

# Muslim Educational Trust Center

Architectural Precedence

April 29, 2011

MET's mission is to enrich the public's understanding of Islam and dispel common myths and stereotypes, while serving the Muslim community's educational, social and spiritual needs in order to develop generations of proud and committed Muslims who will lead our community to the forefront of bridge-building dialogue, faith-based community service and stewardship of Earth and humanity.





# MET Goals

Aga Khan Award Winning Project

Expressive of Muslim Culture

Place of Learning

Welcoming to the Broader Community

# Influences

Islamic Architecture

Regionalism



Sarvestan Palace

# Historical Context

The concept of **Unity** in multiplicity is the determining factor in integrating Islamic societies.

Historically the revelation of Islam as expressed by the prophet Mohammed and the Holy Koran

brought together the most diverse cultures and peoples from Spain across to India and beyond. The

**architecture of the Islamic world** throughout history **adapted and**

**responded to different cultures** and existing traditions of buildings without

weakening the **spiritual essence** which was its source of inspiration.

Urban centers in Islamic cities evolved over long periods of time with generations of craftsmen

whose sensitivity and experience added variety and a diversity of styles to the environment.

The traditional Islamic city reflected a unity which related the architecture of the mosque, the

madrassa , the souq, palace and the home as a sequence of spaces... The identity of the city lay

in the **relationship of its elements**. These relationships were generated by the

**harmonizing of the community** with the forces acting on it, that enabled the

interaction of cultures, building methods and methods to evolve an Islamic identity in the same way

a language maintains its own identity even when it absorbs outside words.

- Garry Martin in the essay "Building in the Middle East Today -- in Search of a Direction



The **great**  
**mosques** of Cordoba,

Edirne and Shah Jahan each used

**local** geometry, local  
materials, local building  
methods to express in their

own ways the order, harmony  
and unity of Islamic architecture.

When the major monuments of  
Islamic architecture are examined,

they reveal complex geometrical  
relationships, a studied hierarchy  
of form and ornament, and great  
depths of symbolic meaning.

- Garry Martin in the essay

“Building in the Middle East Today

-- in Search of a Direction



mosque **Edirne**



mosque **Shah Jahan**



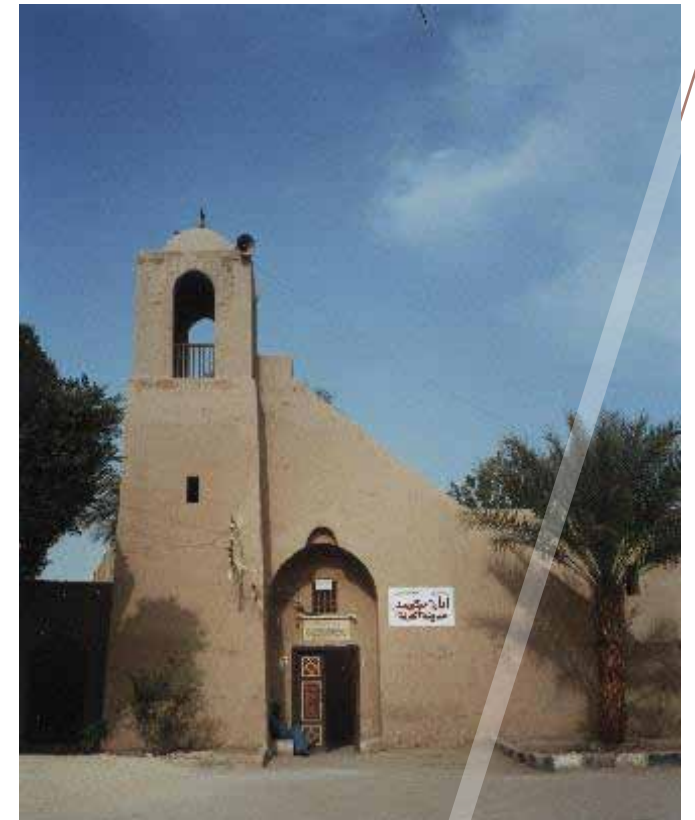
mosque **Cordoba**



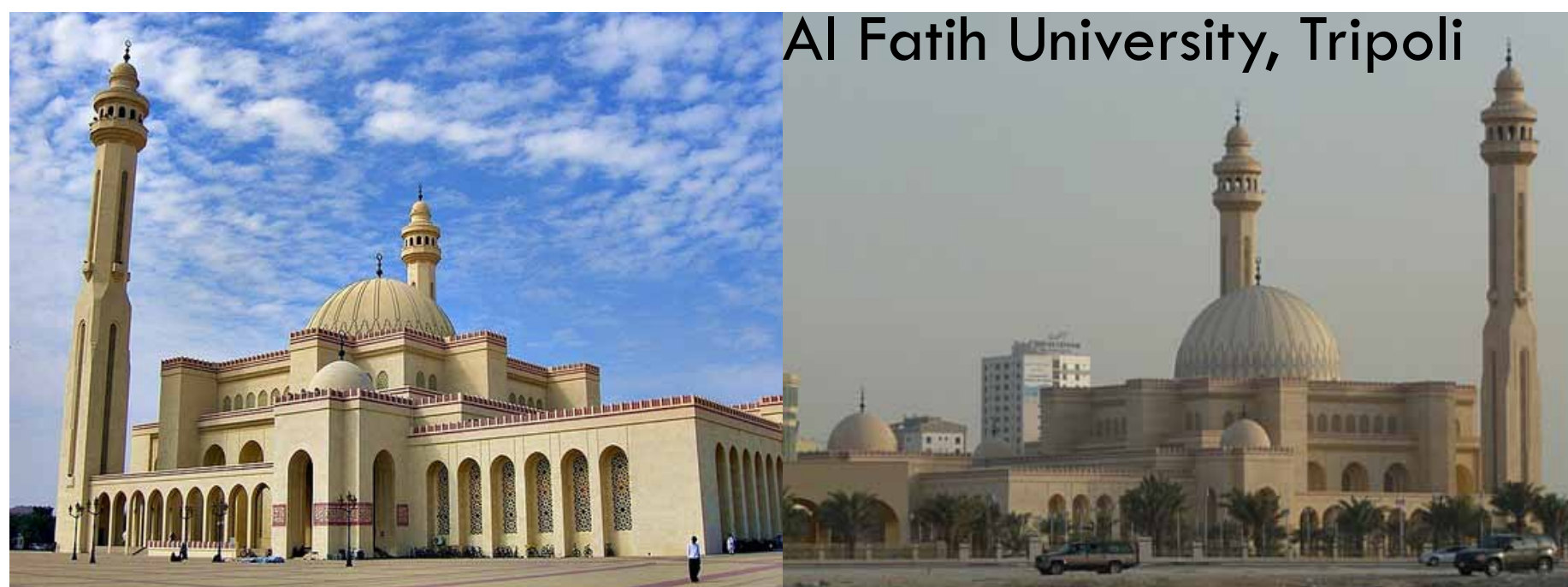


# Fat'hy, Hassan

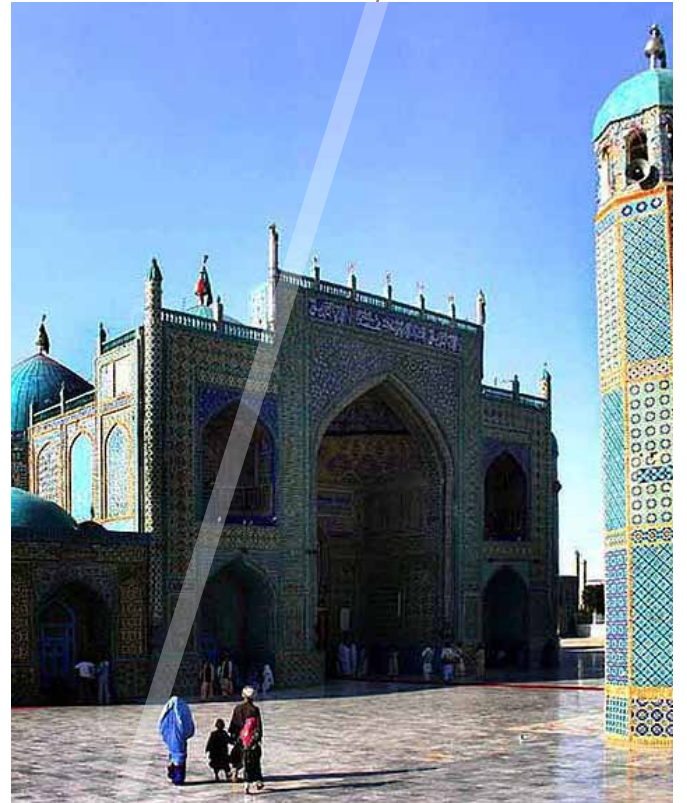
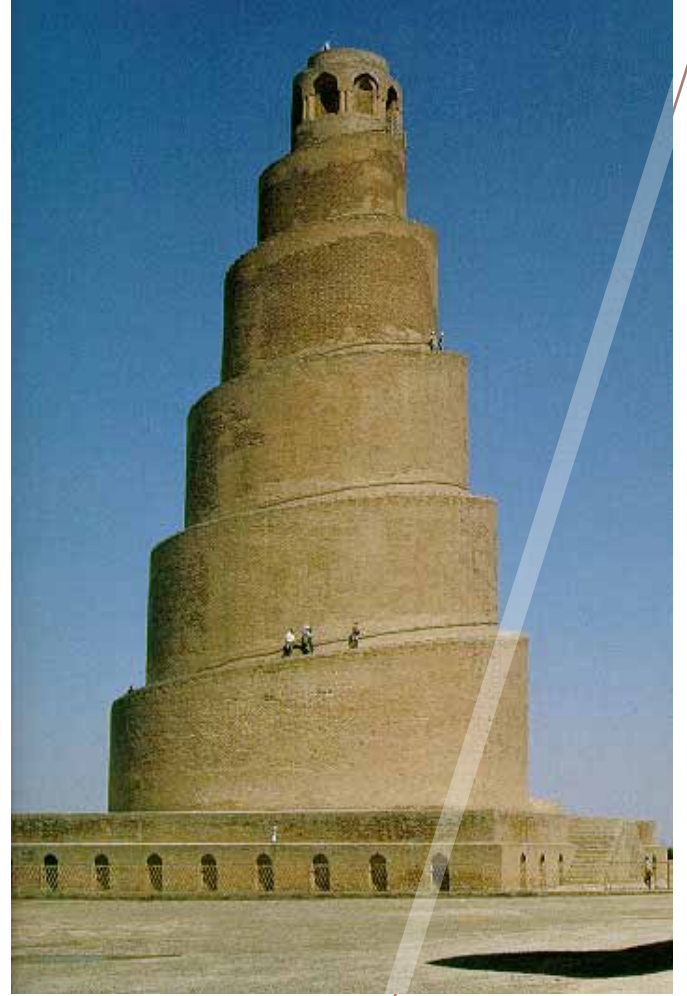
Hassan Fat'hy's major contribution is essentially a **profound humanism** that transcends the forms and methods of his buildings and opens up broad avenues of awareness in the Muslim world today. The true contributions of Fat'hy are not just the quaint mud brick structures he built with such elegance and refinement but ideas -- the idea of empowering the disenfranchised to express themselves with the architect as catalyst for the refining of local sensibility; the idea of **rooting architectural expression in local and regional contexts** to ensure both relevance and authenticity; the idea of **using rational, scientific methods to accept or reject elements of both the old and the new**; and the idea of the architect as a decoder of a past legacy and the articulator of a new, symbolically charged environment. - Islamic Arts and Architecture (IAAO)









