanaa, Tunis, Cairo and Tabriz were built according to a new urban system consisting of a compact fabric. But, in spite of the fact that elements of this urban system existed in previous models, new specific cultural and contextual codes had to be considered.

BELOW
Palmyra, Syria, 41 bce: plan
The city of Palmyra, in the Syrian desert, shows how the Romans integrated new official and social structures such as the agora (meeting space) and amphitheatre.

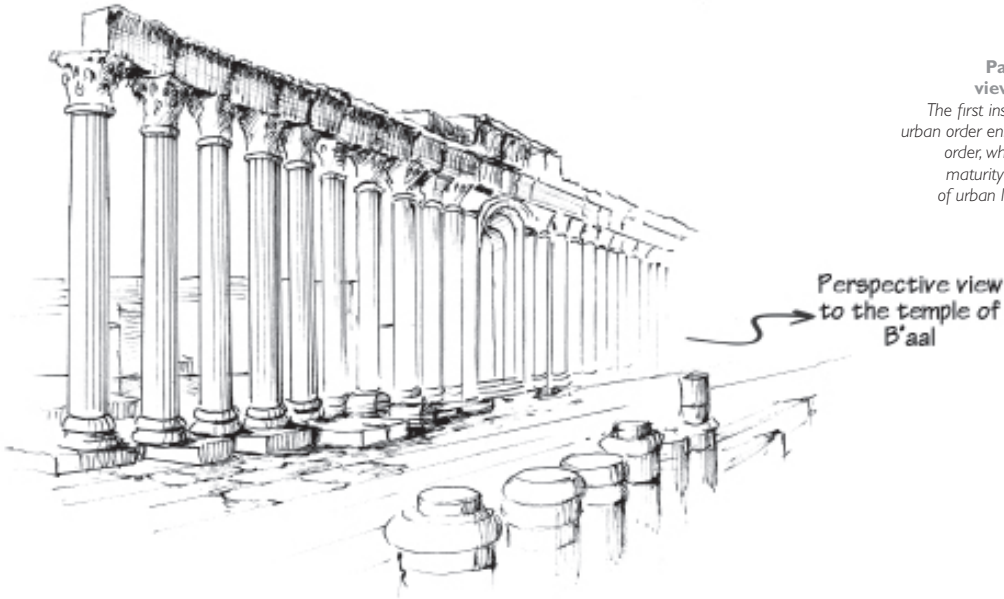




LEFT
Palmyra, Syria, 41 bce: concept diagram
The Romans applied an urban order that structured the city around a main axis running east–west, called the decumanus, and another running north–south, called the cardo, reflecting the Roman view of cosmological order.



LEFT
Palmyra, Syria, 41 bce: orthogonal concept diagram
This city developed on an orthogonal layout, applied according to the Roman cosmological signs.

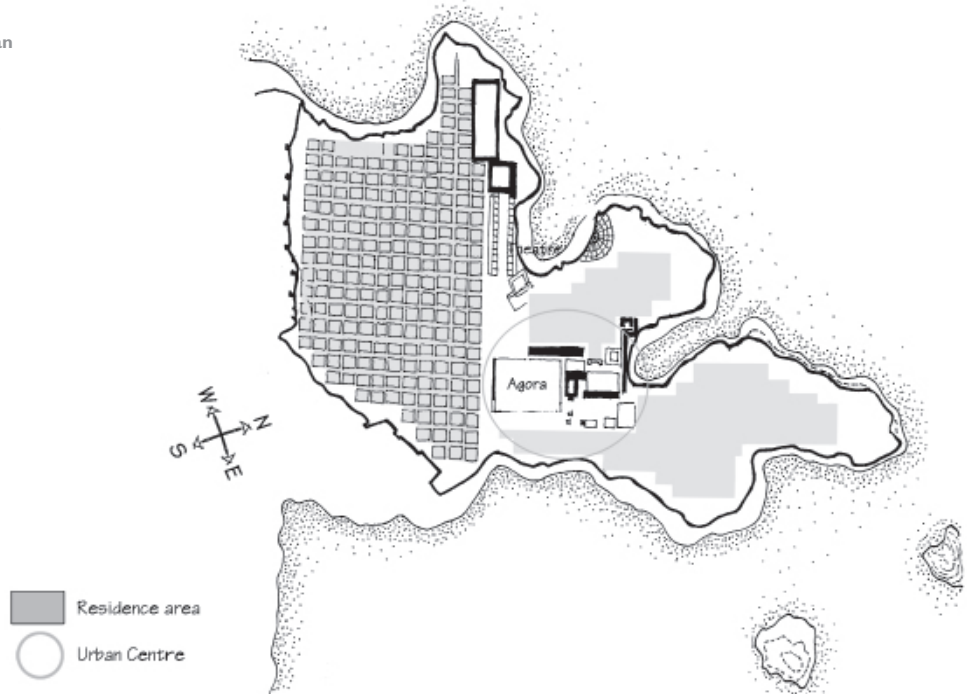


LEFT
Palmyra, Syria, 41 bce: view of the Decumanus
The first instance of fully established urban order enhanced with architectural order, where urbanism reached its maturity in terms of configuration of urban layout and its subsequent architecture.

RIGHT

Miletus, Turkey, c 610 bce: plan

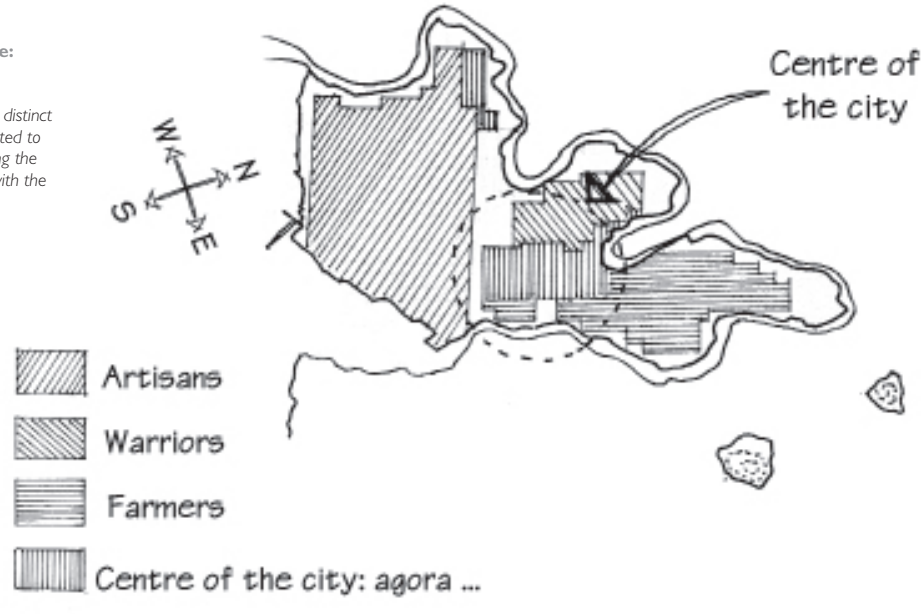
Miletus was an ancient Greek city on the southwest coast of Turkey, a short distance north of what is now the village of Balat. It represents the first time in history when the city was geometrically based on a grid plan, marking the beginning of the development of the current urban layout.

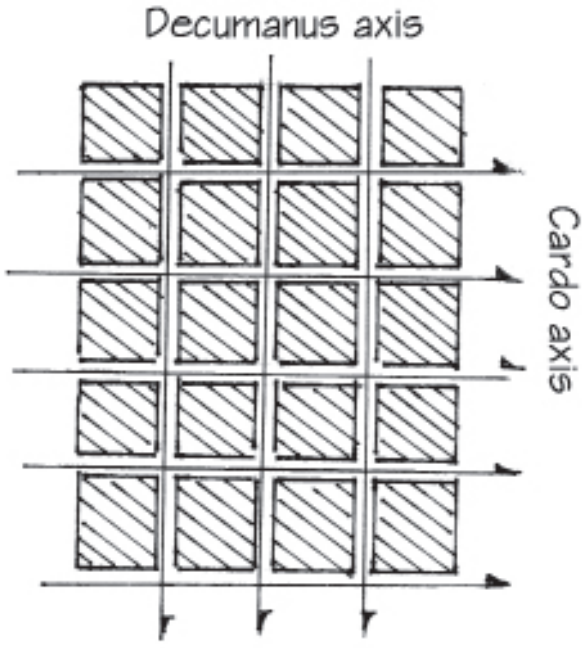


RIGHT

Miletus, Turkey, c 610 bce: concept diagram

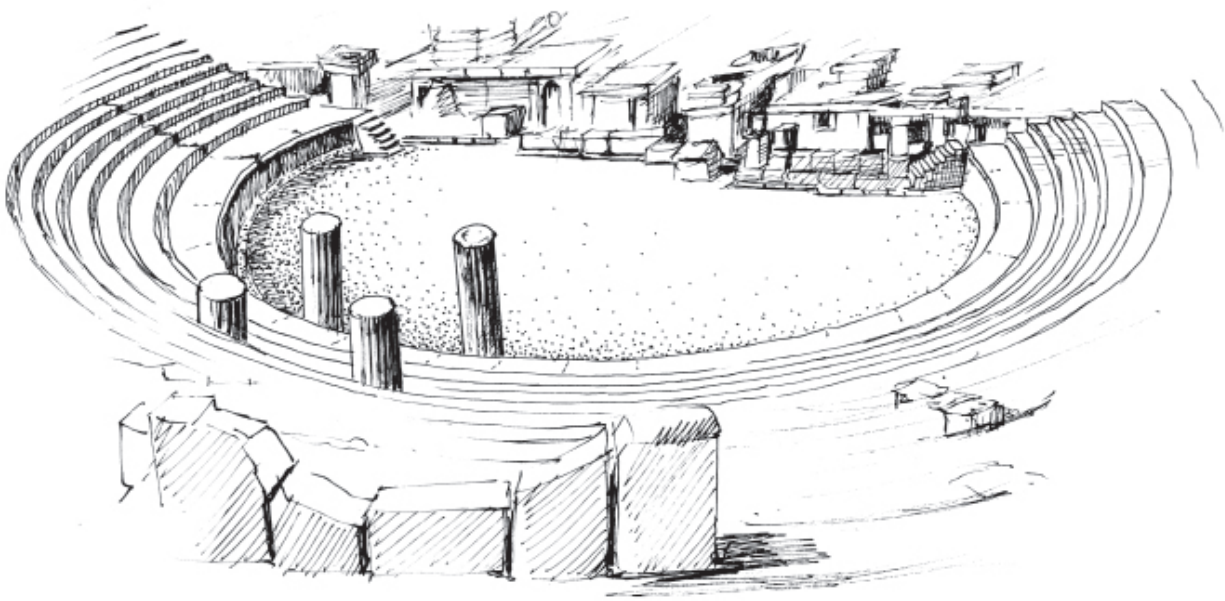
This ancient Greek city was geometrically divided into four distinct zones of social classes connected to the agora at the centre, sharing the concept of the urban centre with the Roman city.





LEFT
Miletus, Turkey, c 610 bce: grid plan
Miletus is laid out with straight streets intersecting at right angles, creating square or rectangular urban forms 16 by 7, 9 by 5 and 4 by 3 metres (52 by 23, 30 by 16 and 13 by 10 feet). Such grid plans are also known as Hippodamian plans, after the urban planner Hippodamus of Miletus.

