

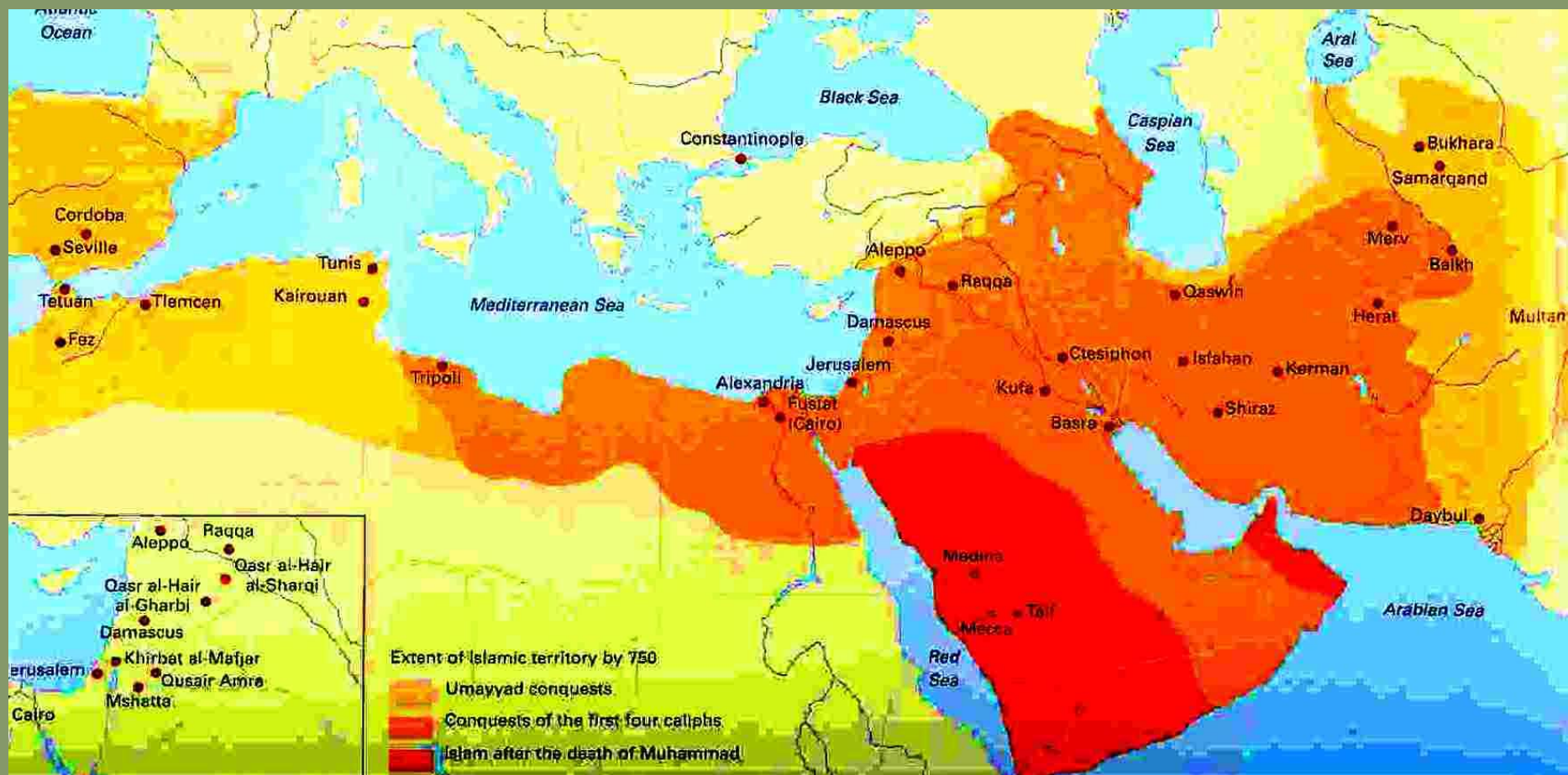


An introduction to Islamic Architecture and its influence on the West.

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Islamic Culture: Diversity in Unity

- Islamic culture reached out and intermingled with to varied and distant peoples. In the course of 12 centuries, the cultures of Central Asia, the Indian subcontinent and South East Asia were added to the Islam's original areas of influence in the Middle East, North Africa, Persia and Turkey.