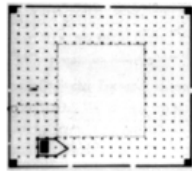
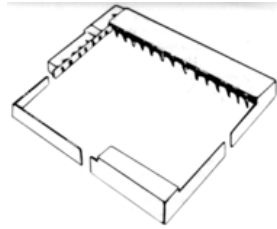




# History of the Mosque

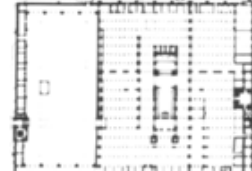
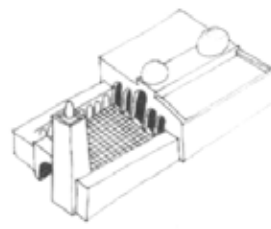
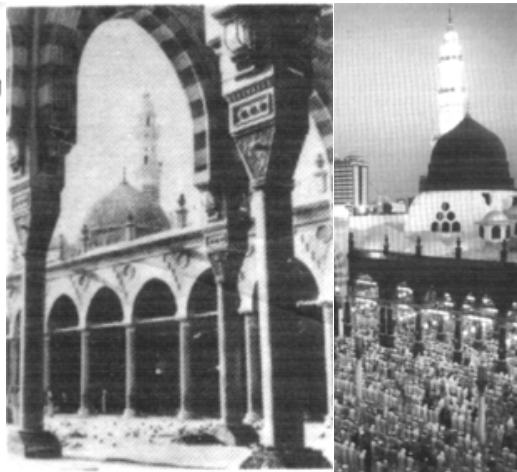
Dr. Mohamad Tajuddin Mohamad Rasdi, Mosque Architecture in Malaysia: Classification of Styles and Possible Influence

Mosque architecture tends to be organic and **evolutionary** in nature and thus, the exterior form of a mosque may continue to change over time. This sheds a bit of light on the unbalanced or seemingly inconsistent forms mosques have taken throughout regions and history.



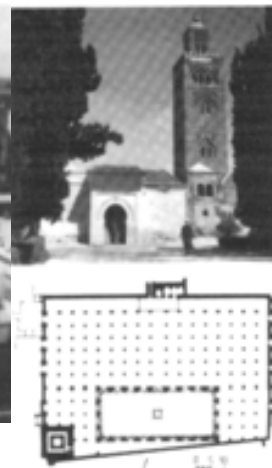
## Medina

The earliest reconstruction of the idea of the mosque in Medina shows a rectangular building of **adobe mud construction** that has four walls with two opposite roof sections. This typology was religiously adhered to by many of the latter day mosques but there is no religious evidence concerning the sanctity of the form.



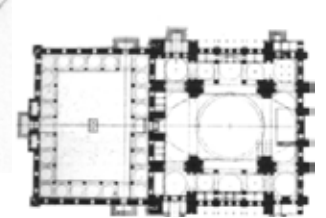
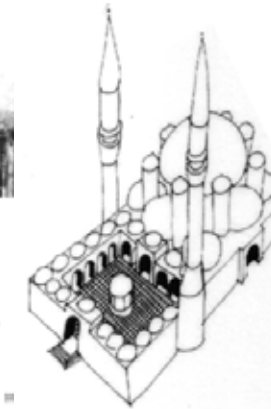
## Hypostyle

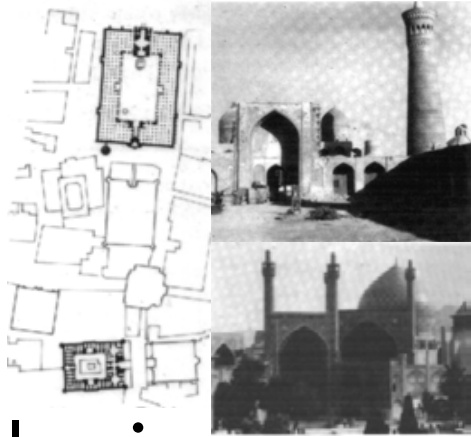
The Arabian, Spain and North African typology took on the most imitative form of a hypostyle flat roof with the **occasional small domes** roofing the mihrab and entrance. This typology also comes with a perimeter sahn that forms a linkage around the whole mosque form. The term 'hypostyle' is used to describe a room with a forest of columns similar to that of the Egyptian temples of old. Most of the mosque in this typology would have a **single massive minaret** whilst the early Prophet's mosque was without one.



## Ottoman

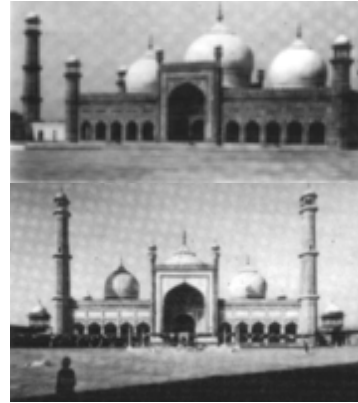
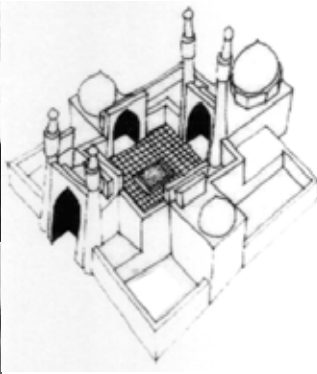
The **prominent use of domes** came with the Ottoman and Central Asian type mosques that has precedence in the central domed Churches of the Roman Catholic world. This typology carries one or usually many **minarets of the most slender proportion**. The main prayer space is crowned by a **huge semi circular dome** with half domes on its sides to counter the huge thrust of the spanning system. This mosque typology would also feature the perimeter sahn covered with many small domes.





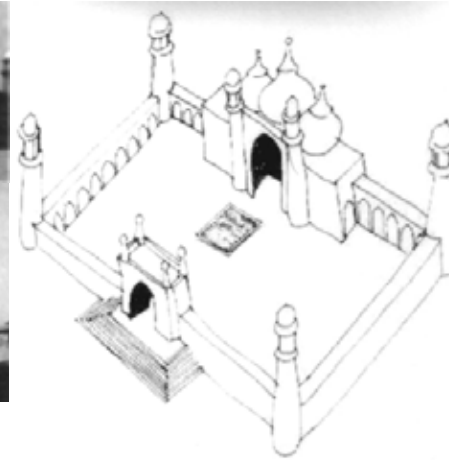
## Iranian

The Iranian typology introduces the massive **iwan gateways** from the sahn entrance and the entrance gateway to the great hall. Since many of the mosques in this region are also used as madrasa and other facilities, it is common to find three massive iwan gateways opening from the inner courtyard into specific spaces. These mosques are covered by the **pointed domes** that rises vertically and turn sharply to the apex. The arches and domes seem to be **reminiscent of the Gothic pointed arch system**.



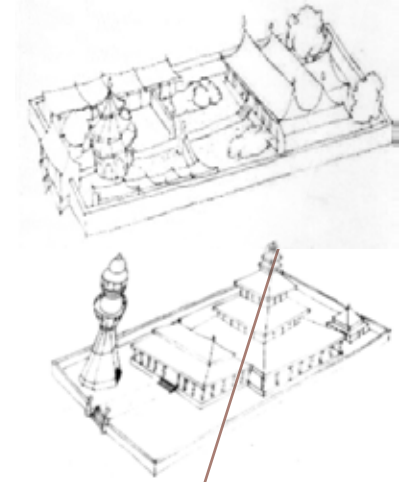
## Indian

The Indian subcontinent usually model its mosques after that of the Iranian with **huge gateways** but it is the Indian mosques are distinguishable in its preference for the **bulbous onion domes and arches**. Another feature of interest is its generous courtyard space with the usual sahn.



## Chinese

The Chinese mosque typology takes after the house, temple and palace form. The whole complex is walled and there is a series of inner courtyards serving as the outdoor spaces with **gable roof** structures of timber as the walls of the building. The Nusantara typology found in the **South East Asian region** presents a similar set up with the exception that it uses the **pyramidal** two tiered or three **tiered roof**. Mosque of the early mosques do not possess a minaret but that architectural element appeared a few decades later.





## KAFD Mosque

Riyadh

The mosque is distinctly contemporary, with an angular form replacing the traditional dome. Simplicity was key to the design of the mosque.







# Penzberg Mosque

Germany

The Penzberg mosque is recognized for its magnificent architecture as well as educational, cultural and social activities.



# Conclusions on Islamic Architecture

Dr. Mohamad Tajuddin Mohamad Rasdi, *Mosque Architecture in Malaysia: Classification of Styles and Possible Influence*

One glaring conclusion is that the idea of a definitive 'Islamic Architecture' vocabulary leaves much to be desired since there does not seem to be a preference for any one particular style that is repeated. The advocates of Middle Eastern revivalism must admit that though Islam may have been given birth there, that fact is in no way a strong support for the style's monopoly over Islam. If anything, one can conclude that **Islam allows the variety in architectural language** because of its principle religious tenets that is beyond racism or parochialism. The varied style is a testament to the **adaptability** of Islam to the various cultures and belief system that does not contradict its main focus of worshipping one God.