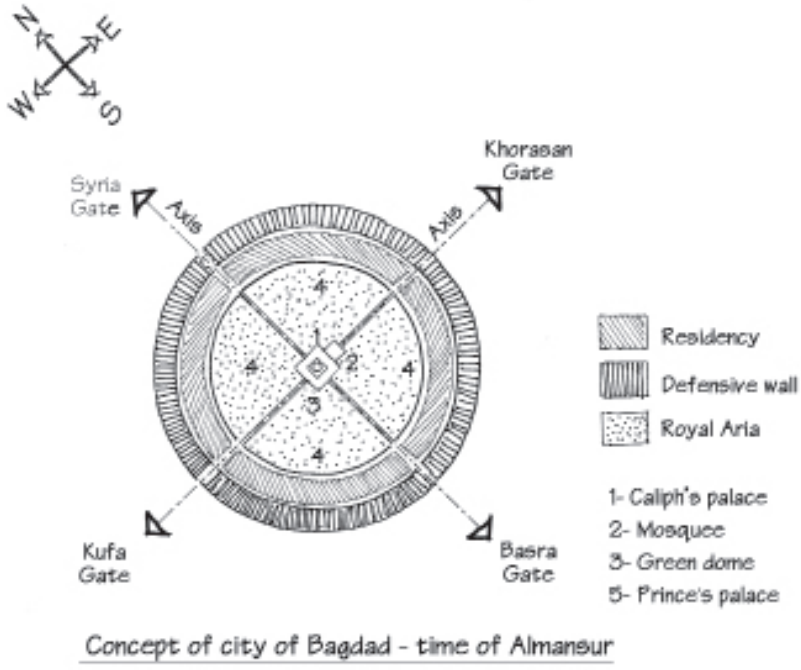
BELOW
Miletus, Turkey, c 610 bce: agora
The spatial configuration of the agora was proportionate with social and urban scale.



RIGHT

Baghdad, Iraq, 760s ce: layout and concept

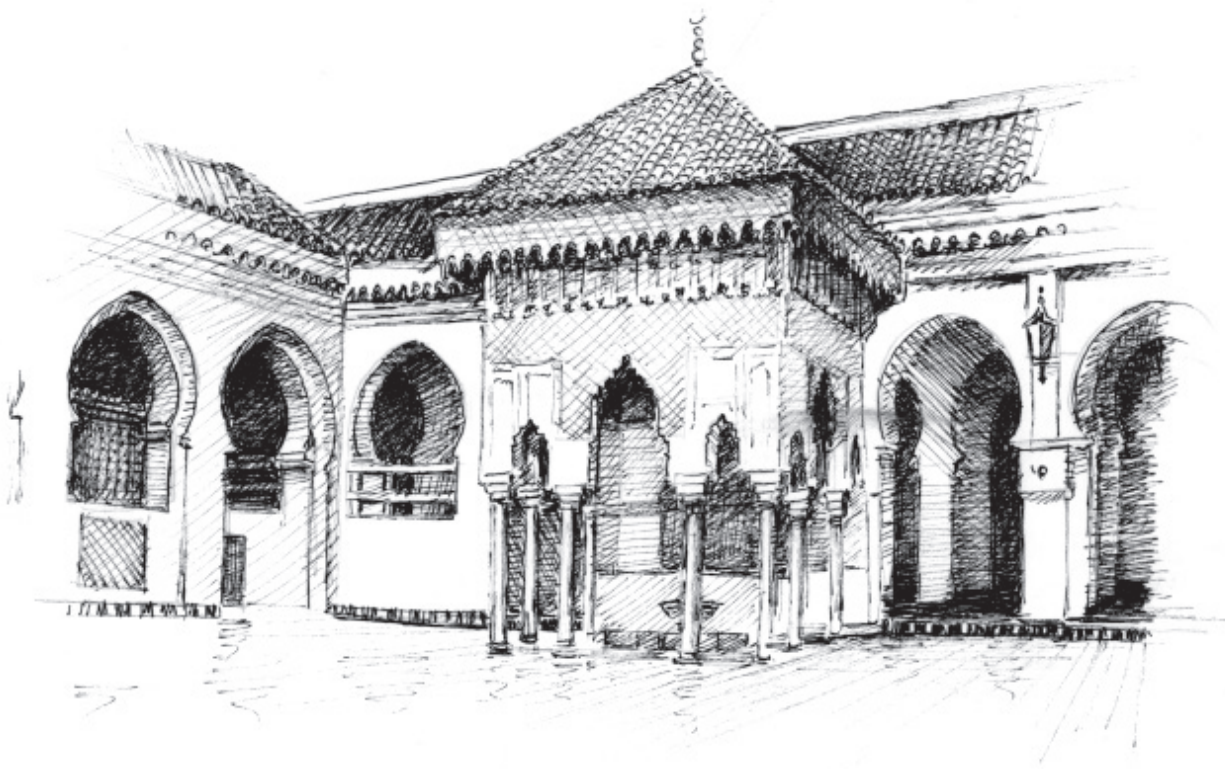
The layout of Baghdad, founded by the Abbasid caliph al-Mansur in 762, was emphatically circular, its centre considered as the centre of the universe.



RIGHT

Medina of Fez, Morocco, 8th to 13th centuries: plan

Community-based organic urban organisation around a knowledge centre as a spiritual and social hub.



ABOVE
Courtyard of Al-Qarawiyin University, Fez, Morocco, 16th century
The urban core of the district of al-Qarawiyin in the medina of Fez, where its university is a strong converging social hub. The university is the world's oldest, founded under the Idrisid dynasty in 859 ce by Fatima al-Fihriya, a wealthy and educated merchant's daughter.

Architectural and Urban Classical Local Antecedents

The contextual forms of all the above-mentioned cultural expressions have had their impact on the architectural and urban production of the Middle East. It would be incongruous to consider that one form has superseded another just because of religious or political influence. The Middle East was and still is a ground for continuous enrichment through new concepts and ideas, and the products of contemporary architecture and urbanism ought to be no exception.

A simple examination of the portfolio of architectural forms and details over the history of the Middle East with its different rules, ideologies, sites and territories – regardless of who has done what as a political boundary – reveals a myriad of aesthetic idioms, technical solutions, spatial articulations and topographical adaptations.

From the first Mesopotamian temples in the form of ziggurats to the Egyptian pyramids that reflect a sense of grandeur and monumentality, architecture was primarily meant either to act as a symbol or to generate a vehicle of civic life with a cultural expression. Local building materials that led to the development of structural systems anchored architecture in its site. Building envelopes pursued a geometric order with intrinsic ornamentation. Facades were a medium of artistic representation of cultural, political or spiritual expression (Hillenbrand 1994).

RIGHT

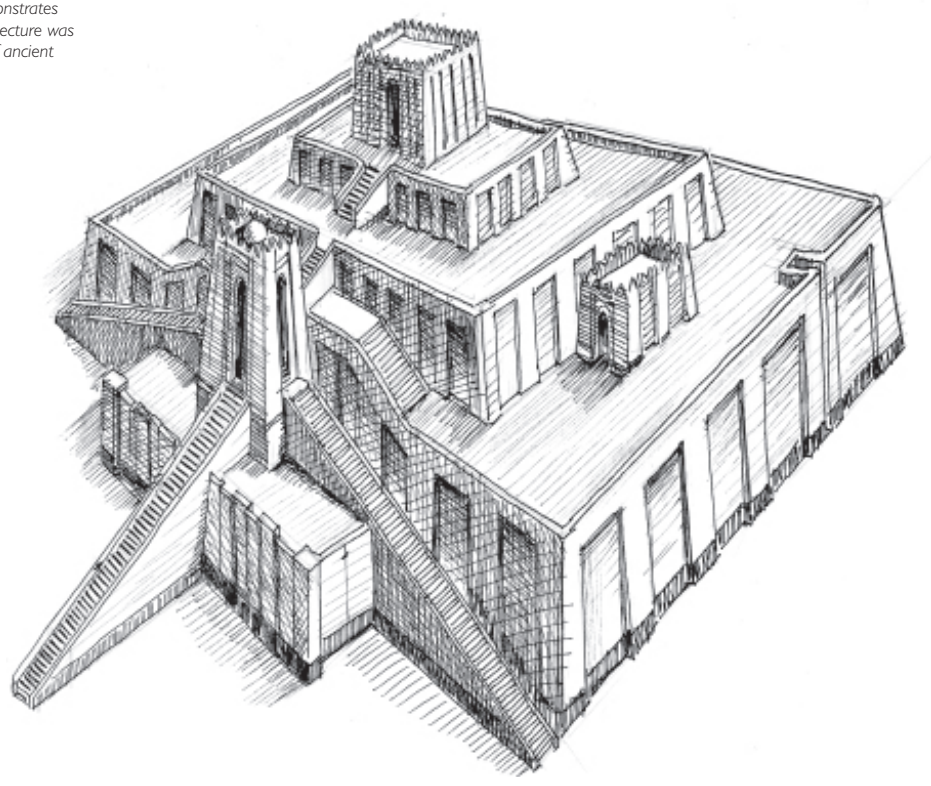
Palmyra, Syria, 41 bce: Tetrapylon

Situated at the intersection of Palmyra's Cardo and Decumanus, the Tetrapylon is an example of the use of monumentality and architectural symbolism to establish an urban culture.

RIGHT

Ur, Iraq, c 4000 bce: ziggurat

In Sumerian ideograms, 'ziggurat' means build upwards or very high. The most spectacular building in Mesopotamian civilisation, the ziggurat demonstrates how monumentality in architecture was used to serve the civic life of ancient civilisations.



The Assyrian royal palace of Dur-Sharrukin (now the village of Khorsabad in Iraq), which dates back to 720 bce, is a pertinent example of an imposing monumental architecture that symbolises royal authority through different courts and incorporated temples. The whole ensemble is emblematic not for being a mere aesthetic game but rather for translating the political and ideological intentions of the period with a clear ritual and processional route.

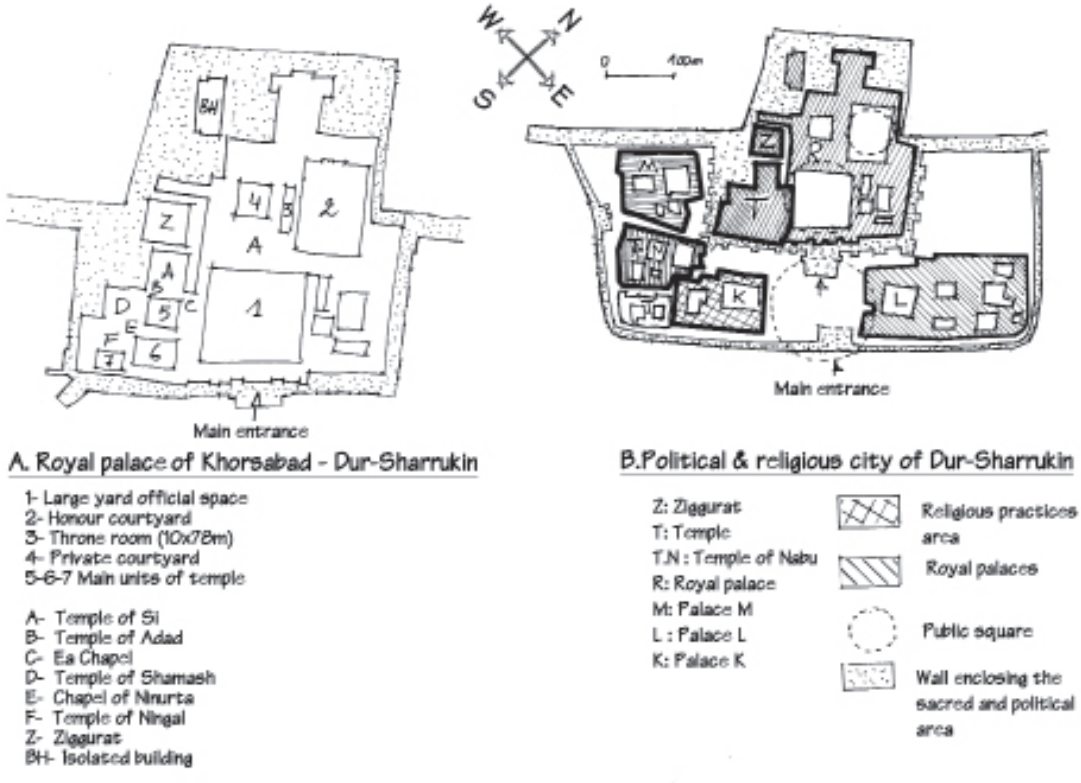
The Egyptian pyramids are another example of architecture's transcendence and its ability to espouse cosmological ends. The royal tombs and burial chambers became the centre of whole funerary rites that brought about an architectural structure and ornamentation by intersecting ritual spaces and representations. It is impressive how builders would design such eternal architectural complexes that are still considered among the wonders of the world.