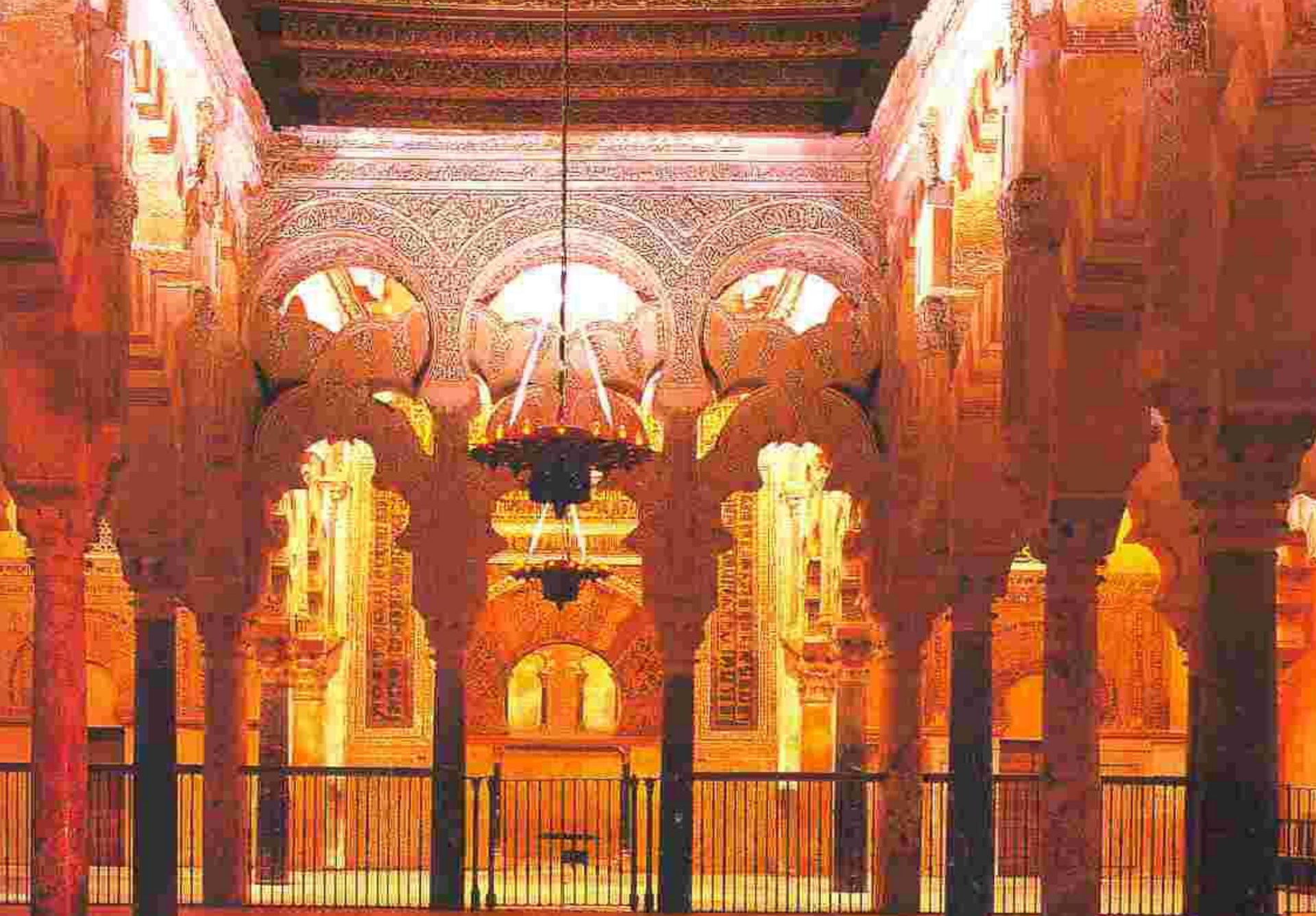
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- ❑ The uniting of so many diverse cultures under one religion had the effect of integrating and disseminating the latest and best discoveries to all parts of the realm.
 - ❑ Paper making from China, numerals from India, classical Greek science and philosophy translations, Byzantine and Coptic traditions were all shared. In medicine the Muslims enhanced Greek theory by practical observation and clinical experience.

Architecture is a Major Reflection of Islamic Culture

- One of the major achievements of the Islamic civilization is its architecture.
- Its great masterpieces (from the Dome on the Rock in Jerusalem, the Taj Mahal in India to the Mosque of Cordoba in Spain) unite intricate spatial relationships, artistic illustration, remarkable structural technology and sensitive environmental harmony into magnificent displays.

Taj Mahal, India





Mosque of Cordoba, Spain

Dome on the Rock, Jerusalem



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- This presentation provides an insight into the basic elements of Islamic architecture, briefly explores how some of these concepts and influences were transmitted to the West, and provides examples of Western structures that reflect elements influenced by them over the years



Islamic Architectural Style

- ❑ Over the years , Islamic architecture evolved from the first mosque built by the Prophet Muhammad in Medina, and from other pre-Islamic features adapted from churches, temples and synagogues into a highly refined and distinctive style, while retaining its diverse regional roots.