Another conclusion that can be drawn is that almost all of the style are in one way or another imitative of outside influences where Islam had flourished and had become a strong political force. For instance, the use of the pyramidal roof form may be construed as the imitation of Javanese mosques where Islam had become a strong political force. The use of the North Indian style again testifies to the revolutionary spirits of Islam in that region that ultimately led it to the setting up of the Islamic republic of Pakistan. The Iranian and Egyptian architectural preference in contemporary state mosques are symbols of the success of Islam as an awakening force in the two countries. The **Modernistic** Structuralist style **does not seem to possess** whatever **political agenda** other than a mere whimsical play of new toys as in the space frames and tent structures. However the wall less Al-Syahidin Mosque is a brave attempt of reinterpreting the idea of the mosque in its basic and pristine form...that of a temporary shelter in this world.



# Elements

Use of arches, corbels, and arcades are common in historic. They were needed in order for structures to span a space while supporting weight

**Arch**

Use of impressive forms such as large domes, towering minarets, and large courtyards are intended to convey power.

**Dome**

Minarets were originally used as torch-lit watchtowers, as seen in the Great Mosque of Damascus; hence the derivation of the word from the Arabic nur, meaning “light”.

**Minaret**

Human and animal forms are rarely depicted in decorative art as Allah’s work is matchless. Foliage is a frequent motif but typically stylized or simplified for the same reason.

**Arabesque**

The concept of Allah’s infinite power is evoked by designs with repeating themes which suggest infinity.

**Geometric Pattern**

Calligraphy is used to enhance the interior of a building by providing quotations from the Qur’an.

**Calligraphy**

In Islamic architecture, light functions decoratively by modifying other elements or by originating patterns.

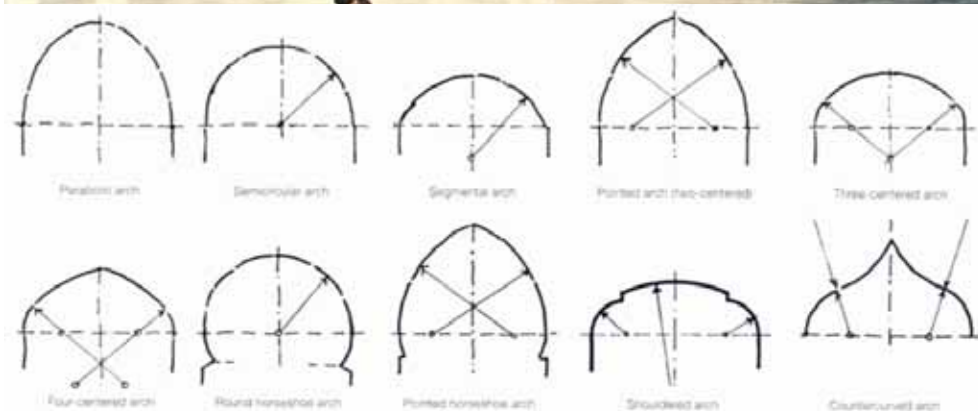
**Light**

# Arch



Most articles and books on Islamic architecture do not mention arches as a characteristic of Islamic Architecture. Arches are seen throughout Arab architecture, generally due to the ability of the form to create large openings in mass walls or support floors and roofs on column. Arches appeared as early as the 2nd millennium BC in Mesopotamian brick architecture and their systematic use started with the Ancient Romans who were the first to apply the technique to a wide range of structures.

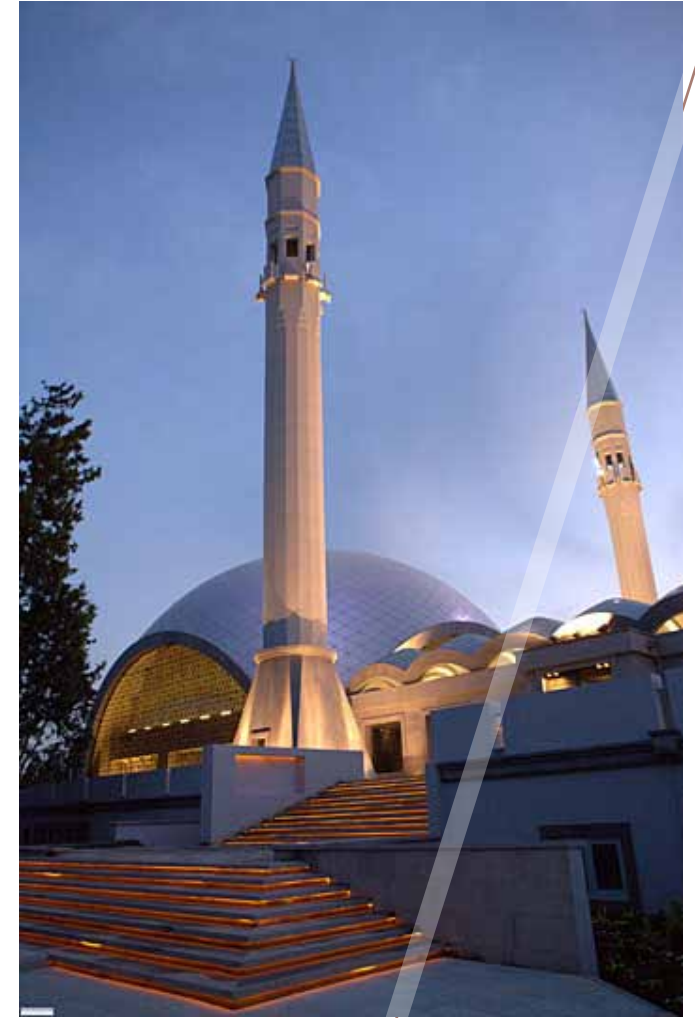
An iwan is defined as a vaulted hall or space, walled on three sides, with one end entirely open. The formal gateway to the iwan is called pishtaq, a Persian term for a portal projecting from the facade of a building, usually decorated with calligraphy bands, glazed tile work, and geometric designs. The style represents a borrowing from pre-Islamic Iranian architecture and has been used almost exclusively for mosques in Iran.





# Dome

A dome is a structural element of architecture that resembles the hollow upper half of a sphere. Dome structures made of various materials have a long architectural lineage extending into prehistory. Construction of domes in the Muslim world reached its peak during the 16th – 18th centuries, when the Ottoman, Safavid and Mughal Empires, ruling an area of the World comprising North Africa, the Middle East and South- and Central Asia, applied lofty domes to their religious buildings to create a sense of heavenly transcendence. Persian Sassanid architecture likely inherited an architectural tradition of dome-building dating back to the earliest Mesopotamian domes. In general, the dome had also become associated with celestial and cosmic significance, as evident from decoration such as stars and celestial chariots on the ceilings of domed tombs. This cosmological thinking was not limited to domed ceilings, being part of a symbolic association between any house, tomb, or sanctuary and the universe as a whole, but it popularized the use of the domical shape.







# Minaret

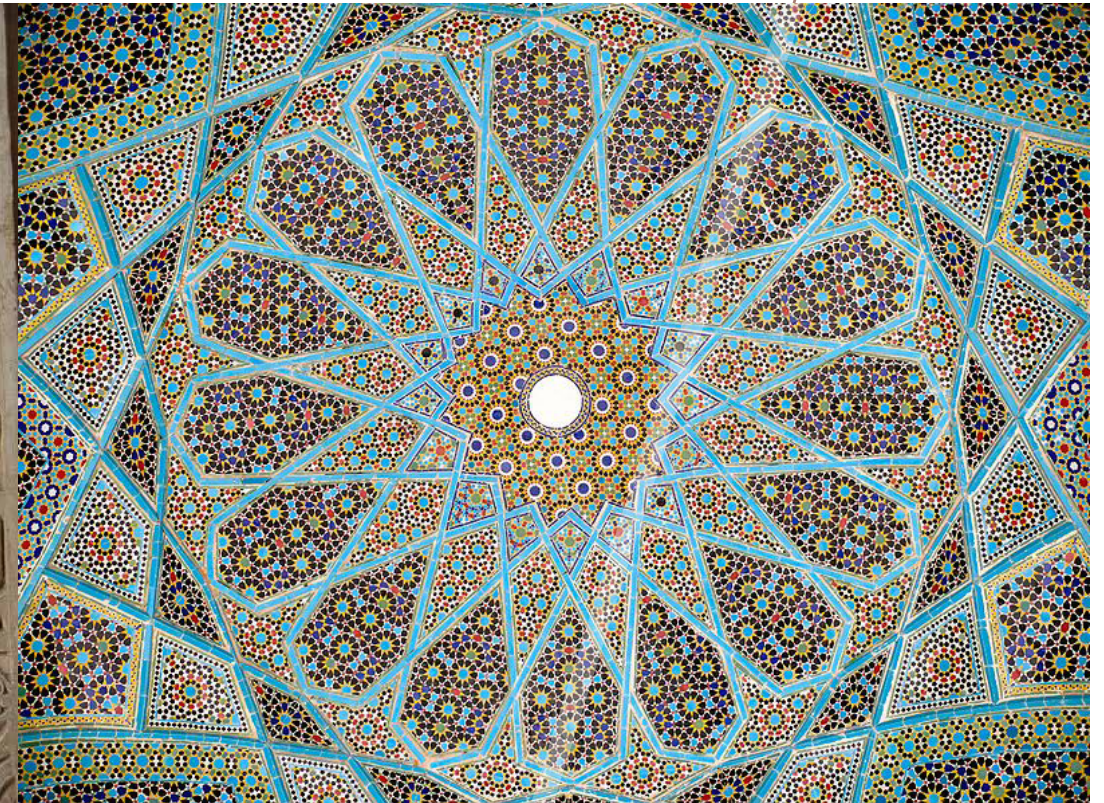
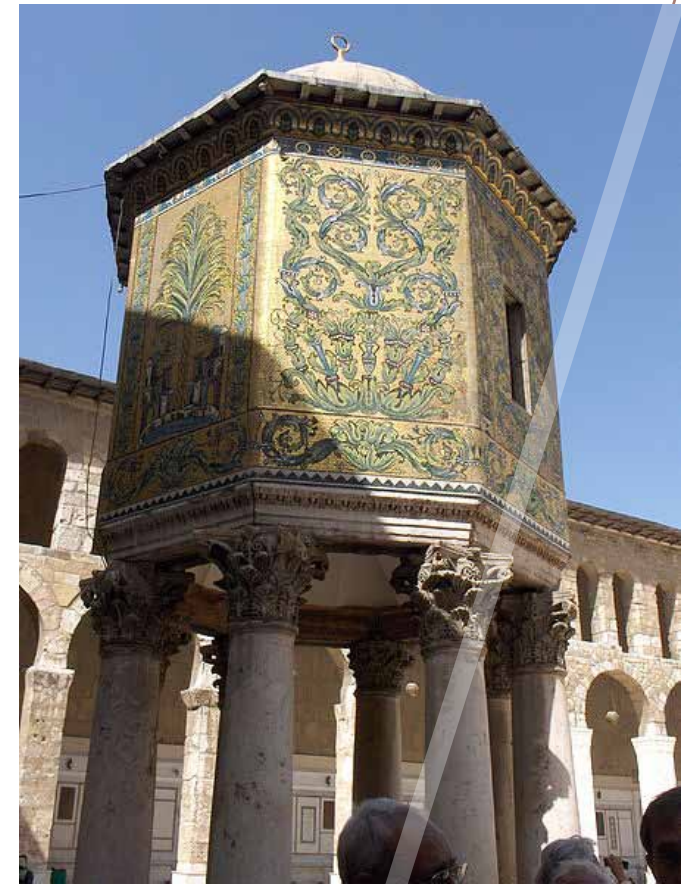
As well as providing a visual cue to a Muslim community, the main function of the minaret is to provide a vantage point from which the call to prayer is made. Minarets also function as air conditioning mechanisms: as the sun heats the dome, air is drawn in through open windows then up and out of the minaret, thereby providing natural ventilation. The first mosque to have had towers is the Great Mosque of Damascus, erected early in the eighth century, which had relatively short, square towers. These structures, however, were left over from the building's earlier incarnation as the enclosure surrounding the Roman temple to Jupiter that once stood on the site. There is no typical minaret form, they range from short and stout to tall and skinny and are square or cylindrical or a combination. The minaret are frequently ornamented; this can include a variety of geometric patterns, decorative brickwork, stucco, terra cotta.