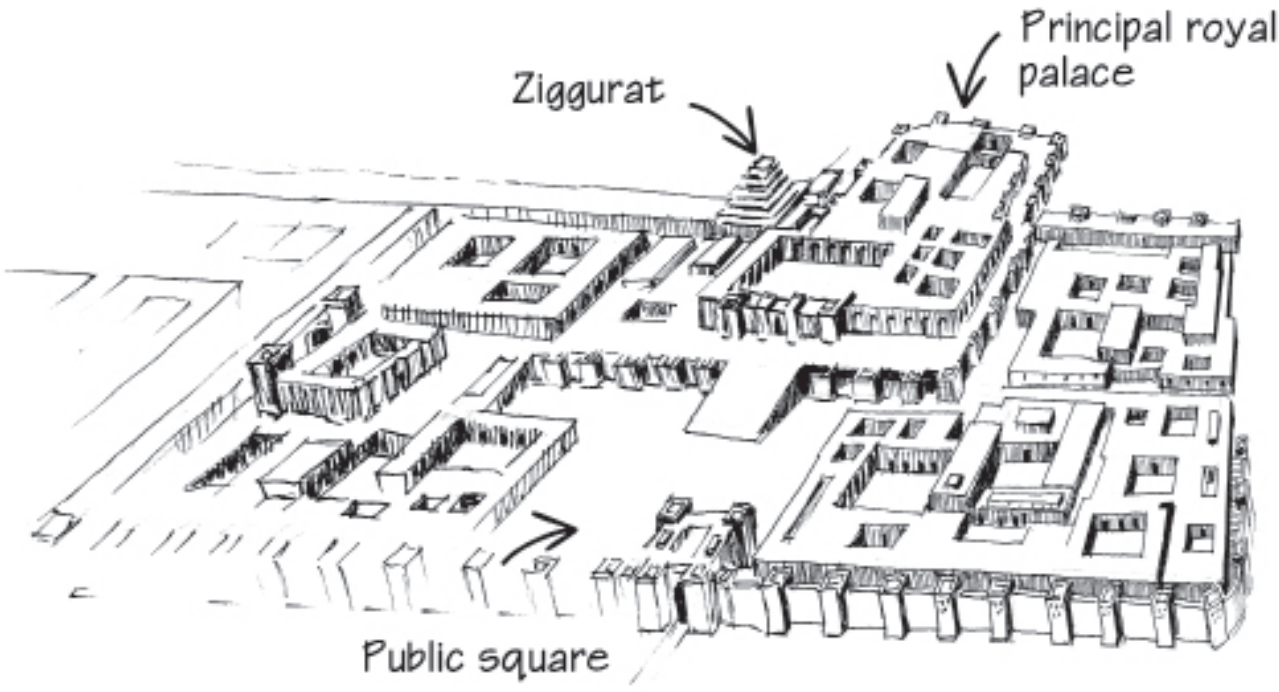
Thus, the issue is not about topographical and material constraints, but rather about the meaning given to the architectural masterpiece to translate the aspirations of its time and place. Following in the footsteps of the Egyptians and other early civilisations, the Greeks and Romans rationalised this continuous spirit of architecture of the Middle East by canonising orders as a set of aesthetic formulae. Monumental eternal architecture varied between expressing the power of religion or royalty by using different architectural styles, while uniting in using scale as a powerful passage.

BELOW

Dur-Sharrukin, Iraq, c 720 bce: plans of the royal palace and fortified city

*The palace contained a private side (*bitanu*), reserved for the royal family, and a public side (*babanu*) that served for administrative and public activities.*



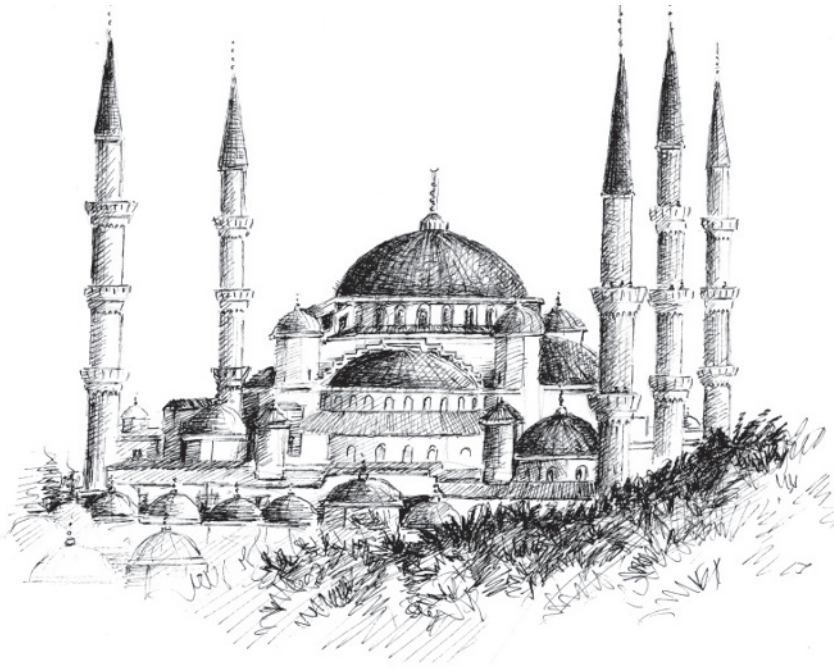


ABOVE
Dur-Sharrukin, Iraq, c 720 bce: perspective view of the political and religious complex
An elevated palace shows the importance of sovereign power and of the political life of the city.

With the decline of the classical civilisations in the Middle East, a new architectural paradigm took form with the rise of Islamic rule. Despite its problematic appellation as Islamic architecture, which has generated vehement debates on what is Islamic about it, the fact is that no one can deny its existence as a category. Accordingly, despite the implications that the adjective 'Islamic' may bear, Islamic architecture is an architecture that learned from all its antecedents. The focus should be more on the pragmatic side of this architecture as a perpetual encyclopaedia of ingenious solutions over the history of the Middle East.

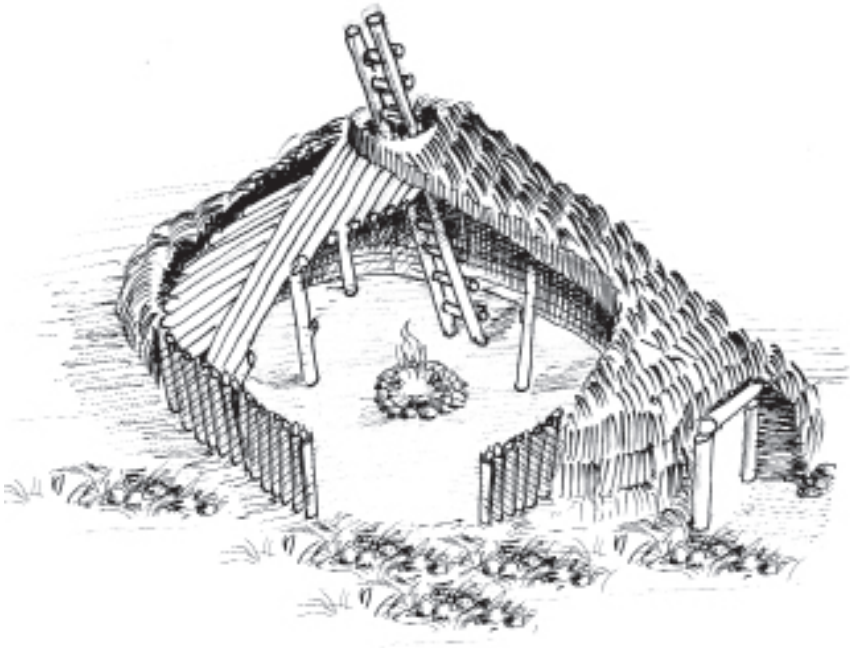
The inner courtyard as an element of architectural composition, for instance – regardless of whether it is Persian, Egyptian, Roman or Islamic – is essentially an ideal environmental solution for conceiving a protected space within the hot climate of the Middle East. In addition, while the courtyard certainly provides the privacy that is considered a cultural value, it is also an architectural form that deposited endless artistic and structural innovations without which the urban archetype of the medina could not exist.

The courtyard as an inner geometric-spatial ecosystem structured neighbourhoods of the medina by assembling its individual houses around organic



LEFT
Sedefkâr Mehmed Ağa, Blue Mosque, Istanbul, Turkey, 1609–16: perspective view
Islamic monuments have drawn upon regional architectural antecedents such as the central monumental Byzantine domes in Istanbul's famous Blue Mosque, or Sultan Ahmed Cammi, which was designed under the reign of Sultan Ahmed by the Ottoman architect Sedefkâr Mehmed Ağa.

dead-end alleys, where facades are blind in order to retain privacy and optimise thermal comfort within a compact and hierarchical urban fabric. It generated an urban system that evolved throughout history in order to espouse different geographical locations, topographical settings, functional arrangements and environmental conditions according to a certain level of premeditated planning as a mode of urban organisation.

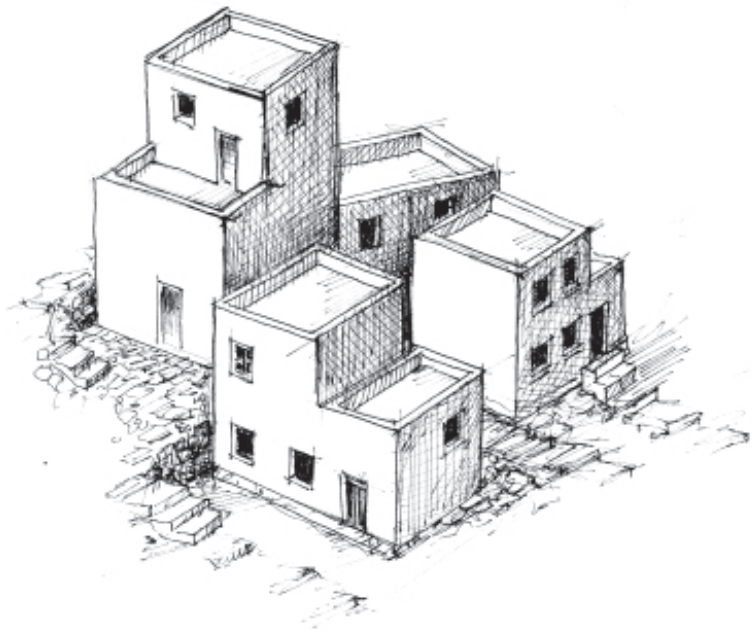


LEFT
Mallaha, Jordan valley, 12,000–10,000 bce: house typology (first stage of courtyard)
Mallaha's houses were built in pits using local materials with a stone facing, and the remaining traces of them suggest that they had a roof with an opening, covered by animal skins or small pieces of wood supported by posts. This was the first stage of the evolution of the courtyard.