Architectural Elements of Islamic style

The principle architectural elements that define Islamic style are:

- ❑ 1- Courtyard
- ❑ 2 - Minaret
- ❑ 3 - Dome
- ❑ 4 - Mihrab
- ❑ 5 – Iwan
- ❑ 6 - Arches and Vaults
- ❑ 7 - Geometric decorative patterns and calligraphy
- ❑ 8- Mashrabeya



the Courtyard



- Most mosques contain a courtyard (originally a feature of the Prophet's mosque) surrounded on all sides by an arcade.
- A courtyard in a mosque is used for performing ablutions, praying, meditation and socializing.

Grand Mosque, Aleppo Syria

- A courtyard in a traditional house is used for aesthetics and privacy.
- Most importantly, by locating a central fountain or pool in the courtyard, the resulting natural cross ventilation, cooled by the flowing water reduces the effect of hot climates.



Courtyard of a traditional house, Old Cairo — Ottoman period, c. 17th–18th century



Watercolour by Mohsen Rifaat



□ the
Minaret

Unique to Islamic architecture are the minarets. Their dual functions are to act a landmark to assist in mosque location; and for the *muezzin*, a person appointed to call the faithful to prayer, to climb up.

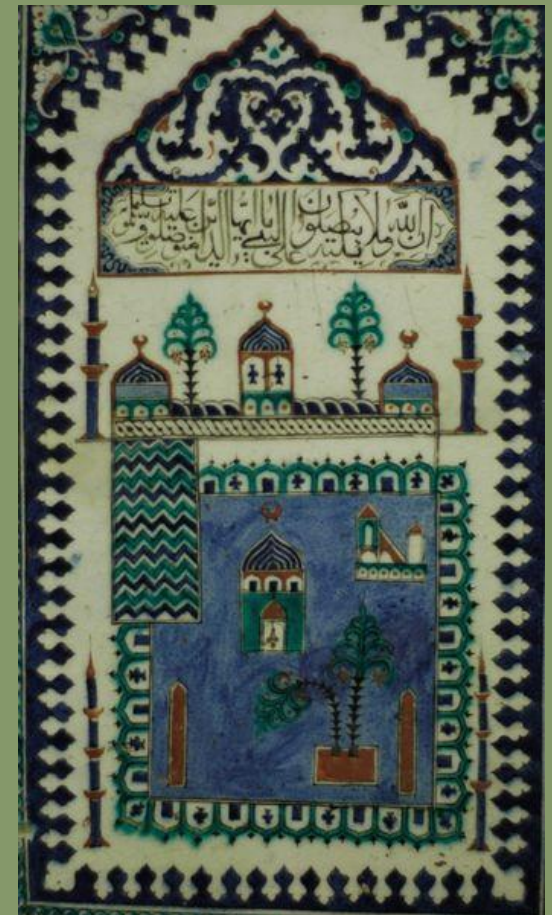






□ the
Dome

- ❑ **Domes**, a dominant feature of Islamic architecture, may have been developed early Christian architectural sources.
- ❑ The earliest Islamic use of the **dome** was in the eighth century mosque of Medina.
- ❑ Some mosques will have multiple, often smaller, domes in addition to the main large dome that resides at the central praying area



18th century panel representing the mosque of Medina in Saudi Arabia.

*The Mausoleum of Timor in Samarkand,
Uzbekistan*





□ the
Mihrab

□ a *mihrab* is a prayer niche on an inside wall of a mosque or praying area, indicating the direction to Mecca.

Mihrab in the tomb of Sultan Iltutmish, Delhi, 1236





□ the
lwan

- An *Iwan* is a vaulted hall or space, used to intermediate between different sections.
- There are usually four around the courtyard.

Sultan Hassan mosque, Egypt





□ Arches and Vaults

□ To the early architects of the mosque we may attribute the development of the **pointed arch** and **brick vaulted arcades**





□ Gardens



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- ❑ The Muslims developed the concept of the garden as a place of beauty and meditation, harmoniously integrated with architecture.
 - ❑ Islamic gardens were typically designed as a sort of escape or peaceful seclusion from the outside world.