# Arabesque

The arabesque is a form of artistic decoration consisting of “surface decorations based on rhythmic linear patterns of scrolling and interlacing foliage, tendrils” or plain lines, often combined with other elements. Arabesques are a fundamental element of Islamic art but they develop what was already a long tradition by the coming of Islam. To many in the Islamic world, they concretely symbolize the infinite, and therefore uncentralized, nature of the creation of the one God (Allah). Furthermore, the Islamic Arabesque artist conveys a spirituality without the iconography of Christian art. Geometric interlacing patterns are a subcategory of Islamic pattern and ornament. They can be considered a particular type of arabesque which developed from the rich interlace patterning of the Byzantine Empire, and Coptic art.

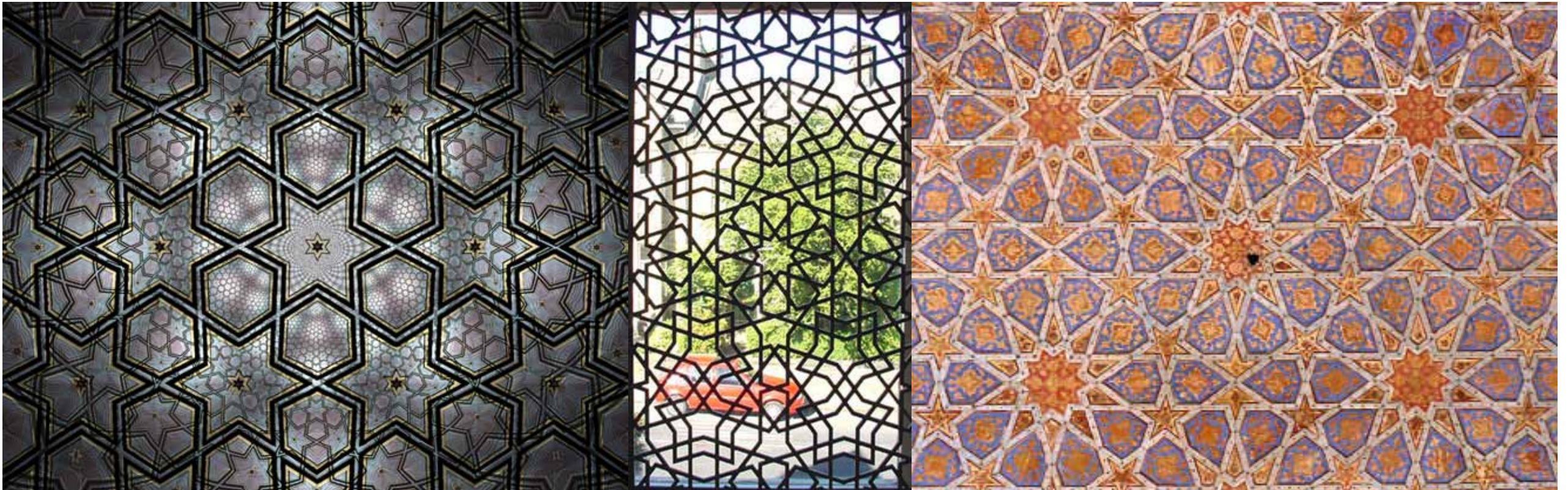




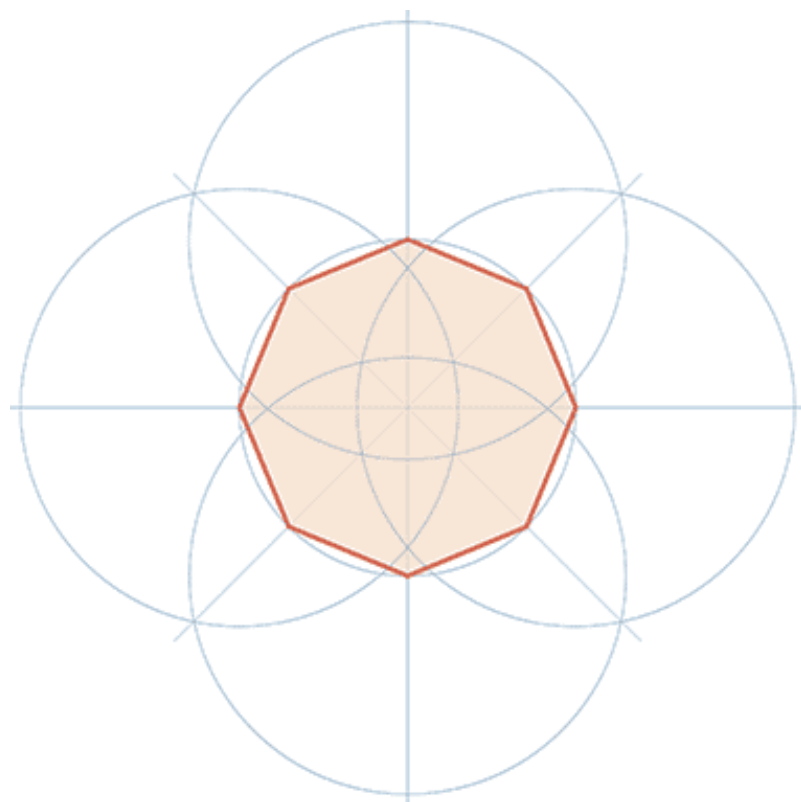


# Geometric Pattern

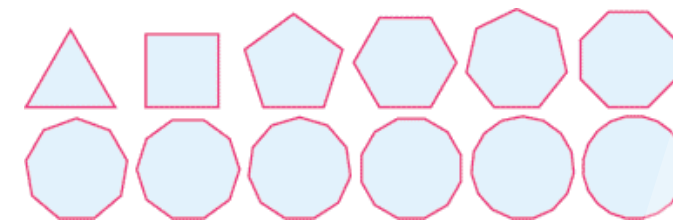
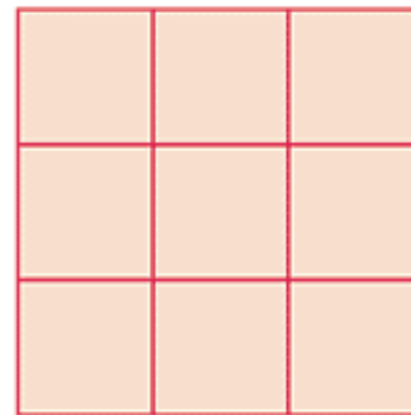
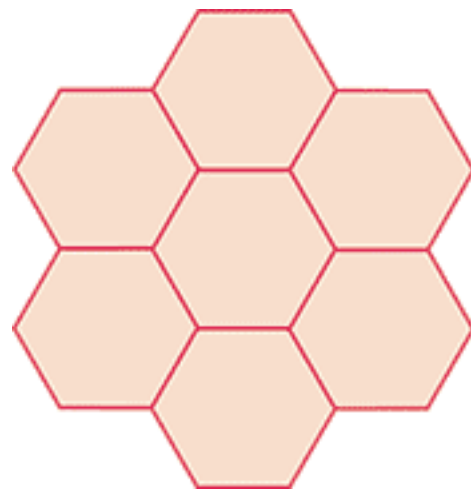
Islamic decoration makes great use of geometric patterns which have developed over the centuries. The geometric designs have evolved into beautiful and highly complex patterns, still used in many modern day settings. The square and rectangle play a significant role in Islamic architecture. Some of the reason for this is façades built from rectangular bricks. This ornamental brickwork casts shadows in the strong desert sunlight and creates a three-dimensional effect. A recurring motif is a small central square turned 45 degrees within a larger square. Another source for the square motif is woven baskets. Arabic geometry tend to have a significant degree of regularity in their use. The structures underlie much, if not all Islamic patterns, sometimes may not be immediately discernible. For many, one of the great achievements of Islamic design is the manner in which the geometries or underlying patterns are subservient and not immediately apparent.