RIGHT

Jericho, West Bank, Palestine, c 9600 bce: house typology (evolution of the courtyard)

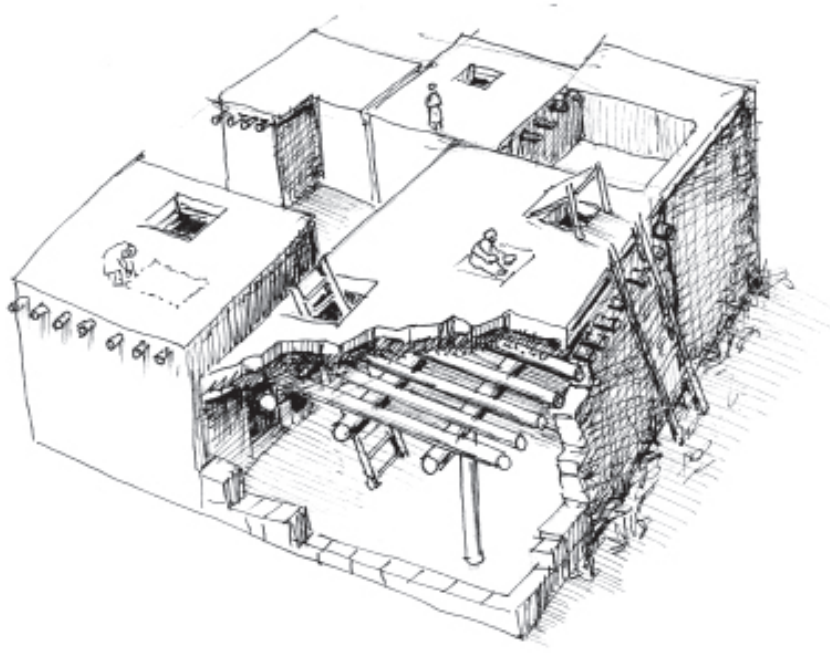
The first rectilinear buildings were made of mud bricks on stone foundations. The evolution of the courtyard started as a central space with a clay floor, around which all the rooms were clustered.

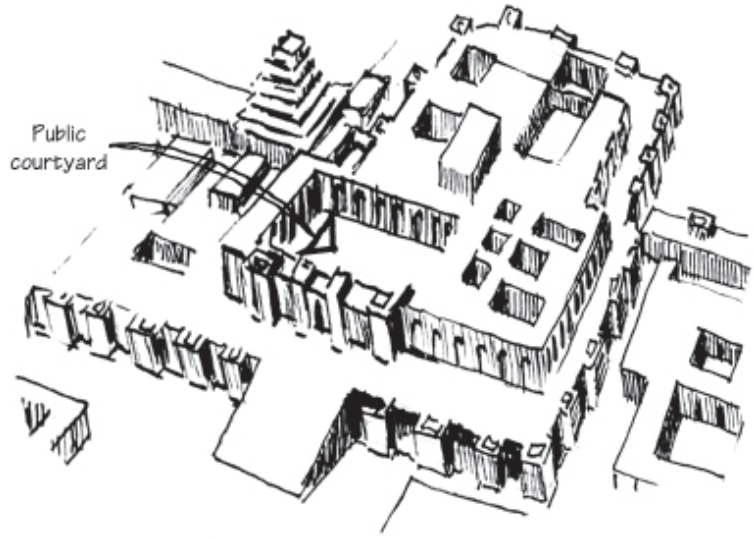


RIGHT

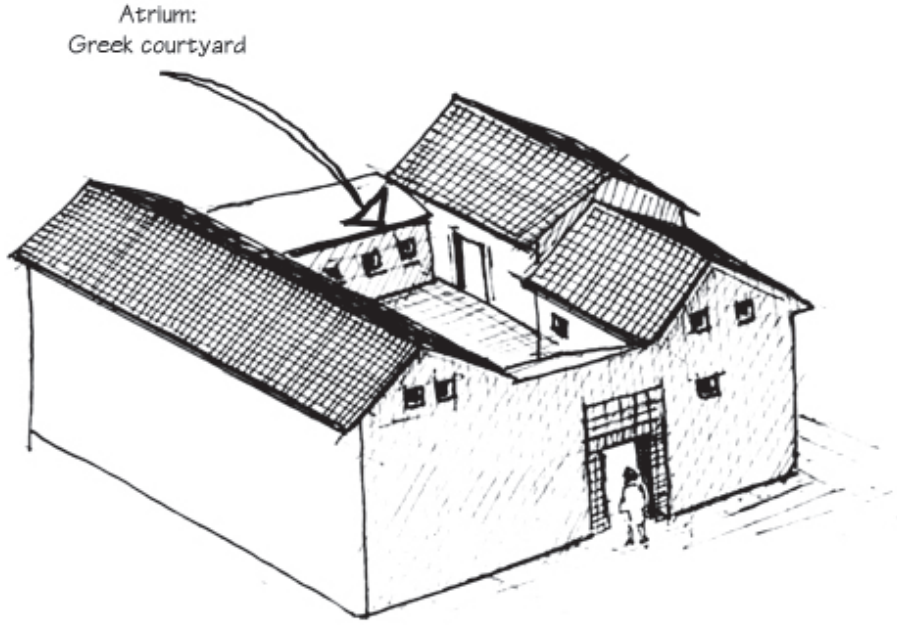
Çatalhöyük, Konya Plain, Anatolia, Turkey, c 7000 bce: house typology (evolution of the courtyard)

Made of mud bricks, covered with a thick layer of plaster, the houses backed onto each other and communicated through courtyards that served usually for animals and sometimes as a space for prayer. The houses had flat roofs and were accessible through an opening in the roof, with a wooden ladder leading to the kitchen.





LEFT
Dur-Sharrukin, Iraq, c 720 bce: royal palace with public courtyard
The Babylonians built houses of unbaked brick, consisting of rooms surrounding courtyards that were open to the sky. Light and air entered rooms only from the courtyard. There were no windows in the outer walls. The courtyard also served as a public reception space in official buildings.

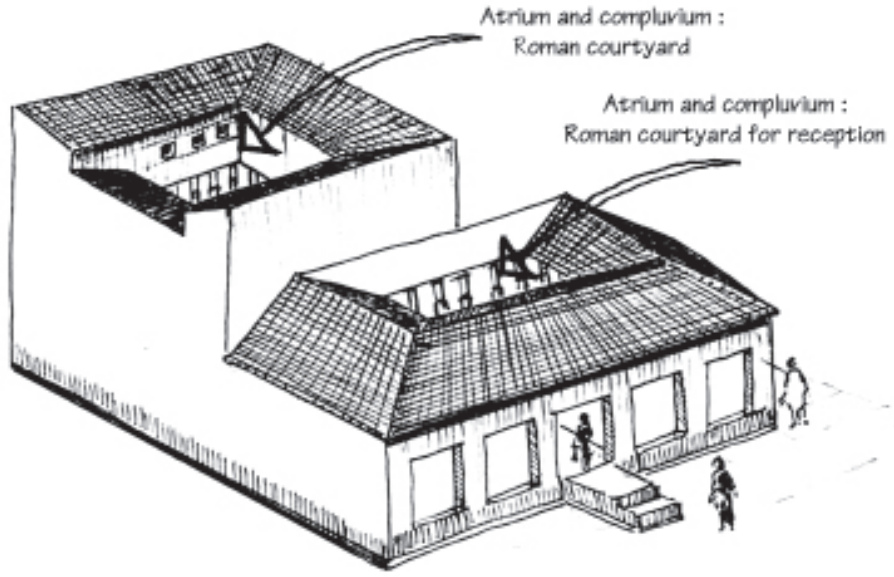


LEFT
Miletus, Turkey, c 610 bce: house typology with rationalised courtyard
The Greeks rationalised the organisation of the house around the courtyard.

RIGHT

Palmyra, Syria, 41 bce: house typology with social courtyard

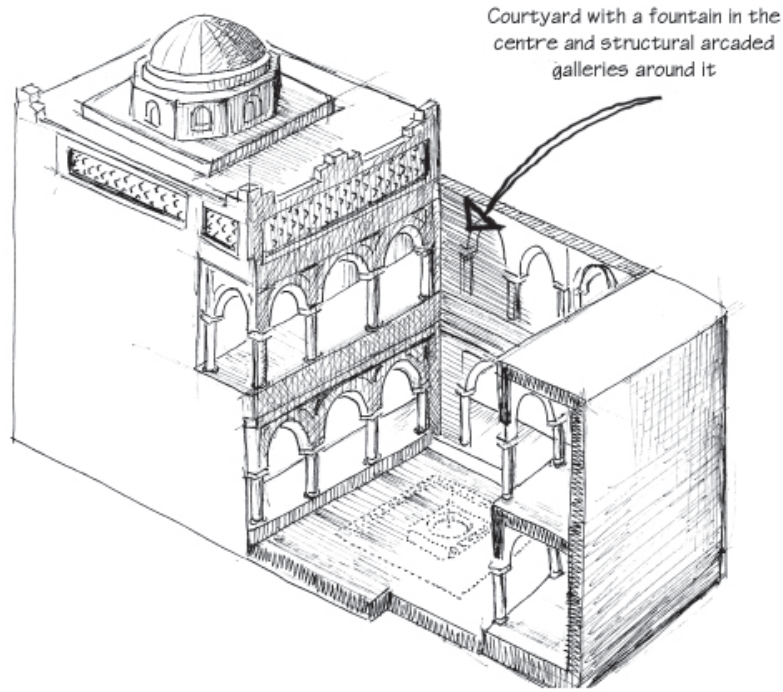
Courtyards had a social and cultural dimension in Roman houses. The atrium (courtyard), tablinum (room on the side of the atrium opposite the entrance) and compluvium (unroofed space) were designed to welcome customers who came to present themselves as part of the morning salutation, and were also intended to welcome visitors.



RIGHT

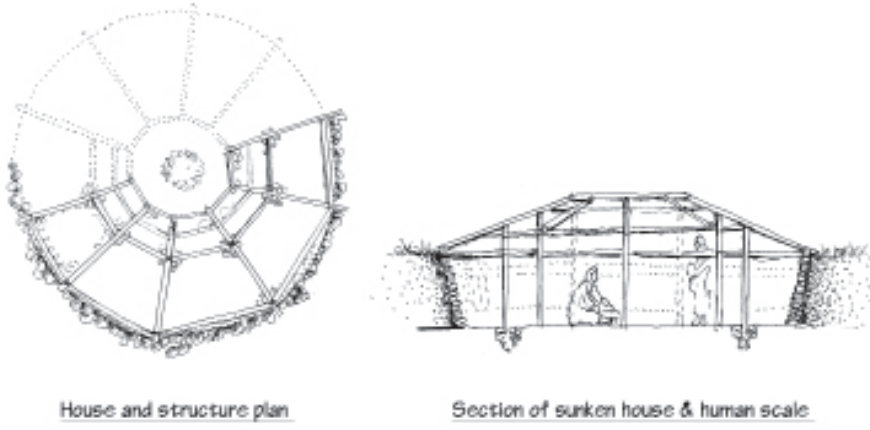
House typology with introverted courtyard in a medina

The structure of an internal courtyard within a blind envelope in a traditional house within a typical medina's fabric. The courtyard preserved its cultural, social, climatic and structural functions.