Alhambra Gardens, 12 Century

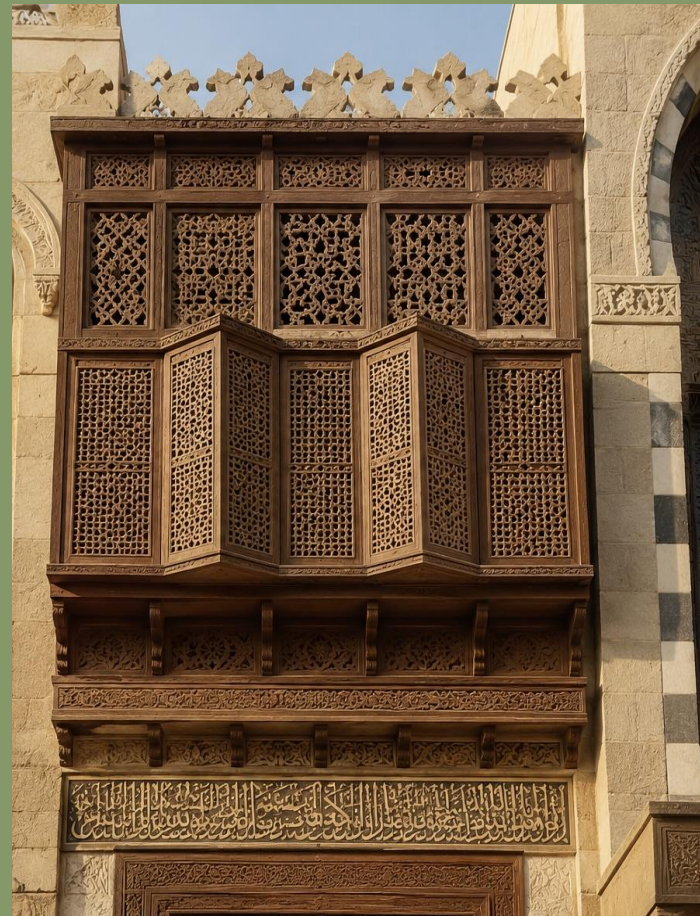


Royal precinct – Isfahan, 17th Century

Mashrabiya

A mashrabiya is a traditional Islamic architectural element—a carved wooden lattice screen used in windows, balconies, or façades.

It provides privacy while allowing light and air to filter through, creating shade, ventilation, and beautiful patterns of light and shadow inside.