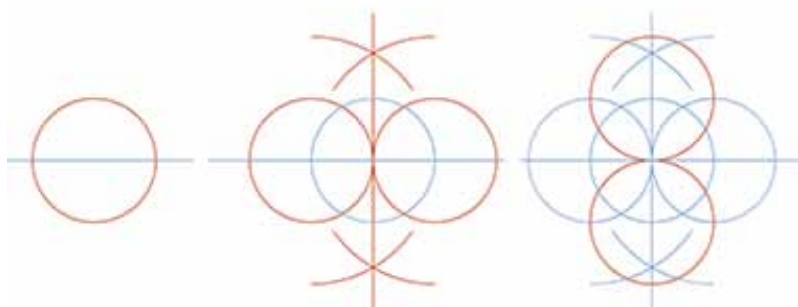




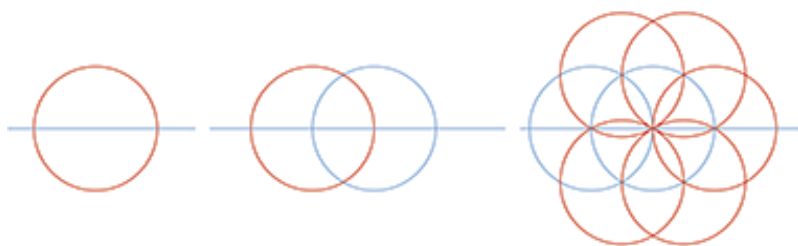
Six point geometry construction



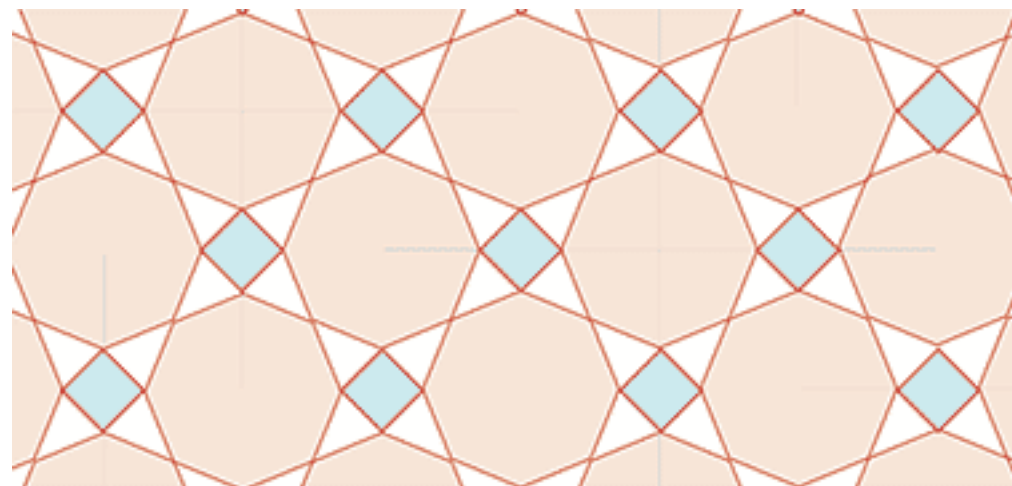
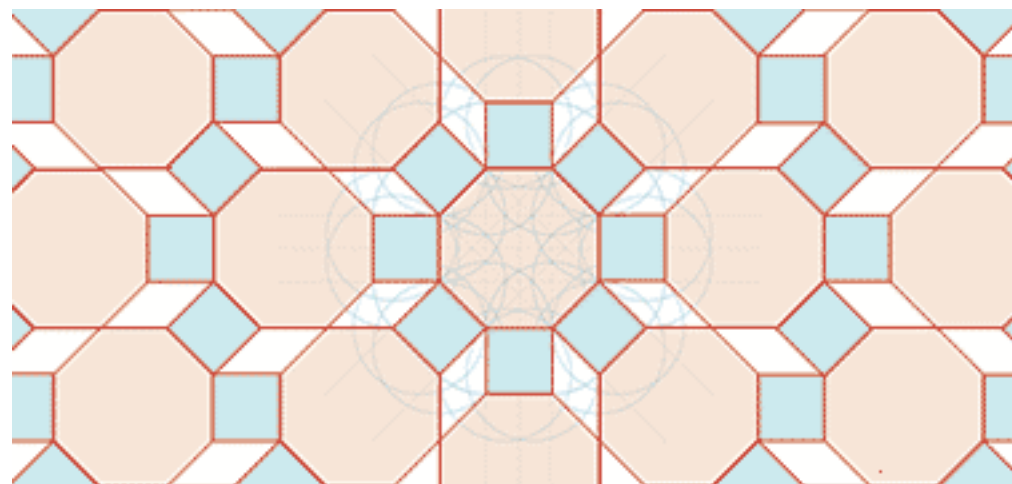
Rarely in Islamic geometric design is the circle apparent as such. There appear to be circles in many of the designs, and approximations of the circle can be seen in geometric patterns, but these circles are formed from the straight sides of polygons.



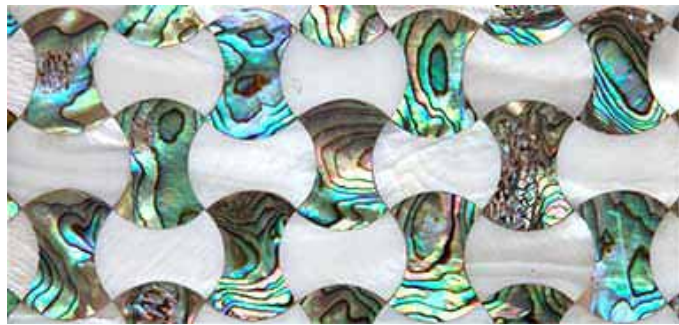
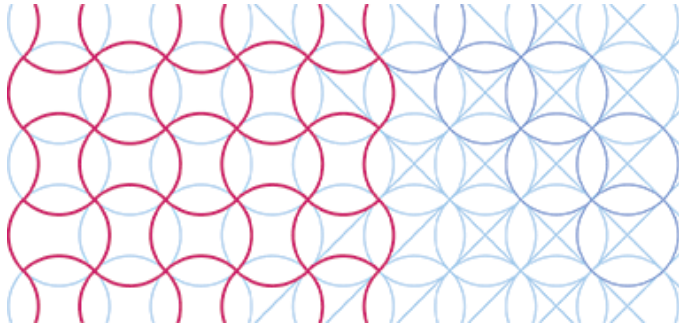
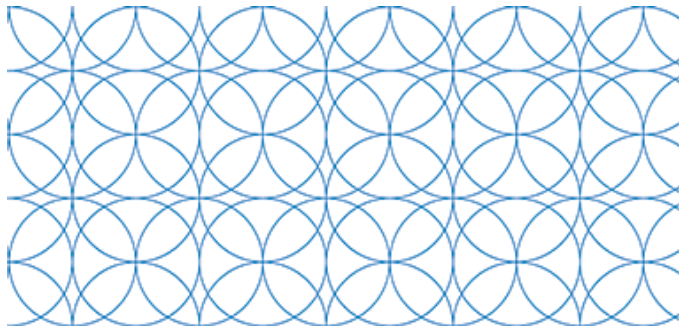
Six point geometry construction