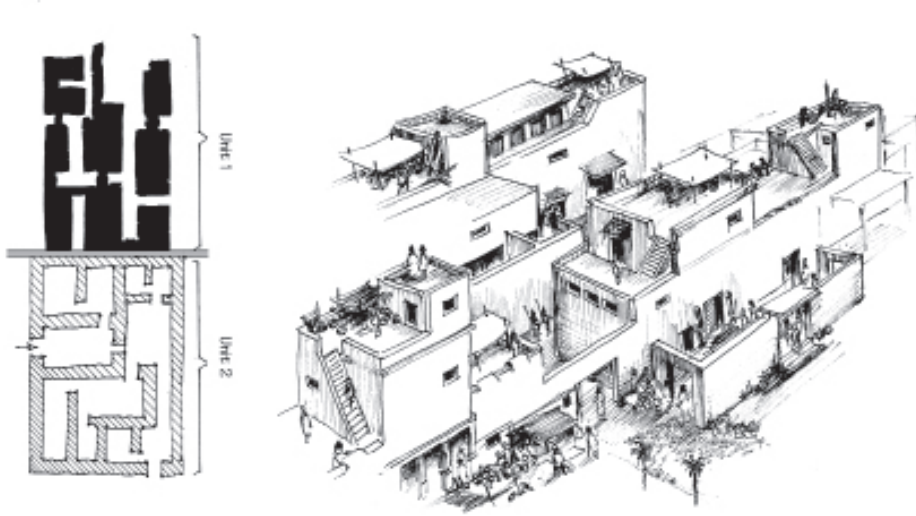


This planning was deduced from the different inherent social, economic and political mechanisms that took place not only at the macro level of the city, but also at the micro scale. The house (family), neighbourhood (community), city (citizens), region (rural and urban populations) and territory (rural and urban settlements and cities) were all part of indirect or direct organisational microcosms. These microcosms were a vehicle of a contextual urban expertise that stemmed from a long-lasting interaction with a certain locality – which engendered a cultural urban gist that identified this very locality.

The term 'planning' in the context of the medina consequently implies an accumulative urban course of interaction between space and human use following particular codes that were the result of the dialogue between builders, users, astrologers, ethnic groups, scholars, judges and sultans. Planning in the medina was rather of a type that sought to observe legal and social ideals, neither creating an absolute aestheticised physical form nor dictating a dominant function. The medina consequently embodied a sound communal fabric within a territory, which guaranteed its enduring sustainability.



LEFT
Mallaha, Jordan valley, 12,000 to 10,000 bce: house typology plans and sections
The houses of Mallaha were oriented towards the exterior: most human activities were done outdoors.



LEFT
El-Lahun, Fayum, Egypt, c 1800 bce: house typology plan and perspective view
The houses consisted of single rooms placed back-to-back and side-by-side, in blocks measuring 120 to 2,520 square metres (1,290 to 27,120 square feet). This was extrovert architecture, exposing buildings to external public spaces and creating shops and commercial galleries.

RIGHT

Ur, Iraq, c 4000 bce: house typology plans

Using the concept of the courtyard open to the sky, light and air entered rooms only from the courtyard. There was one entrance from the street and there were no windows in the outer walls. This combined introverted and social architecture.

RIGHT

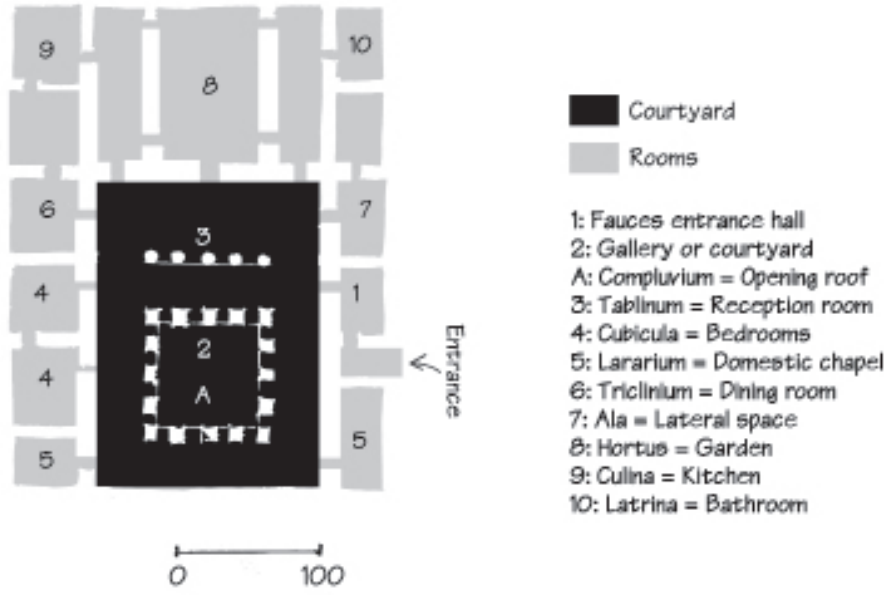
Babylon, Iraq, c 2500 bce: house typology plans

The physical and social extension of the courtyard: using the concept of centrality of the single-family courtyard, more than one courtyard meant an extended family such as a married son.

LEFT

Miletus, Turkey, c 610 bce: house typology floor plan

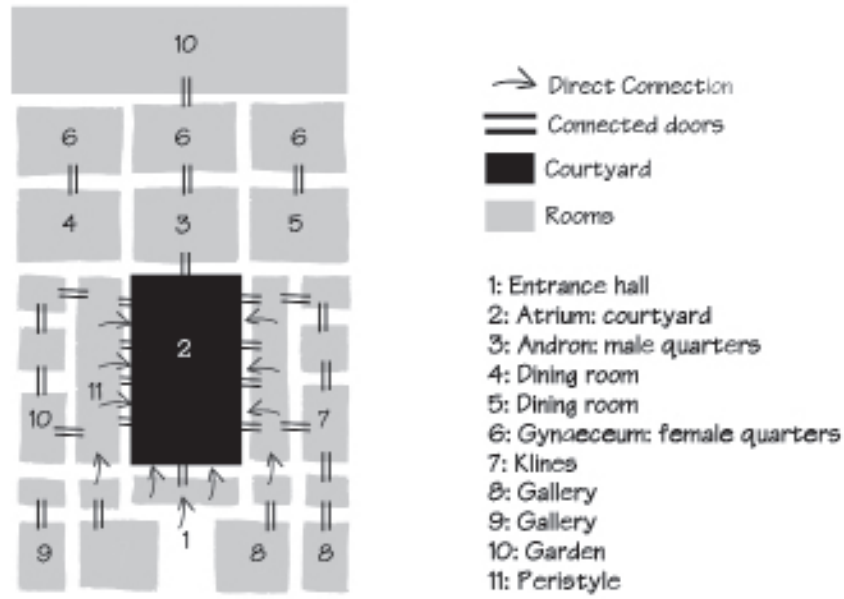
For the Greeks, it was enough to have only one courtyard for all functions, including reception.



LEFT

Palmyra, Syria, 41 bce: house typology floor plan

The Roman house had two parts: one for receiving visitors, and another for private family life. The domus *was an individual house for the wealthy, yet another type called the* insula *was completely open to external public space and had many floors.*



RIGHT
Sbaa Louyat alley, medina of Fez, Morocco, 13th century: courtyard organisation
The organic nature of the urban fabric and the regularity of the shapes of the courtyards create inner geometric microcosms within a community order.

With the colonisation of most Middle Eastern territories at the end of the 19th century and beginning of the 20th century, a new European model was introduced. With industrialisation, the introduction of new vehicular systems and population growth, no innovative solutions were sought to upgrade the medina or to explore its models in order to meet contemporary urban requirements.

RIGHT
Alley in the medina of Tangier, Morocco
Urban fabric with particular cultural codes, based on a human scale.

Colonial Architecture, East–West Encounters

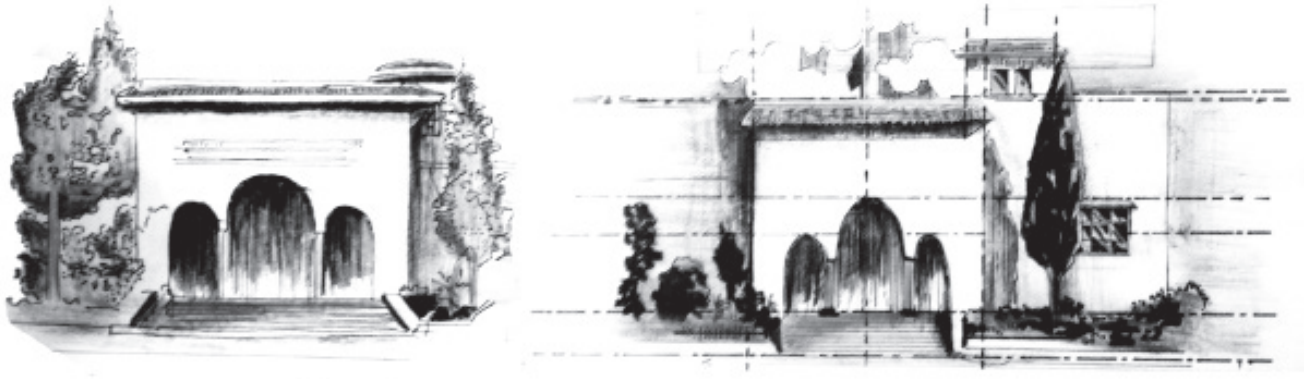
Although colonial architecture in the Middle East is criticised by postcolonial theorists, it nonetheless remains a rich laboratory for modernising local architecture. In addition to this, despite criticism of the colonial city as a segregating urban tool for European settlers, architects who designed In North Africa, such practitioners included under the auspices of colonial authority were pioneers of their time and were not always working in tandem with their military superiors. Equipped with high artistic and design talent, these architects attempted to reconcile East and West through architecture. In North Africa, such practitioners included Henri Prost, Maurice Tranchant de Lunel, Albert Laprade and Michel Écochard in Morocco; René Marché, Victor Valensi, Raphaël Guy, Henri Saladin, Joss Ellen and Jean-Émile Resplandy in Tunisia; Roland Simounet, Jules Voinot, Marius Toudoire, M.J. Coutereau and Henri Petit in Algeria; and Armando Brasini, Alberto Alpago Novello, Alessandro Limongelli and Florestano Di Fausto in Libya.

The encounter of East and West through the Middle East henceforth generated a typical architecture that has formed a genuine amalgam of forms and vocabularies – which still has its own melody and impact on the international practice of the profession. This architectural richness in the colonial period was also due to the fact that Europeans considered the region as a land of experimentation for both functionalist and culturalist architecture and urbanism. Practising in the colonies, far from the rigid European neoclassical academies, European architects were able to experiment with new avant-gardist architectural and urban concepts and had the possibility of implementing them.