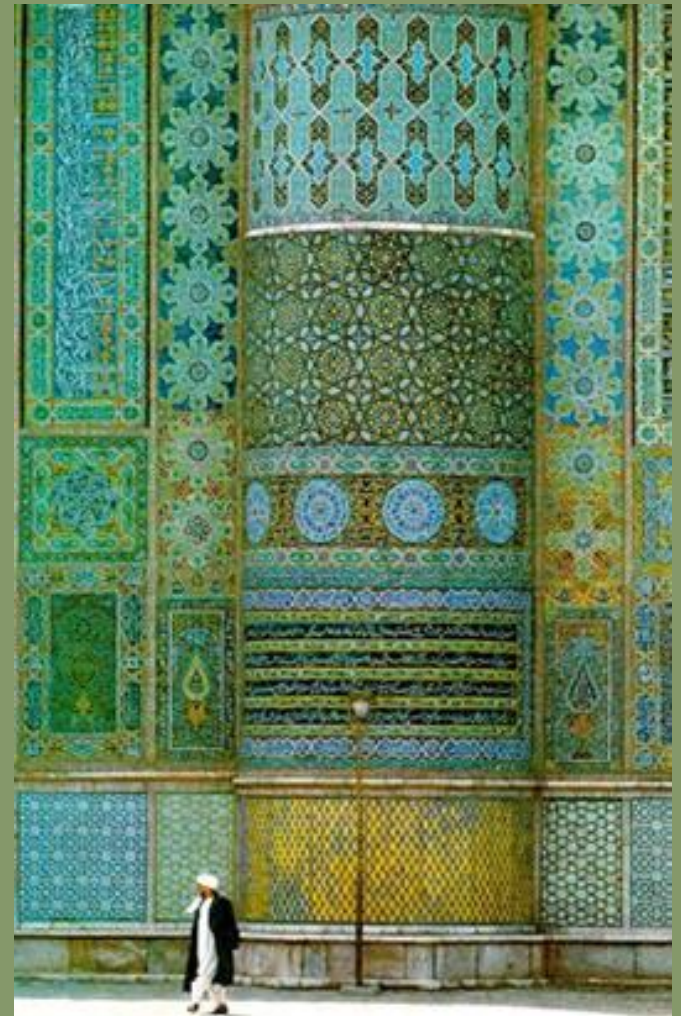


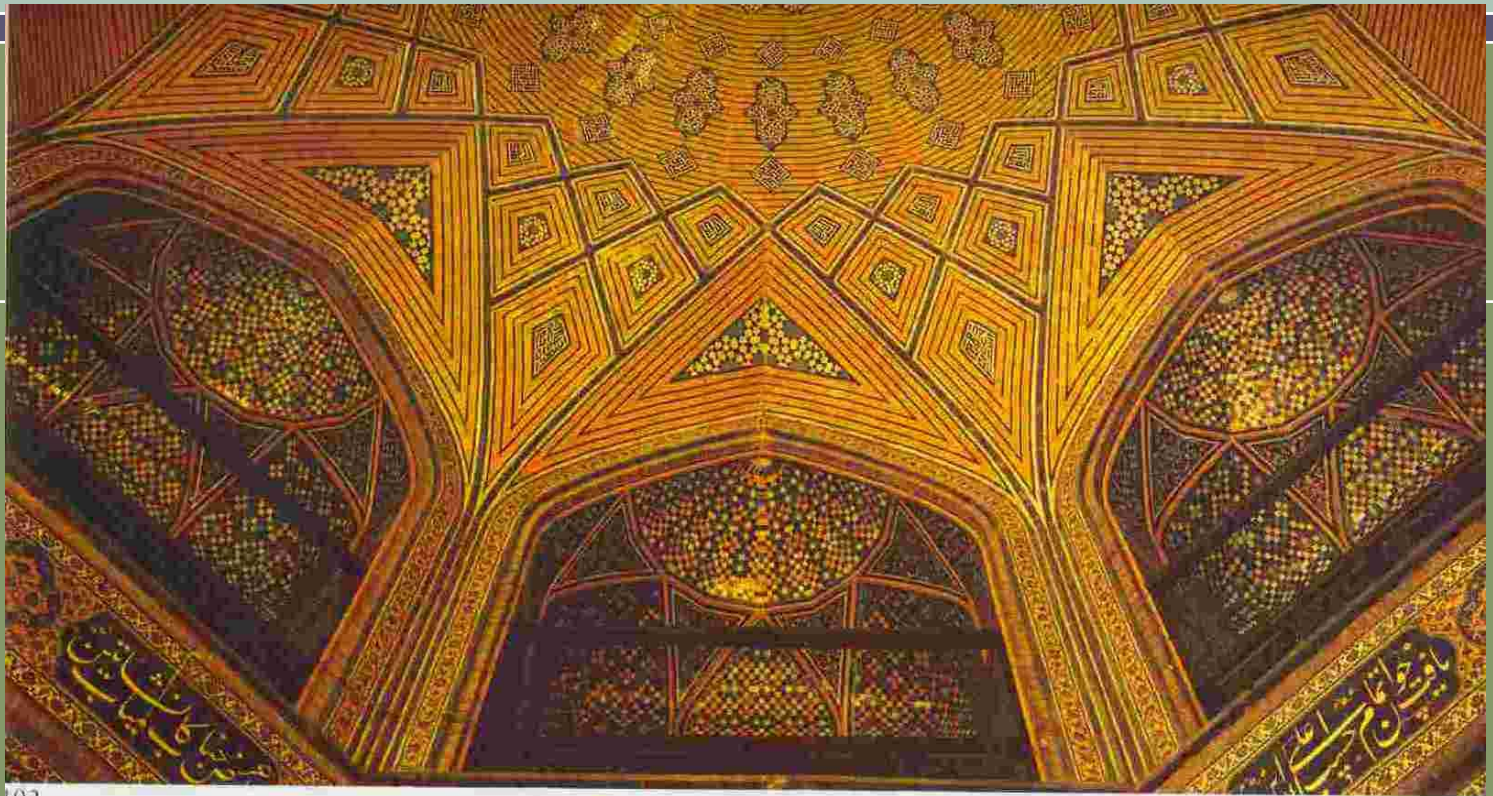
□ Ornamentation

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- ❑ Ornament, which is an outstanding feature of Islamic Architecture, reveals the greatest variety of treatment in form, patterns, colour and material.
 - ❑ The brilliant use of decorative schemes, geometric shapes and repetitive patterns became a hallmark of Islamic architecture .