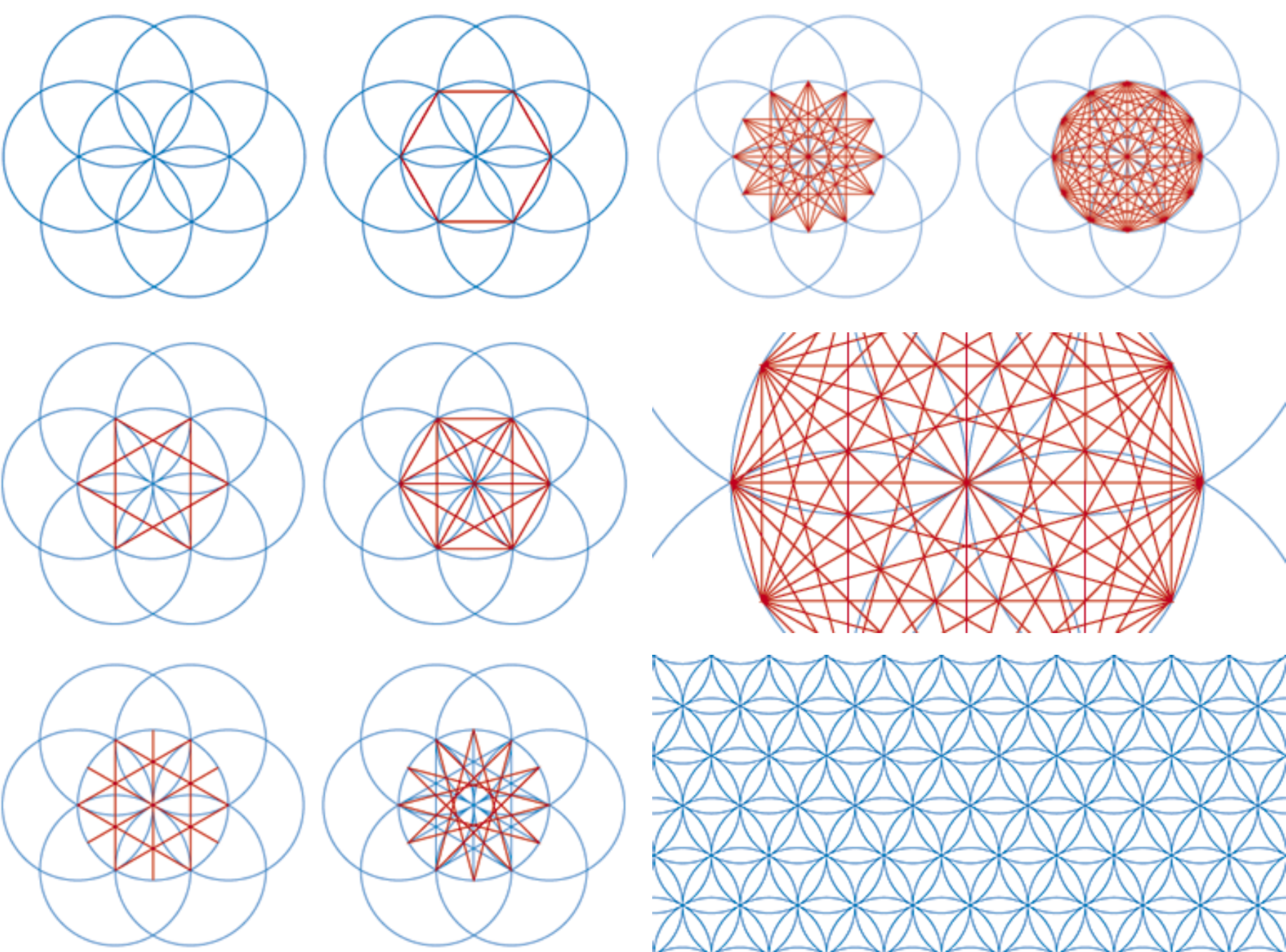
Four point geometry construction



Eight point geometry

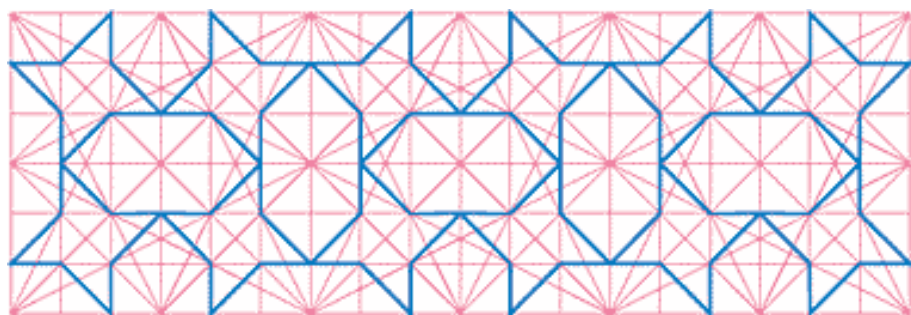
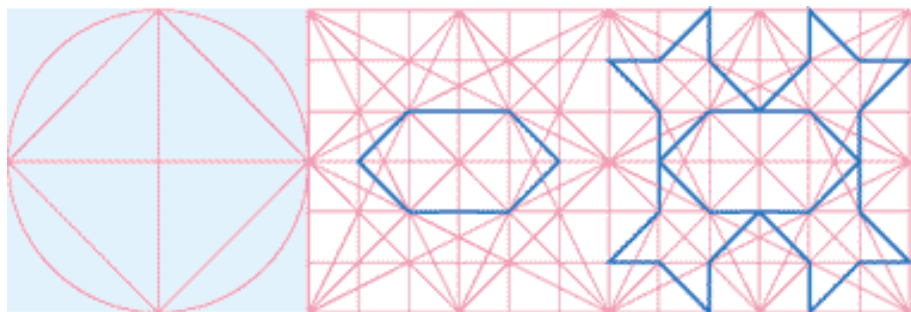
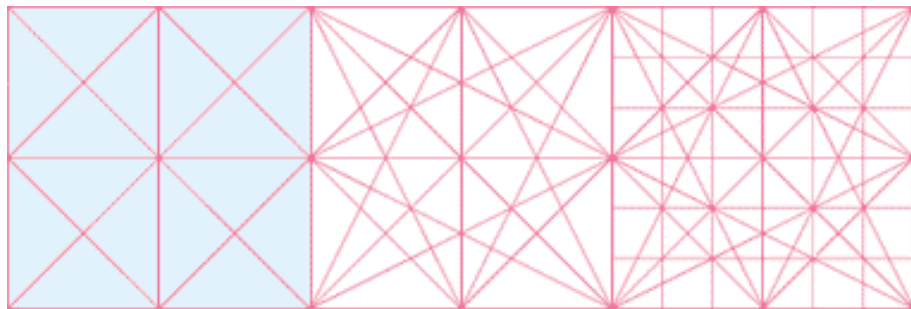
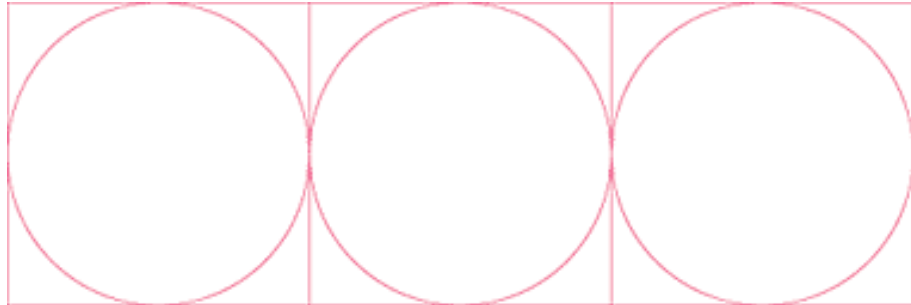
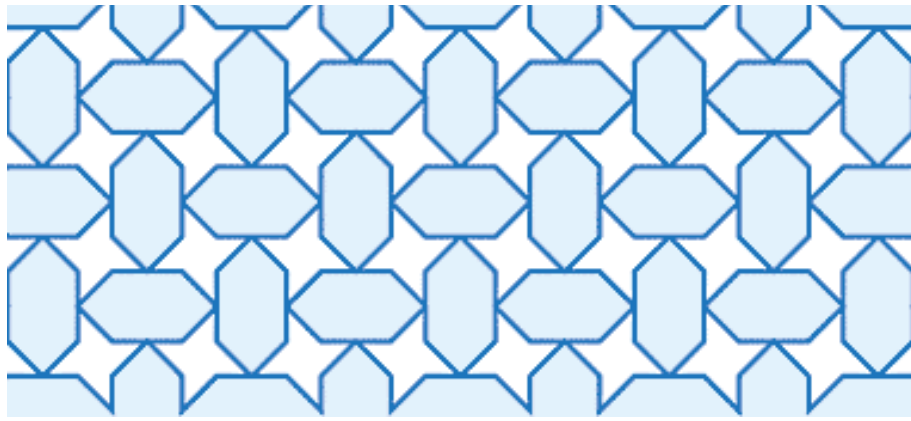


Basic grid based on the four point geometry

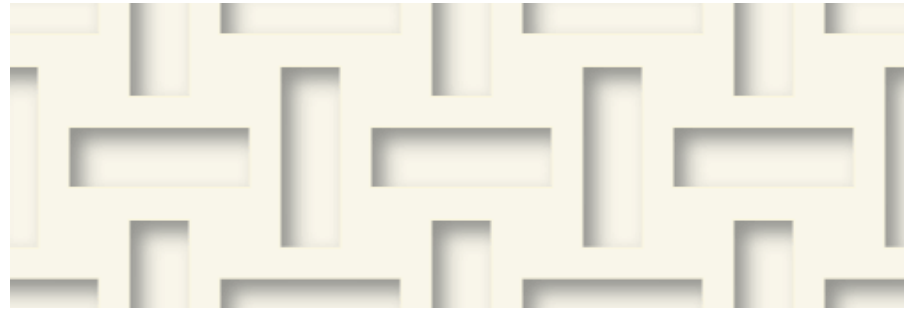
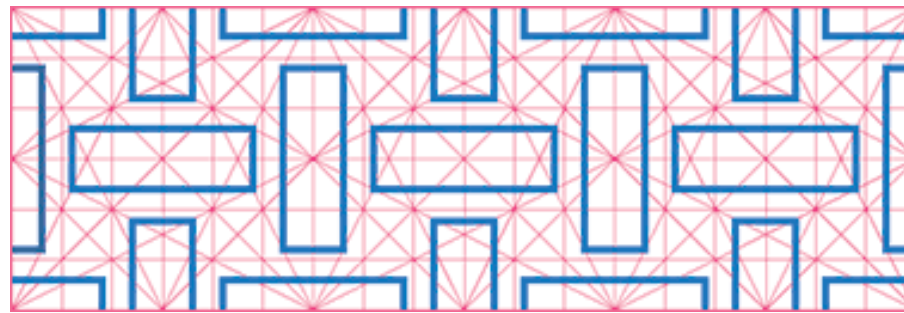
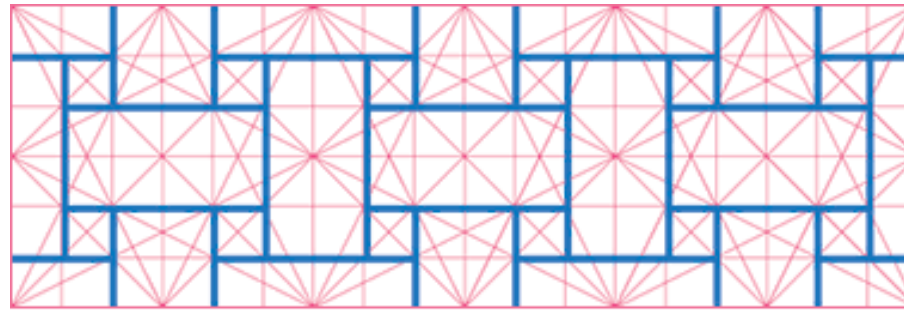


Basic seven-circle rose from the six-point geometry construction





Lozenge shape that repeats infinitely in two directions. The pattern is based on, or derived from, a square.



Same geometric construction as the lozenges above, but the pattern is orthogonal.