BELOW

Adrien Laforgue, Water and Forestry Department building, administrative district of Rabat, Morocco, 1920: elevations

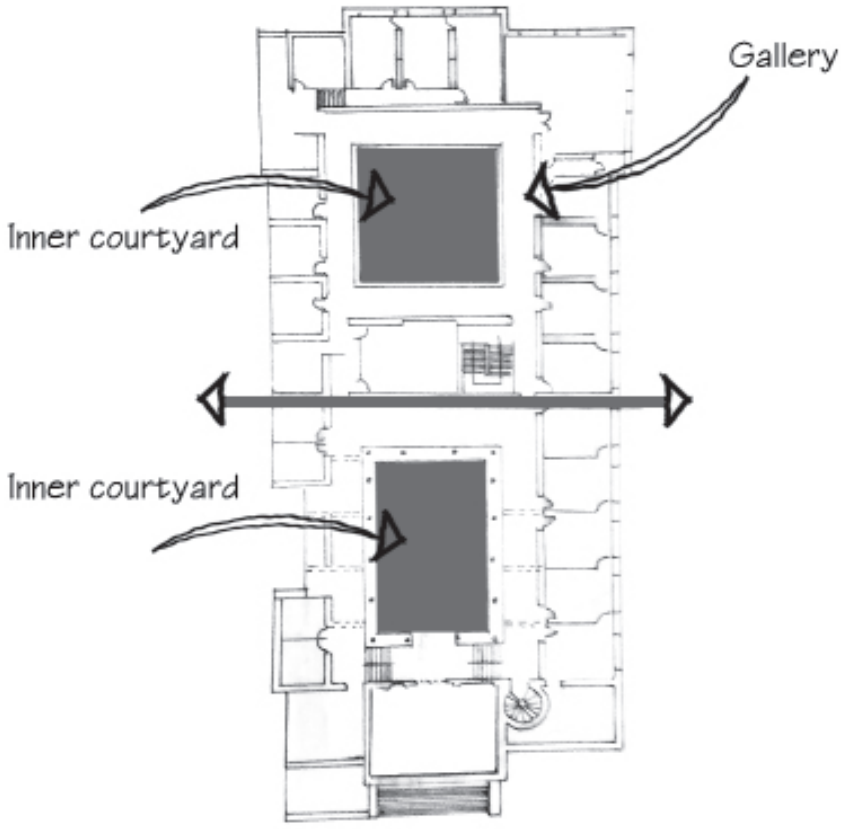
The encounter between Eastern and Western architecture, using architectural language elements from both sides: an extrovert rhythmic facade, functionality, monumentality, while on the other hand conserving a courtyard in the heart of the building and using some local materials (tile and stone) within a symmetrical colonial structure.



RIGHT

Adrien Laforgue, Water and Forestry Department building, administrative district of Rabat, Morocco, 1920: first-floor plan

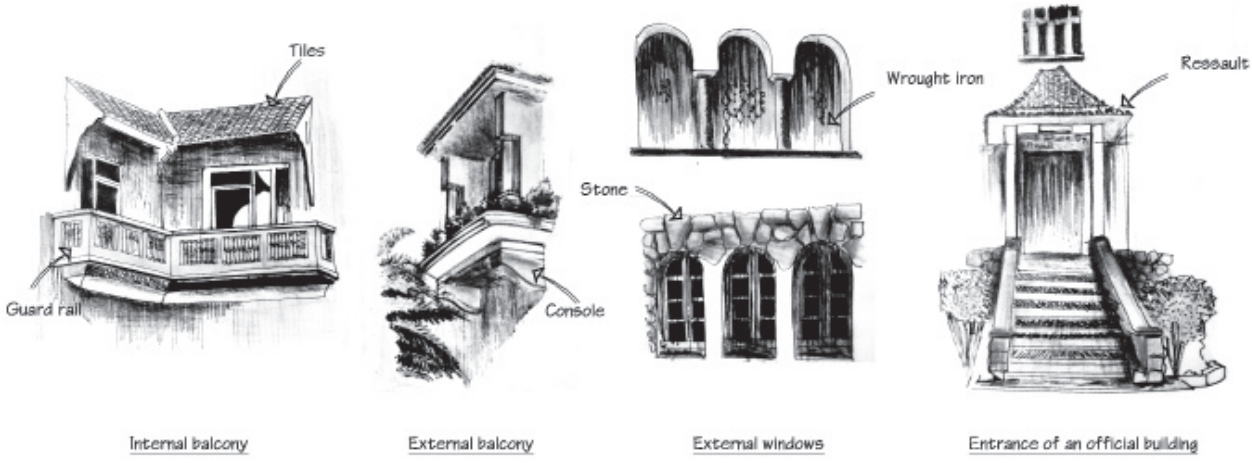
The plan shows the introverted courtyard at the heart of the building.

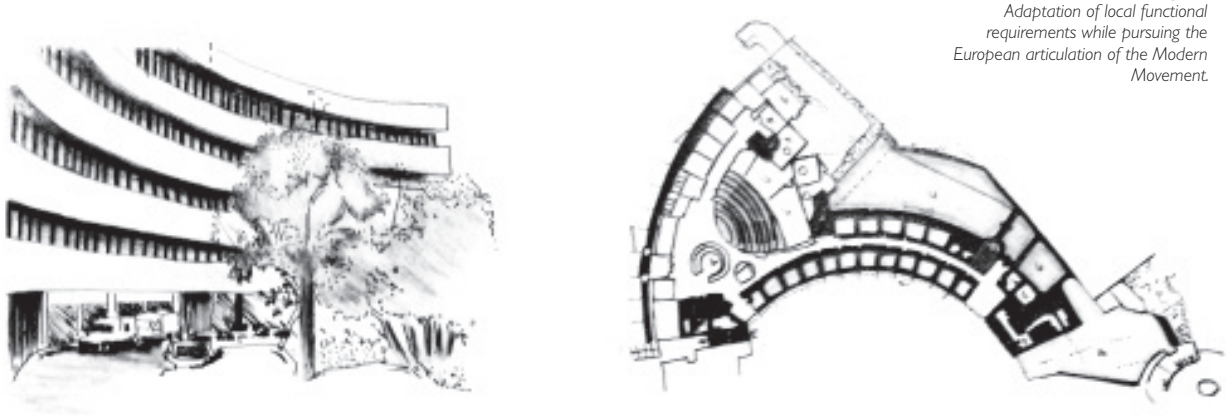


BELOW

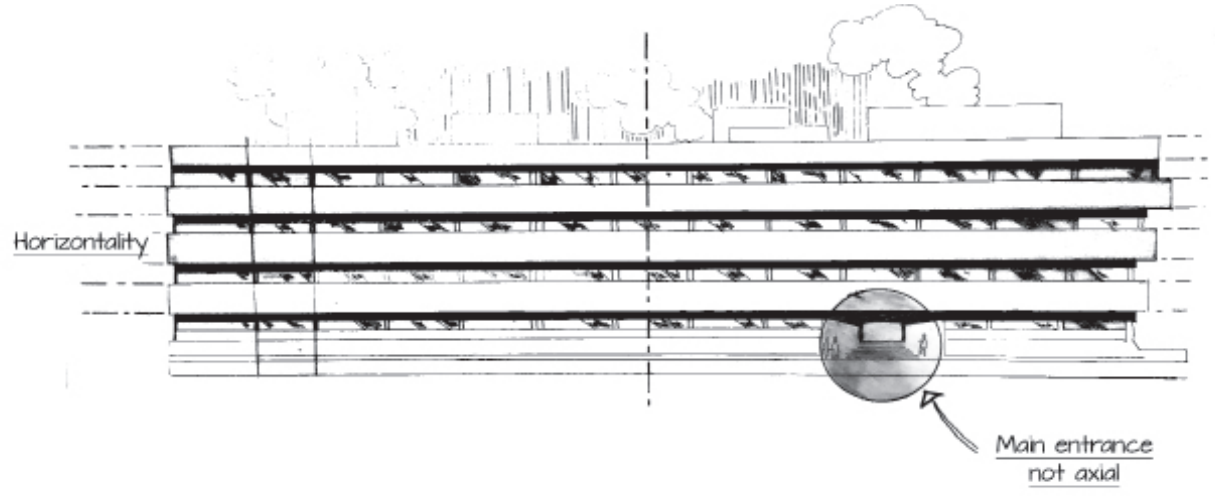
Administrative district of Rabat, Morocco: various architectural elements

Using the architectural elements to communicate with the context by adopting a mixed architectural language.





LEFT
Ali Idrissi and Hajji with SOCOTEC, Extension of the Finance Ministry, administrative district of Rabat, Morocco, 1983: facade view and first-floor plan
Adaptation of local functional requirements while pursuing the European articulation of the Modern Movement.



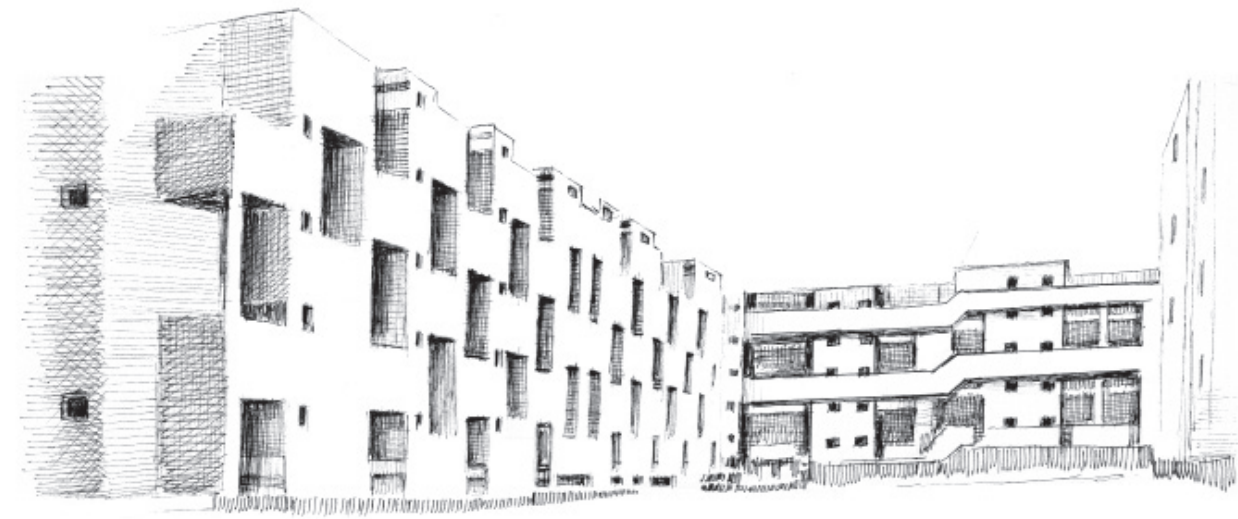
Nevertheless, the colonisation period created several architectural and urban dichotomies, exploring local architectural antecedents and the native rooted tradition of Arabo-Islamic architecture in order to forge new styles. These dichotomies cannot be overlooked when assessing contemporary architectural practice since the independence of the Middle Eastern countries. The key question herein is how a current architect or designer would deal with colonial architecture elements.