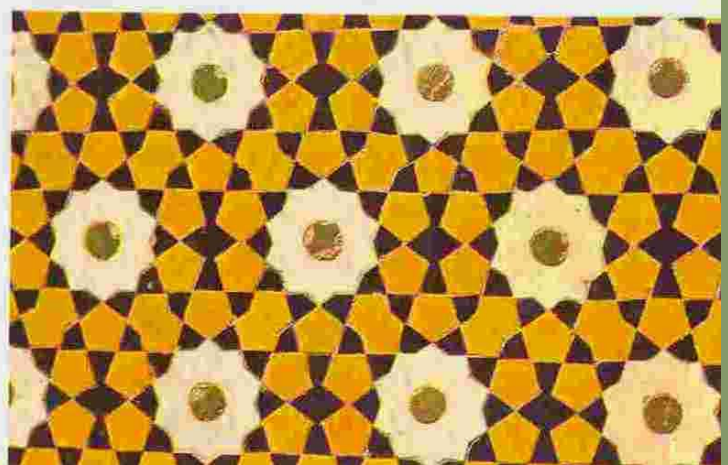
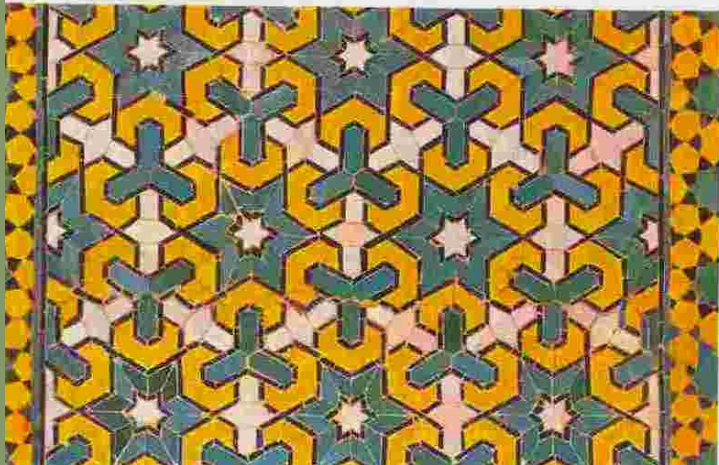
- “Arabesque” art involves a series of geometricized vegetal ornament, and together with calligraphy, is a major unifying factor in Islamic architecture and design.

Herat Mosque in Afghanistan



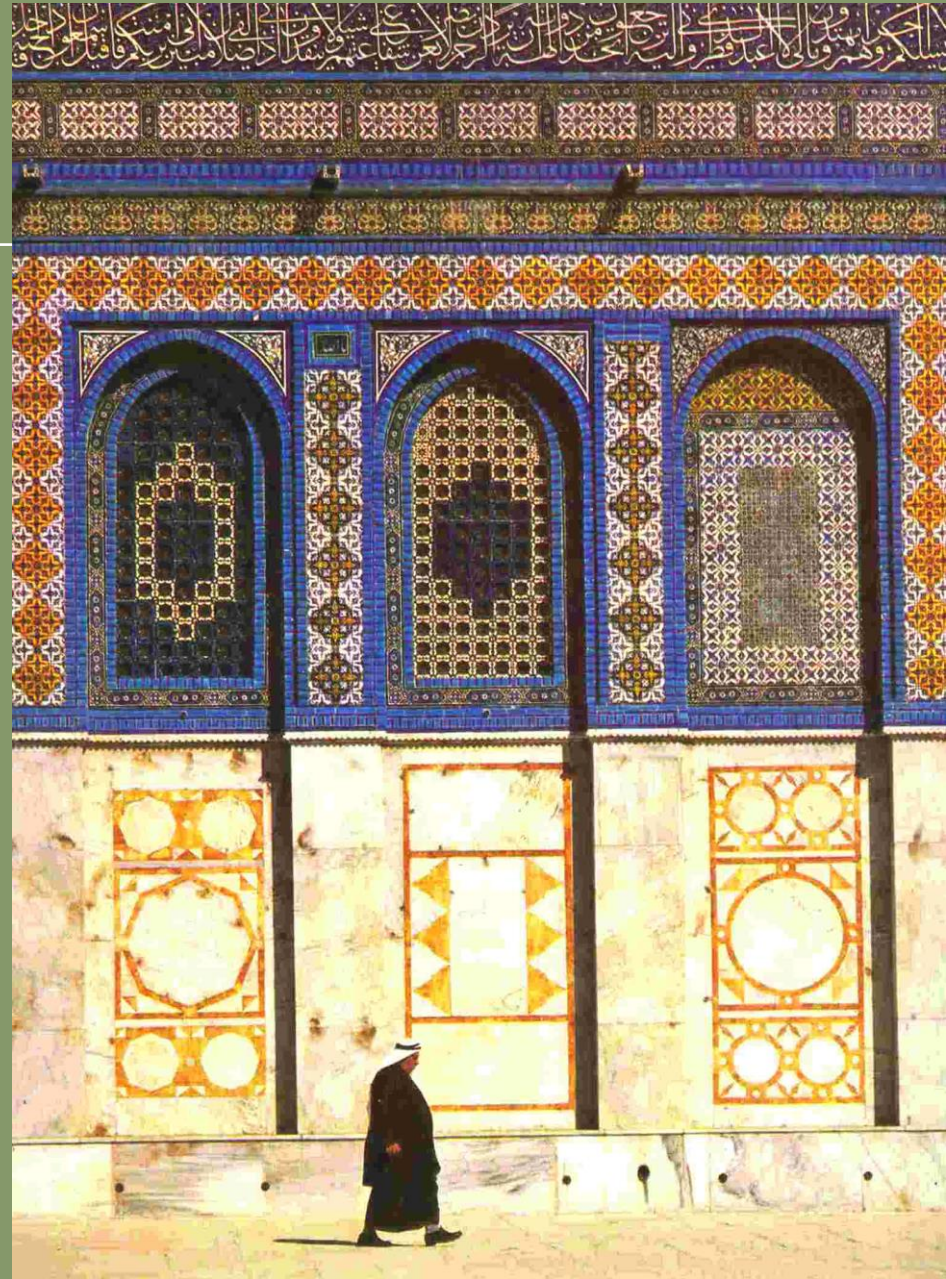


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□ Plaster, brickwork, glazed brick and tile were used as decorative media .