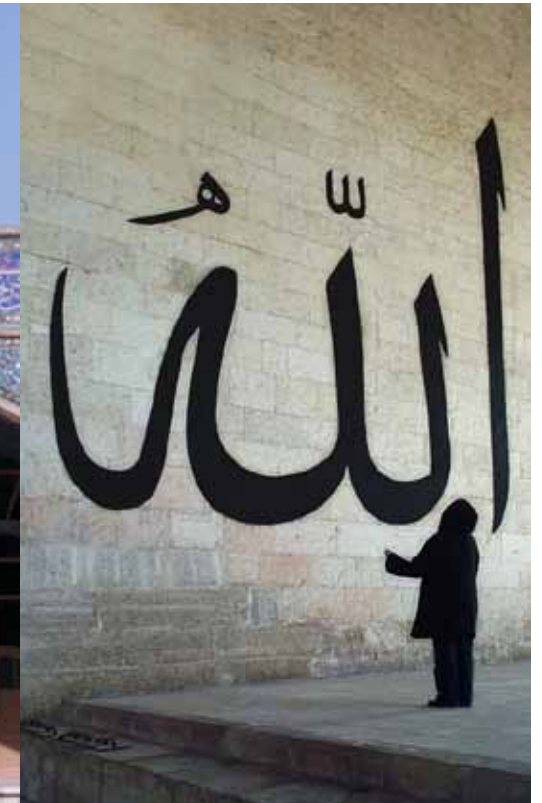
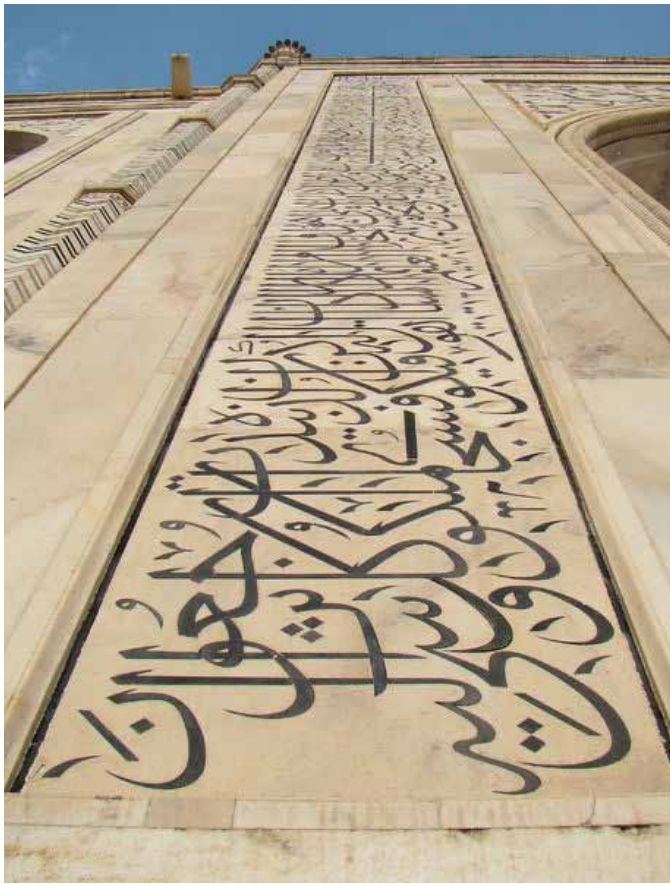


Design is based on four- or eight-point geometry from which the spirals are derived.



# Calligraphy

Calligraphy has arguably become the most venerated form of Islamic art. This art form is based on the Arabic script, which for a long time was used by all Muslims in their respective languages. Throughout the vast geography of the Islamic world, Arabic calligraphy is a symbol representing unity, beauty, and power. The aesthetic principles of Arabic calligraphy are a reflection of the cultural values of the Muslim world. Suspicion of figurative art as idolatrous led to calligraphy and abstract depictions becoming a major form of artistic expression in Islamic cultures, especially in religious contexts. Arabic calligraphy is not merely an art form but involves divine and moral representations -- from which calligraphy acquires its sublime reputation. -- Khalid Mubireek, [www.islamicart.com](http://www.islamicart.com)

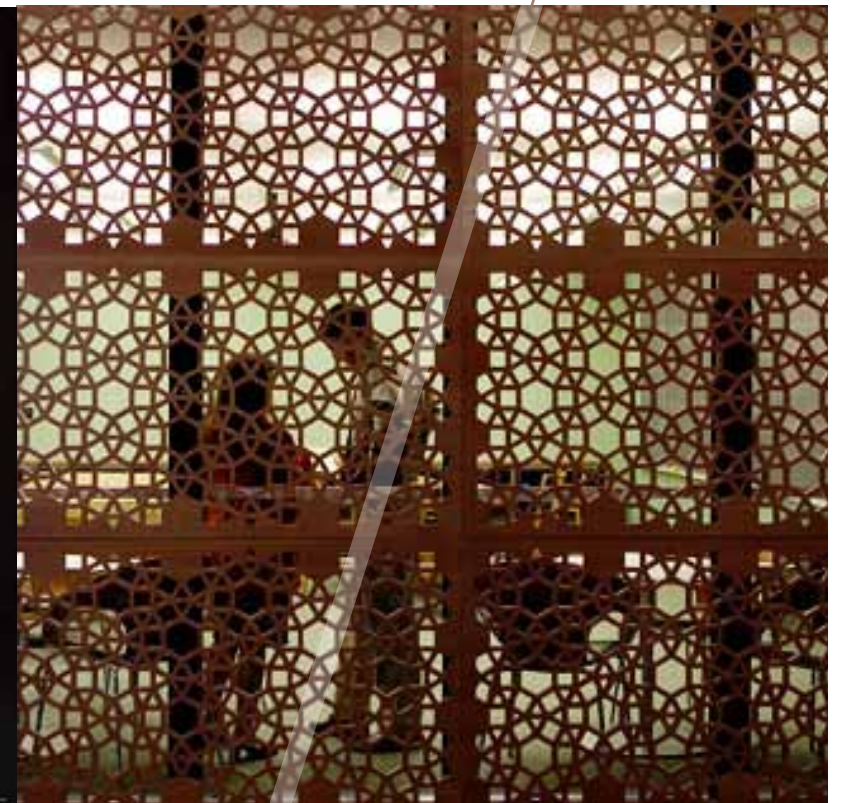
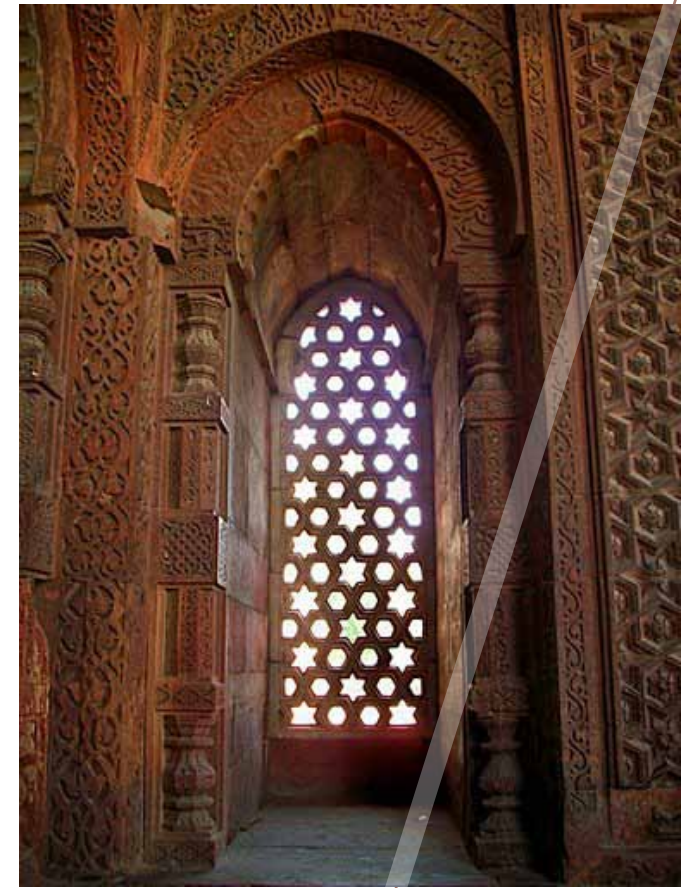




# Light

For many Muslims (and non-Muslims), light is the symbol of divine unity. In Islamic architecture, light functions decoratively by modifying other elements or by originating patterns. With the proper light, pierced facades can look like lacy, disembodied screens. Light can add a dynamic quality to architecture, extending patterns, forms and designs into the dimensions of time. And the combination of light and shade creates strong contrasts of planes and gives texture to sculpted stone, as well as stocked or brick surfaces.

Moucharabieh, a projecting bay with the openwork screens to cover windows and balconies, allowing those inside to view the outside world without being seen. The moucharabieh creates a dialectic between interior and exterior, light and shadow, concealment and revelation, and private versus public space.





The ideas of internationalism and **regionalism of Islamic**

architecture is related to modernism and neo-modernism in Islamic societies. Modernism is about

**rational systemic and progressiveness ideology** and neo-modernism

tends to **explore** the wise of **local tradition**. - Agus S. Ekomadyo, Institut Teknologi

Bandung, Indonesia

An **arch** is a structure that **spans**  
**a space while supporting**  
**weight** (e.g. a doorway in a stone wall).

Arches appeared as early as the 2nd millennium

BC in Mesopotamian brick architecture and their

systematic use started with the Ancient Romans

who were the first to apply the technique

to a wide range of structures. They were

**created** by the Indus Valley civilization

around **2500 BC**.





Architects working today can take advantage of opportunities that new materials and mass production techniques offer.

They have an opportunity to

**explore and transform** the

possibilities of the machine age

for the **enrichment of**

**architecture** in the same

way that craftsmen explored

the nature of geometrical and

arabesque patterns... - Garry

Martin in the essay "Building in the

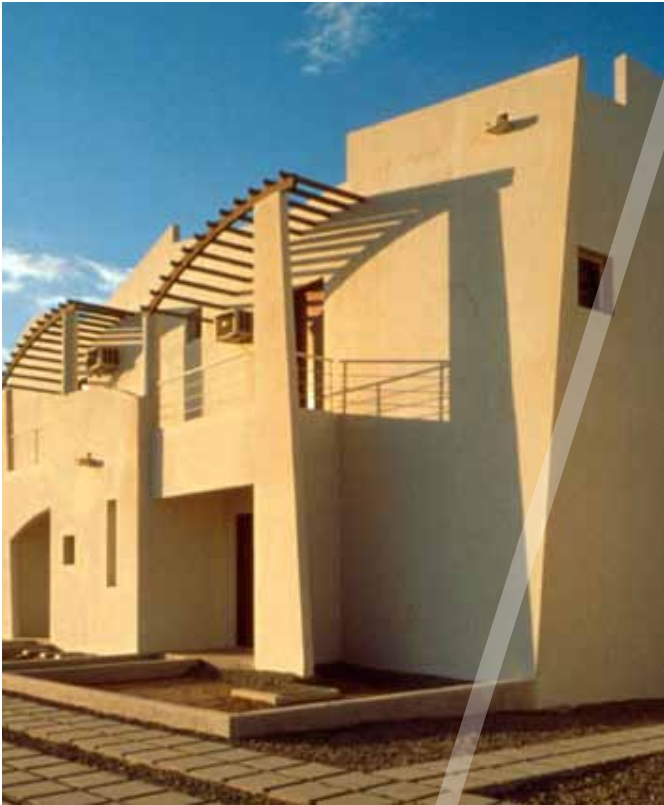
Middle East Today -- in Search of

a Direction

# Regional architecture: middle east















NORTH VIEW





# Regional architecture: pacific NW









# Aga Khan Awards

2010 Cycle

2007 Cycle

2004 Cycle

2001 Cycle

1998 Cycle

1995 Cycle

1992 Cycle

1989 Cycle

1986 Cycle

1983 Cycle

1980 Cycle

*The Aga Khan Award for Architecture was established in 1977 by His Highness the Aga Khan, the forty-ninth hereditary Imam of the Shia Ismaili Muslims, to enhance the understanding and appreciation of Islamic culture as expressed through architecture. Its method is to seek out and recognize examples of architectural excellence, encompassing concerns as varied as contemporary design, social housing, community improvement and development, restoration, reuse, and area conservation, as well as landscaping and environmental issues. Through its efforts, the Award seeks to identify and encourage building concepts that successfully address the needs and aspirations of societies in which Muslims have a significant presence.*



# Aga Khan Awards

The selection process emphasizes the use of local resources in architecture and building schemes. Particular attention is paid to appropriate technology used in an innovative way, and to projects likely to inspire similar efforts elsewhere.