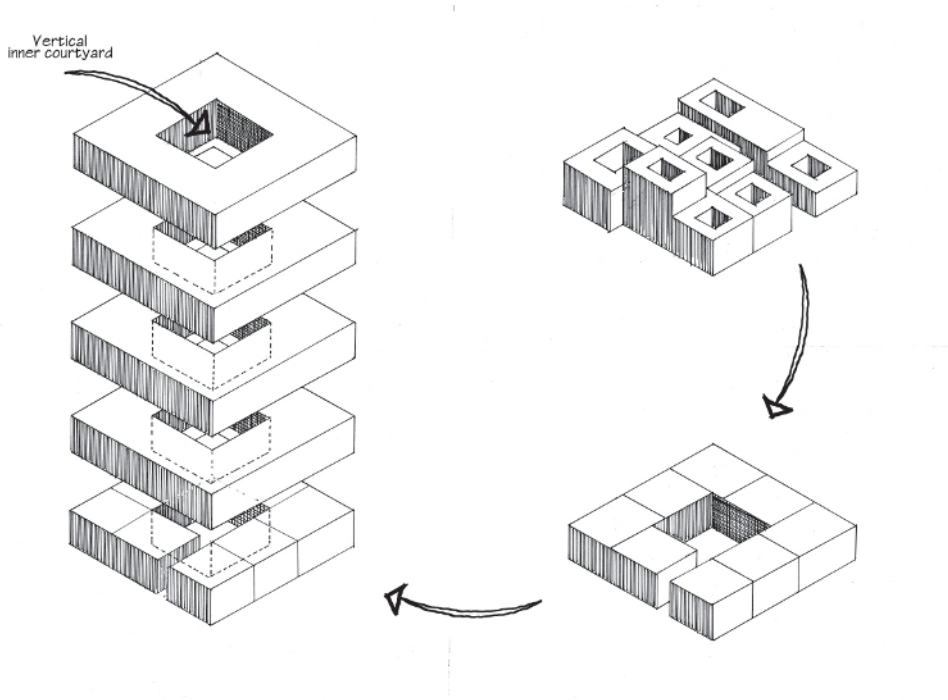
ABOVE
Ali Idrissi and Hajji with SOCOTEC, Extension of the Finance Ministry, administrative district of Rabat, Morocco, 1983: elevation
The design pursues the European articulation of the Modern Movement in many ways, such as the materials used and the composition of the facade (horizontal, asymmetric …).

ABOVE
Abderrahim Charai, Faculty of Letters and Human Sciences, Rabat, Morocco, 1970
After 1930, architects started to convert raw concrete with the rise of abstract modernism.

The response is not obvious, and a clear distinction needs to be made between, on the one hand, the colonial agenda of using architecture and urbanism as a tool of dominance where forms are charged with colonial symbolism, and on the other, instances where these colonial architects used their design talent to interpret local forms in order to generate new aesthetic vocabularies.

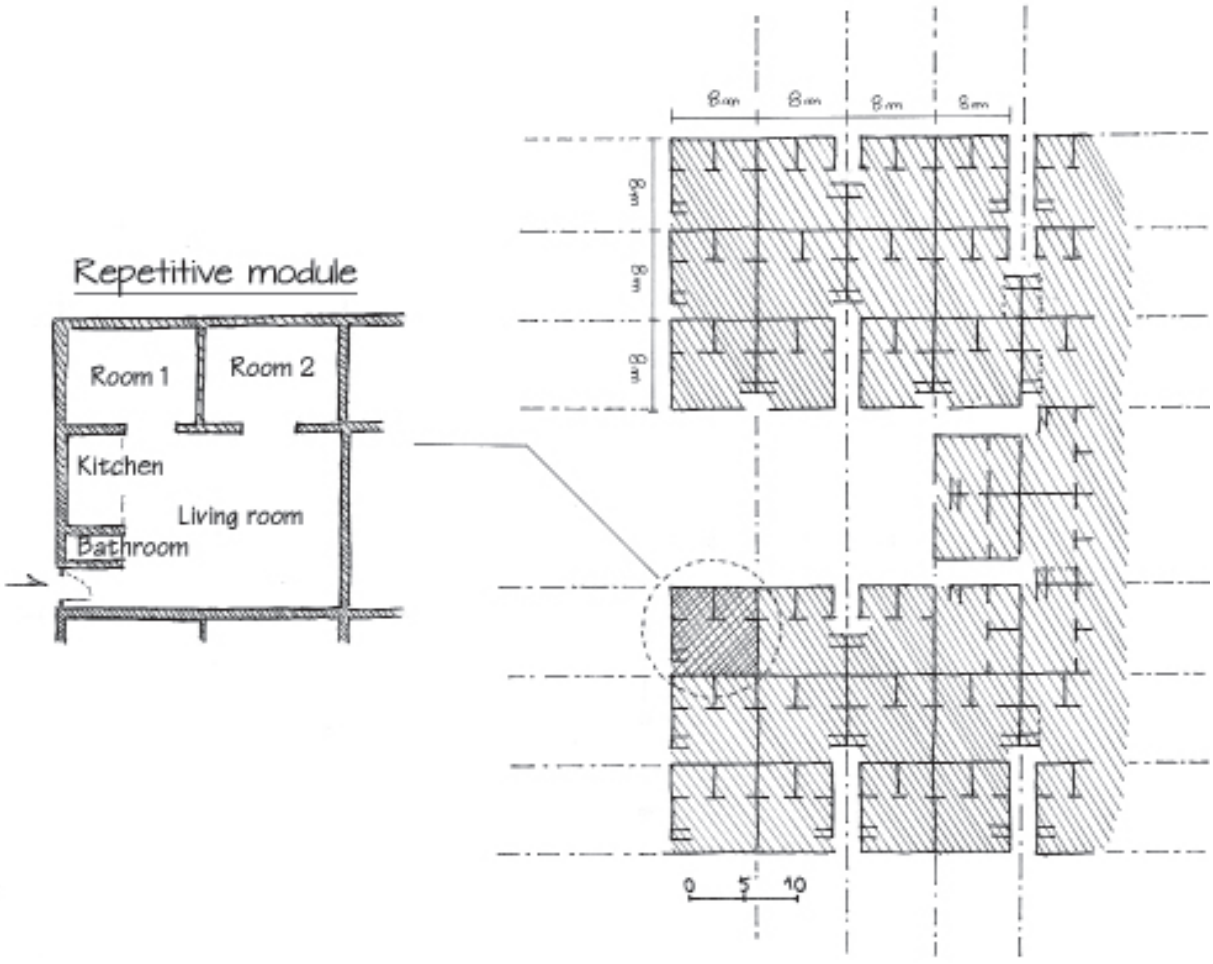
BELOW
Georges Candilis and Shadrach Woods, Nid d'Abeille (Beehive) block, Ain Chok, Casablanca, Morocco, 1952
A functionalist and modernist approach to local residential style, inspired by contextual elements.





LEFT
Development of the courtyard from horizontality to verticality
The exploration of the courtyard typology from empirical horizontal low-rise buildings to contemporary and modern vertical ones.

Since European colonialism was also about changing the cultural map of the Middle East, colonial architecture additionally served as a means of shifting the way of life of the native population, and particularly of the elite. This generated, for instance, a comprehensive adaptation of the functional programme of local residential style to espouse the spatial articulation of modern European housing. Michel Écochard, serving as head of the Service de l'Urbanisme (Urban Planning Department) under the French Protectorate in Morocco from 1946 to 1952, played a role in the latter: he led initiatives to contextualise the modernist and functionalist approach and to attract worldwide recognition for Moroccan housing, through the Congrès Internationaux d'Architecture Moderne (CIAM – founded by a group of European architects in 1928 to promote the principles of modernism). Écochard commissioned the Greek-French architect Georges Candilis and the American architect Shadrach Woods to design a residential complex in the Ain Chock area on the outskirts of Casablanca. The complex consisted of two blocks: the Nid d'Abeille (Beehive) block (1952) and the Sémiramis block (1953) – two examples of vertical housing with inner courtyards incorporated into all apartments. Candilis and Woods observed the architecture of local qasbahs (fortresses) in order to generate a contextualised European modern housing.



ABOVE
Michel Écochard, 8x8 Grid – Moroccan housing under the French Protectorate, 1940s
Evolutionary cellular housing with an internal courtyard.

Although this example of a housing project in North Africa was commissioned under colonial auspices, it represented the antithesis of the universal modernist tabula-rasa approach, and generated vehement criticism – even within CIAM itself – of CIAM's propaganda of standardising globally abstract modernist housing. Architects like Aldo van Eyck, Alison and Peter Smithson, Georges Candilis and Jacob Berend ('Jaap') Bakema, as key figures of the reformist group Team 10 (instigated in 1953), adopted this one example among others of contextualisation of modernism in order to bring CIAM to its end: the organisation was disbanded in 1959.

The Ain Chock example is highly relevant to the subject of this book: it illustrates how architects, whether local or foreign, have attempted to find an anchorage for their building designs in order to meet contextual requirements. It is also an example of the genuine interpretation of local architectural idioms in avant-gardist projects that has prepared the way for innovative solutions beyond mere abstract aestheticism. It shows how, when an exogenous architecture is brought to a territory, an architect can mould it to be contextual without falling into pastiche.

ABOVE
Hossein Amanat, Azadi Tower, Tehran, Iran, 1970
An expression of nationalism through architecture and urban planning.

Decolonising Architecture: Nation Building

The colonial period created several architectural and urban dichotomies, so as to reconcile European architectural antecedents and established local ones with two distinct philosophies. These dichotomies are key to assessing nationalistic attempts to decolonise architecture, as the latter was perceived as one of the most efficient tools for colonial pacification. The urban and architectural trends in most countries of the Middle East after they had achieved independence (Egypt in 1922, Syria in 1946, Libya in 1951, Morocco and Tunisia in 1956, Algeria in 1962) were demarcated according to how conservative or liberal architects were in dealing with the local architectural heritage vis-à-vis the colonial one.

Since architecture is a vehicle that reflects the societal image of a place, these independent states attempted to define themselves through emblematic national projects that resorted to local architectural and artisanal elements. From the 1930s onwards, national mosques, royal or presidential monuments, educational buildings, ministry headquarters and so forth were erected to symbolise the independent nation. Local and foreign architects met this requirement of the ruling system to create new local styles by applying artisanal ornamentation while adhering to the spirit of the time. This tendency was not about expanding the historical medina or duplicating its architectural styles around courtyards, but was more a question of following the colonial modern urban layout with exposed facades that formed a screen of all sorts of local artisanal decoration. With the exception of a few

successful projects, these buildings often lacked harmony in their proportions and promoted unprecedented pastiche because of the shortage of talented local architects who would merge the modern and the traditional through innovative designs.

However, the extensive architectural output of independent Middle Eastern countries fully promoted local human know-how. The ancestral craft of building was still a major asset that formed the backbone of all implemented architectural projects. This attracted attention from international architects willing to practise in this region, who would then often consider such unsurpassable local skill in their projects. A local workforce and local expertise in construction methods were frequently used for the execution of their buildings, in contrast with an entirely alien workforce or technology imported from elsewhere as in the case of some countries in the region.

Despite the decolonising attempts of architects who sought to offer an alternative architecture with a local imprint, most of the region's cities pursued the modernistic approach in their planning, and no genuine effort was made to consider, for instance, the elements of the existing living medinas. In addition,

BELOW
Abdelhak Fenjiro, Qasbah district, new town of Tamesna, Rabat, Morocco, 2004
A nostalgic model geared towards the consumer market.

the decolonising process of architecture often lacked a rigorous intellectual and empirical process to generate a contextual architecture that would compete with the fast-spreading internationalism.