Dome on the Rock, South West façade , Jerusalem



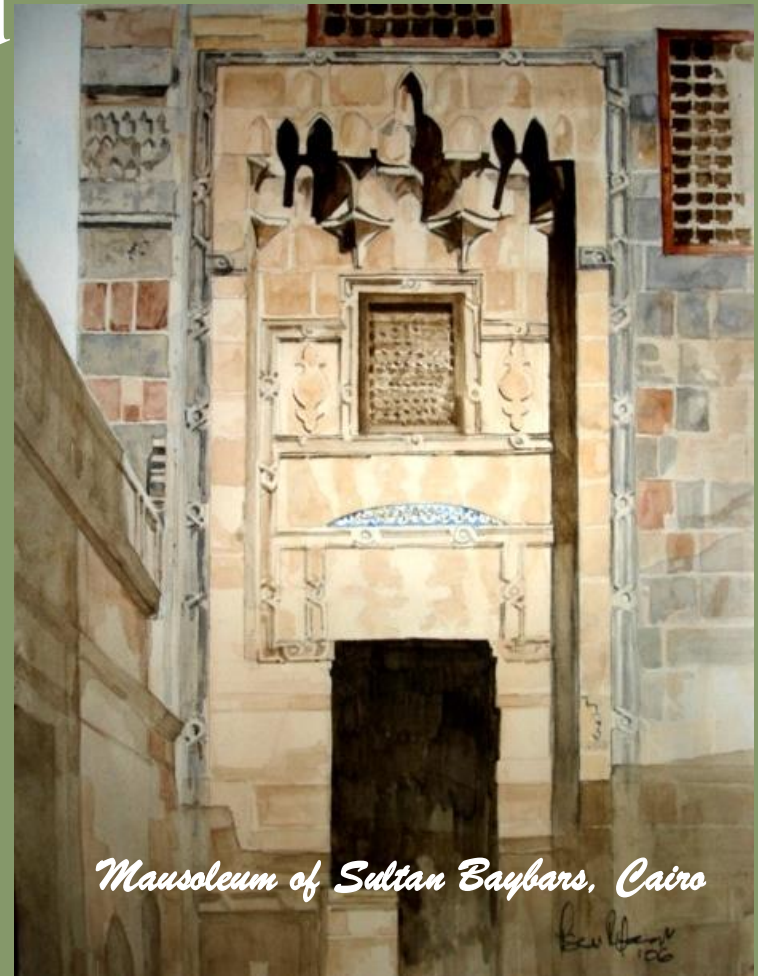
Stalactites

Stalactite ornaments are primarily used to form pendentives of domes

Pendentives are spherical triangles which acts as a transition between a circular dome and a square base on which the dome is set.



- Stalactites are also employed as a decorative motif in door heads, columns capitals and on walls.