The following projects are a few of the projects that have been short listed or received awards. The projects included here are all new construction and of relatively similar size to the proposed MET center.





# 2010 Cycle Bridge School

Xiashi, Fujian Province, China

Small and modern in design, with no reference to the area's traditional building style, the school has nonetheless become the **physical and spiritual centre** of what was a declining village. Placed in such a way that it addresses its surroundings, the Bridge School connects the village together, providing a central, social space. The broader social aspect of the project was part of the brief, which was developed with the school principal and head of the village to answer community needs rather than simply those of a primary school.... The result is a project that has successfully invigorated the entire community, encapsulating social sustainability through **architectural intervention**.





# 2010 Cycle Cordoba, Spain Madinat al Zahra Museum

The tenth-century palace city of Madinat al-Zahra is widely considered to be one of the most significant early Islamic archaeological sites in the world, and the most extensive in Western Europe....A refined and subtle design by the architectural firm Nieto Sobejano, the museum complex **blends** seamlessly into the site and the surrounding farmland - a series of rectangles composed of walls, patios and plantings which, taken together, seem more like a landscape than a building. The architects took the ground plans of three excavated buildings as a starting point, as though the museum had been waiting to be revealed from the ground...A restricted pallet of materials and simple details, with walls of poured concrete, interior walls clad in iroko wood, and limestone paving for the courtyards, are **intended to evoke** the rough retaining walls and temporary structures of an archaeological site.







# 2001 Cycle Nubian Museum

Aswan, Egypt

A two-storey museum constructed of **local stone** and located on top of a rocky hill. The plan and expression derive from ancient temples, fortresses, and the **domestic architectural vocabulary** of the region.



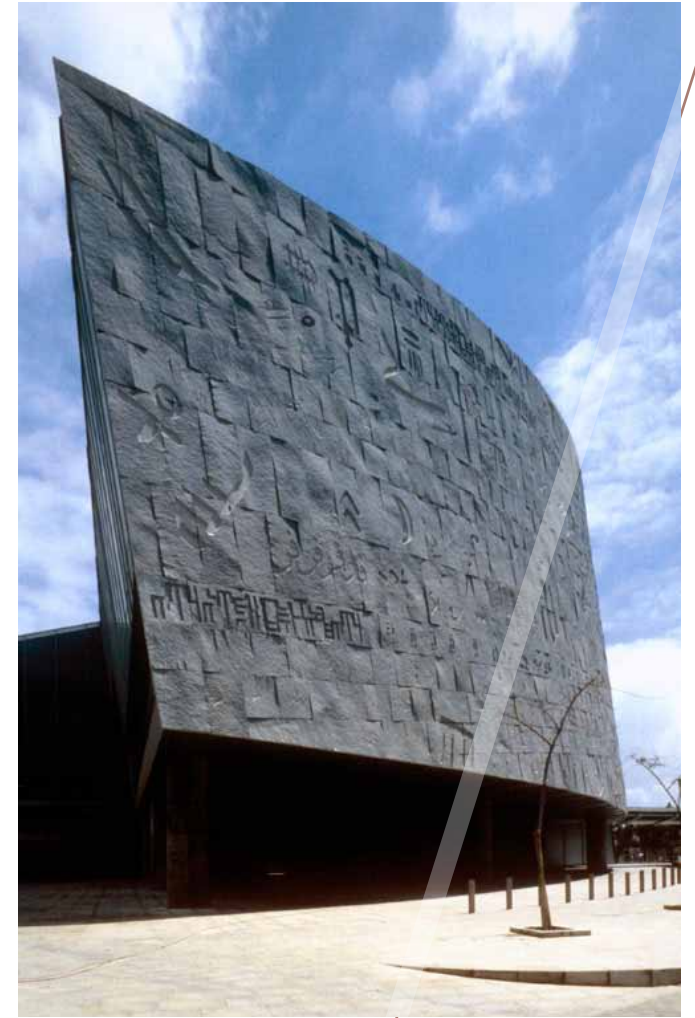


Alexandria, Egypt

# 2004 Cycle Bibliotheca Alexandrina

The Bibliotheca Alexandrina is a revival of the legendary ancient library built in classical Greek times. The rebuilding of the library has returned Alexandria to its former status as a **centre for learning** and exchange and provided the city with a **landmark building**.

The spirit of international cooperation in which the library was conceived, funded, designed and implemented has been maintained in its management to create an institution that is truly global in its outlook. At the same time, the building is technically outstanding.







# 2010 Cycle Nishorgo Oirabot Nature Interpretation Centre

Teknaf, Bangladesh

The main objectives of this centre, located in a protected forest and nature reserve in Chittagong District in the south of Bangladesh, are nature education and interpretation tours, in an effort to create awareness and promote biodiversity, conservation and eco-tourism. The building itself is **sensitively placed** within the landscape: the reinforced concrete platforms of the 'pavilion shelter' float above the ground on structural walls; the concrete slabs are pierced by tree trunks where necessary, reflecting the project's aim to create as little impact on the environment as possible. An exhibition area is enveloped in a compositional arrangement of openings framed by wooden lattices, and there is a space for viewing films with walls of exposed, burnt clay brick.





Chittagong, Bangladesh

# 2010 Cycle Chandgaon Mosque

This mosque on the suburban periphery of the port of Chittagong in Bangladesh seeks to fulfil the traditional role of a mosque as both a place of spirituality and as a gathering place for the community. The architect began by identifying the essential elements of a mosque to create a **new form** and articulation for a typology that goes back for a millennium and a half. The result is this monolithic and spare mosque, pared down to two identical cuboid structures... With its stark, geometric clarity, the Chandgaon mosque stands apart from many such structures that have reduced architectural features associated with the usual mosque type to the level of kitsch. It makes a definitive architectural statement in a different direction, pointing to the **contemporary**, to a desire to live in spaces that reflect the **universal values** of the present day.





# What is Islamic Architecture?

Architecture in the Muslim world partakes of all the features of modernity in architecture. However, it often also tries to incorporate specific Islamic meanings, and it is only in such deliberate instances that architecture can be labelled 'Islamic'. When 'Islamic' traditions are followed instinctively, the result is simply architecture in a Muslim cultural context. This means that there is a **difference** between **architecture in the Muslim world** and what is defined in discourse as **'Islamic architecture'**. The plurality of architecture in the Muslim world is evident at many levels: in varied discourses on architecture; in architecture that deals with restoration in ways that re-establish the generic pluralism of Muslim culture; and in the multiplicity of forms produced by a variety of social, cultural and economic environments. The Jury was particularly aware of the complexity of the plurality of the Muslim world and was **critical** of those projects that tried to establish a **cultural normativity** that could threaten that plurality.



# 2010 Aga Khan Awards Jury

Muslims are majorities in some places, minorities in others and absent elsewhere. Globalization should not be viewed only as an intrusion into Muslim cultures but an **opportunity** for diverse cultures to merge in a mutually coexisting manner. The winning projects reveal the ways in which Muslim societies are positioned to accommodate otherness as part of a process of reconciliation and conviviality. Improving the image of Muslims in a world that is both increasingly globalized and segregated is but one way this issue has been addressed. Yet also, accepting the other into the very definition of Muslim heritage is a very powerful way of addressing **conviviality and multiplicity**. The very definition of who is included within this collective remains problematic.



# 2007 Aga Khan Awards Jury

The intersection of identity and

**pluralism** in a globalised world, where memory,

heritage and belonging are threatened, emerged

as central concerns during the jury debates. Since

its inception, the Award has striven to explore new

frontiers while maintaining a generous and pluralistic

perspective, engaging projects that contribute to the

**transformation** and improvement of the quality

of the built environment. It has considered projects of

significance both to the Islamic world and to multicultural

societies in which Muslims represent a minority or an

expansion of new or historic diasporas.



# 2004 Aga Khan Awards Jury

This cycle of the Award has been characterized by a commitment to pluralism and tolerance, with a focus on recognizing architectural achievements that demonstrate the highest international standards of excellence in building....They include an emphasis on **innovative** types of architecture emerging throughout the **Muslim world** – projects that may be large-scale or modest in scope and that demonstrate **new directions** for architecture, planning and landscaping in both urban and rural contexts.... The winning projects also address the question of how to **express individuality** in complex social settings. In modernity, architecture expresses individuality, permitting a **poetical interpretation** of the self. The Jury recognized the growing awareness and appreciation of individuality in the Muslim world. On the one hand, this individuality counters the idea that Muslim societies emphasize collective identities; on the other, it reveals the plurality of Muslim traditions.

# 2010 Aga Khan Awards Jury

In a historically interconnected and increasingly globalised society, perceiving the world in **stereotypes** of separate cultural entities does not hold strong credence. Today, professional practitioners, as well as decision makers and funders, are beginning to understand the extent of the **contributions of the Muslim world** both geographically and historically. In a postcolonial context, culture is understood as something to be shared and cultural diversity as a value to be cherished. In this regard, the Islamic world has not only made major contributions to the narratives of global history but also to particular local histories within and outside its recognised boundaries.

The built environment is subject to rapid processes of **transformation**, very often backed by larger and more robust investment. In the midst of such change, concerns for the environment, for the built heritage and for the social fabric are often relegated to a secondary importance, if not neglected altogether. The shortlisted and awarded projects try to redefine priorities and emphasise a **sensitive understanding of their immediate and broader contexts**. Despite the great difference in their scale, context and functionality, they exhibit a responsible quality, of treading lightly on earth.