On the other hand, these independent nation-states launched major conservation projects for the restoration and rehabilitation of important historical monuments and sites in order to perpetuate the local identity. These conservation projects were deemed as decolonising actions, even though their philosophies were imported and they did not have an anchored vision of how to sustain in particular the living medinas as centres of social, cultural and economic dynamism. Urban conservation geared towards the sustainable development of medinas continued apace until the 1980s.

However, the rich built heritage that represents different historical periods as well as cultural encounters situates the Middle East region among the most valuable heritage zones in the world. UNESCO's database of designated World Heritage Sites lists 76 sites in the Arab States, 15 in Turkey and 17 in Iran. These sites, ranging from historic buildings and archaeological remains to entire old cities, represent a rich portfolio of architectural experiences that this region has known. This makes the context of the Middle East far from an empty memory when it comes to designing new projects. In addition, this architectural richness engenders a kind of resistance to exogenous architecture.

The discourse of decolonisation is now outdated, as its practices did not issue in any alternative that might be valid functionally and aesthetically. In addition, a clear distinction should be made between colonial and modern architecture. Colonial architecture was about exporting superior European ideas to be transposed in the colonies in order to impose new urban and architectural systems. Modern architecture is more about the evolution of architecture around the global phenomenon of industrialisation, which seeks to internationalise means of design and construction. This was launched through CIAM by modernist architects who had no colonial agenda other than that of spreading their radical ideas of a new humanist and rational architecture.

After a decade or more of independence, and with the fall of nationalistic ideologies mainly in the Arab states, native architects pursued the modern schools of architecture with more a sense of context than the pursuit of a political stance of decolonisation. Therefore, the practice of architecture became regulated and responded to public and private commissions, following different masterplans of rather modern cities. With the postmodernist trend, these architects tried to reconcile their designs with the local context, but unfortunately this trend was very transient due to the rapid industrialisation and internationalisation of architecture. This initiated a new era of technological possibilities; and, due to the pressure on cities in terms of the housing crisis, the design process became weaker in all Middle Eastern countries – with the sole exception of the Gulf states, which started booming thanks to the boost provided to their economy by the exploitation of oil.

ARCHITECTURE OF DEVELOPMENT: AN URBAN AND HOUSING QUEST

Since the 1970s, several Middle Eastern governments – mainly Turkey, Iran, and those in the Levant region and North Africa – have launched major housing and infrastructure programmes in order to meet the needs of their growing urban populations. With their ongoing social issues, cities such as Cairo, Tunis, Algiers, Damascus, Istanbul, Tehran and Casablanca remain places of great economic and social disparities. These cities have faced a tremendous challenge to accommodate ever-increasing numbers of urban dwellers. Consequently, sprawling housing projects, built on a quantitative approach and totally standardised, have impacted cityscapes with monotonous ensembles of concrete boxes.

According to UN-Habitat, the greater Middle East had 16 cities with over 1 million inhabitants in 2000, 19 in 2005 and 24 in 2010. Currently, Istanbul, Tehran and Baghdad – neighbouring but distinct capital cities of three great Eastern civilisations – have a shared population of around 30 million. This rapid growth in Turkey, Iran and Iraq has engendered new urban forms, including large social housing compounds that have an immense impact on their image. Consequently, the 'ideal city' as planned by technocrats and politicians has succumbed to convergent developments.

Architecture within these powerful territories has been subject to an enduring nationalist ideology, as stated previously – from the powerful symbolism of the Turkish Republic's first president Mustafa Kemal Atatürk, to the Shah of Iran,

BELOW
Mass social housing in Casablanca, Morocco, 2001
Quantitative housing lacking minimum living conditions.

to Iraq's Saddam Hussein. This nationalism continues to affect government and public buildings in the Middle East and has had a tremendous impact on the image of its major cities. Among the different public institutions such as courts, hospitals, municipal authority headquarters, libraries and national banks, it is striking to see how neo-colonial styles have become intertwined with neoclassicism and Art Deco to assert an architectural language of power. In contrast, many contemporary projects in Istanbul, Tehran and Baghdad have been designed to weave into their city's urban fabric, which has evolved organically over the years.

Considering Iran and Iraq's position as oil producers, one can speculate that the future of their cityscapes may also include super-tall towers and megaprojects. These developments would certainly jeopardise the human scale of their authentic urban fabrics. Therefore, development in the Middle East means one of two things: either that of oil-rich places with super-fast and high construction to meet a global image; or that of non-oil places with rapid social development to meet the challenges of a fast-growing population of urban poor.

In the first case, architecture is evolving faster and higher, and in the second architecture has succumbed to a response consisting of social housing that has overwhelmed all Middle Eastern cityscapes in non-oil countries with jungles of concrete devoid of any sense of humanity. The latter has been and will continue to be the major source of social turmoil, as it lacks the resources to cater for basic human needs. With little consideration of either architecture or urbanism, these large housing projects often cover almost 30 per cent of a city's fabric through rapid mushrooming extensions fully governed by an informal building market.

CONTEMPORARY ARCHITECTURE: FASTER AND HIGHER

Since the 1990s, architectural production in the Middle East has shifted from heritage preservation, social housing, governmental buildings and hotels to mega 'theme parks', super-tall towers and artificial islands. New categories of architectural and urban projects have been taking shape mainly in the Gulf countries, where new urban centres have emerged as modern metropolises in the Arabian Desert.

Global architecture and engineering firms have contributed to erecting these new centres, producing a broad range of typologies. The super-tall tower has become the most distinctive feature of many Gulf cities, designed and engineered to accommodate the region's desire for fast iconic forms that will be recognisable worldwide. Thirty-nine super-tall buildings (defined as over 300 metres (980 feet)) and over 480 skyscrapers have been designed, built, or are in the process of being constructed in the region. Fierce competition to have the tallest structure has erupted among the Gulf states: both Saudi Arabia and Kuwait have plans for towers over 1,000 metres (3,280 feet) tall, which, when completed, will dwarf the much-publicised Burj Khalifa (at 830 metres (2,300 feet)).

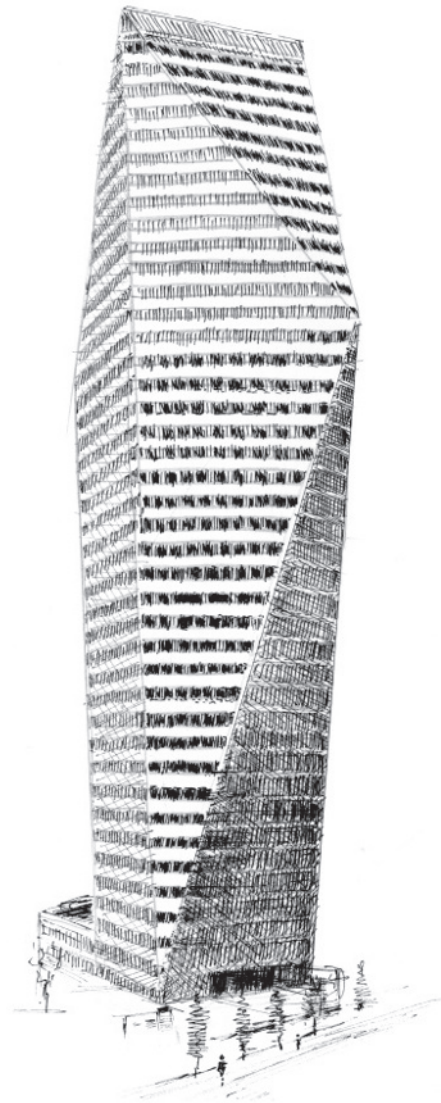
BELOW
Mohamed Ali Abdullah, renovated local market of Souq Waqif, Doha, Qatar, 2006
An example of heritage reconstruction in order to re-create a community and its open-air public life.

Accordingly, massive construction in the Gulf has come at the cost of the region's built heritage and environment. Subsequently, significant sites – such as Qatar's historic market building, the Souq Waqif – have been rehabilitated, and stand as examples of the recent trend to conserve cultural heritage and also to bridge the gap of time and place. This means the development process is very fast, and the sense of place and identity is under threat. The urge to reconstruct heritage is noticeable by the number of projects attempting to revive the memory of Gulf cities, to avoid losing forever the sense of belonging and context among the new generations.

Many clients in the Gulf states have likewise demanded the application of historical ornamentation and local styles in contemporary buildings. The success of such designs has been dependent on the knowledge and skill of the architect and has in some cases been received by the local community as pastiche rather than authentic designs. Several local and international architecture practices have attempted to contextualise their architectural design by borrowing antecedents common to Middle Eastern architecture: Saraya Bandar Jissah Resort in Muscat, Iran (by Dubai-based firm Godwin Austen Johnson (GAJ), 2016); Abu Dhabi Airport (by New York-based Kohn Pedersen Fox Associates (KPF), under construction); and King Abdullah Financial District Mosque in Riyadh (by New York-based FXFOWLE Architects, 2008) – to name but a few.

The rapid urbanisation of the Gulf states has an additional consequence: the region's alarming environmental status, one of the highest per-capita carbon footprints in the world. In view of this, Saudi Arabia, Qatar and the United Arab Emirates have made significant investments in renewable and alternative energy in recent years and are seeking ways to increase the efficiency of their cities' buildings. However, these undertakings remain limited vis-à-vis the amount of construction that generates the most energy-consuming buildings on the planet. This will be further elucidated in chapters 2 and 4 of this volume, so as to display the shortcomings of designing unconsciously when it comes to energy efficiency as well as social and cultural sustainability.

BELOW
Pei Cobb Freed & Partners, Soyak Crystal Tower, Istanbul, Turkey, 2015
An example of the Gulf states' influence on other countries where fast-built, high-rise urbanism is concerned. The headquarters building of the National Bank of Greece, the tower has 35 storeys and is 170 metres (560 feet) tall.



CONCLUSION

The rich tradition of building in the Middle East, in a semi-arid environment where sunlight is predominant, has helped to advance human know-how in terms of making cities and civilisations. This region was and still is a terrain for continuous innovation, and contemporary architectural and urban production is no exception. An understanding of this dynamic architectural continuum through time and place is essential to avoid the narrowness of pursuing tailored styles such as that of Islamic or Arabic Architecture as a set of sterile copy-and-paste forms. It was an embracing of all inputs – even colonial or extraneous ones – that initiated the transition to modernisation. How foreign and local architects have attempted to reconcile East and West through architecture, and to interpret local forms in order to generate contemporary vocabularies, is indeed inspiring.

The current conflict in the region and recent destruction of sites of rich multicultural memories, such as Palmyra and Dur-Sharrukin, are proof that the region is suffering from significant cultural and social decline. This decline hinders the embracing of the culture of diversity and plurality that once generated the rich portfolio of artistic, architectural and urban forms and typologies, as demonstrated in this chapter.

The discourse of decolonisation is outdated, and likewise its counterpart nationalism with its alien architecture of empty aesthetics. All succumbed to new universal design developments. Consequently, the region is currently caught between the super-fast, super-tall architecture of the oil-rich places to meet the desire for a global image, and the social architecture of the rest of the region that is struggling to meet the needs of a fast-growing poor urban population. The question is, how can this dichotomy be grasped so as to open up new avenues for designing in the region with more genuine contextual elements? And how can context be deconstructed to deduce practical triggers for creative design? These questions will be addressed in the following chapters of this book.

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