Painting by M. Rifaat, 2006

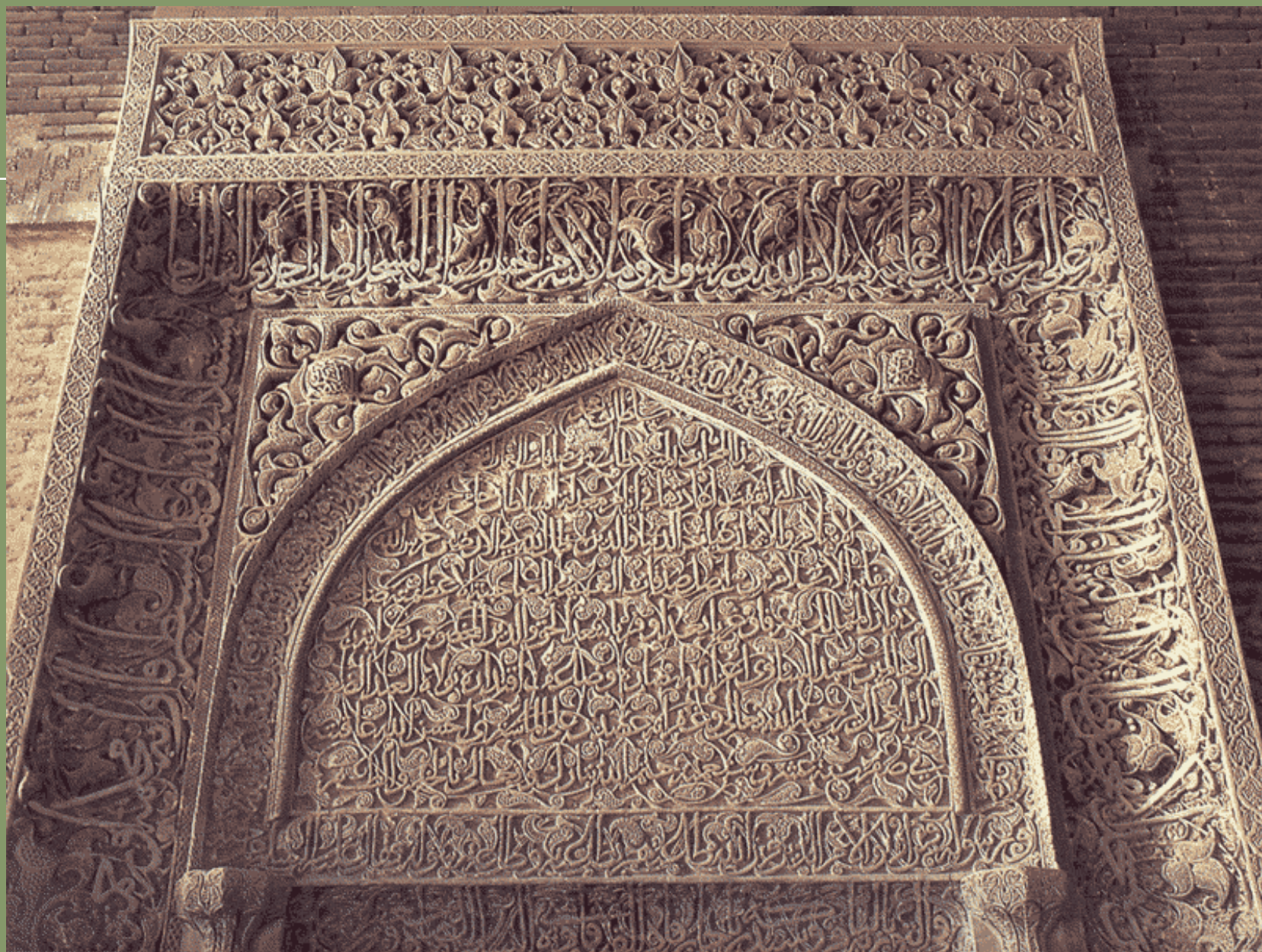


Mugarnas Dome, Hall of the Two Sisters, Alhambra

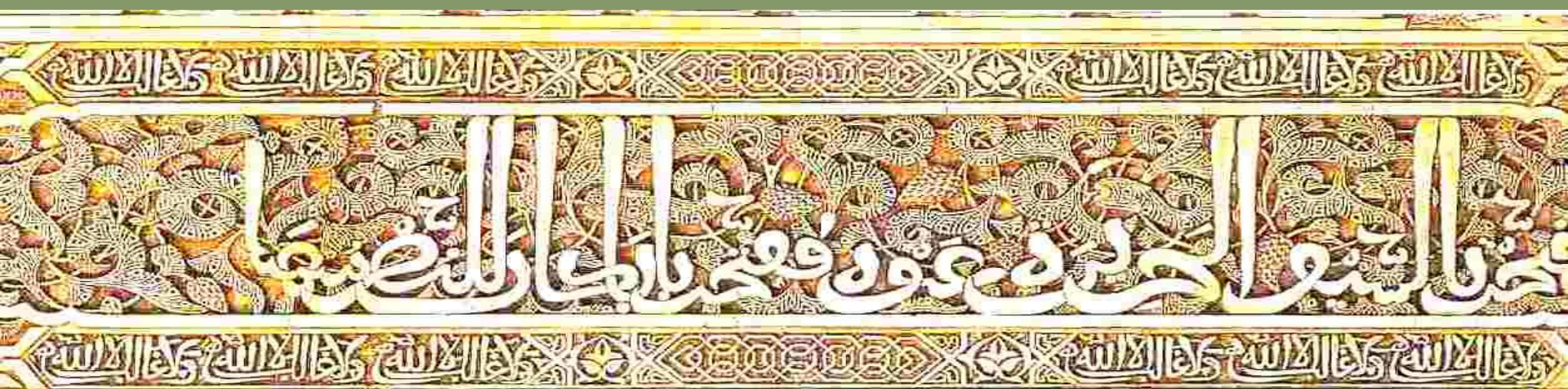
The use of Ornamental Arabic Calligraphy

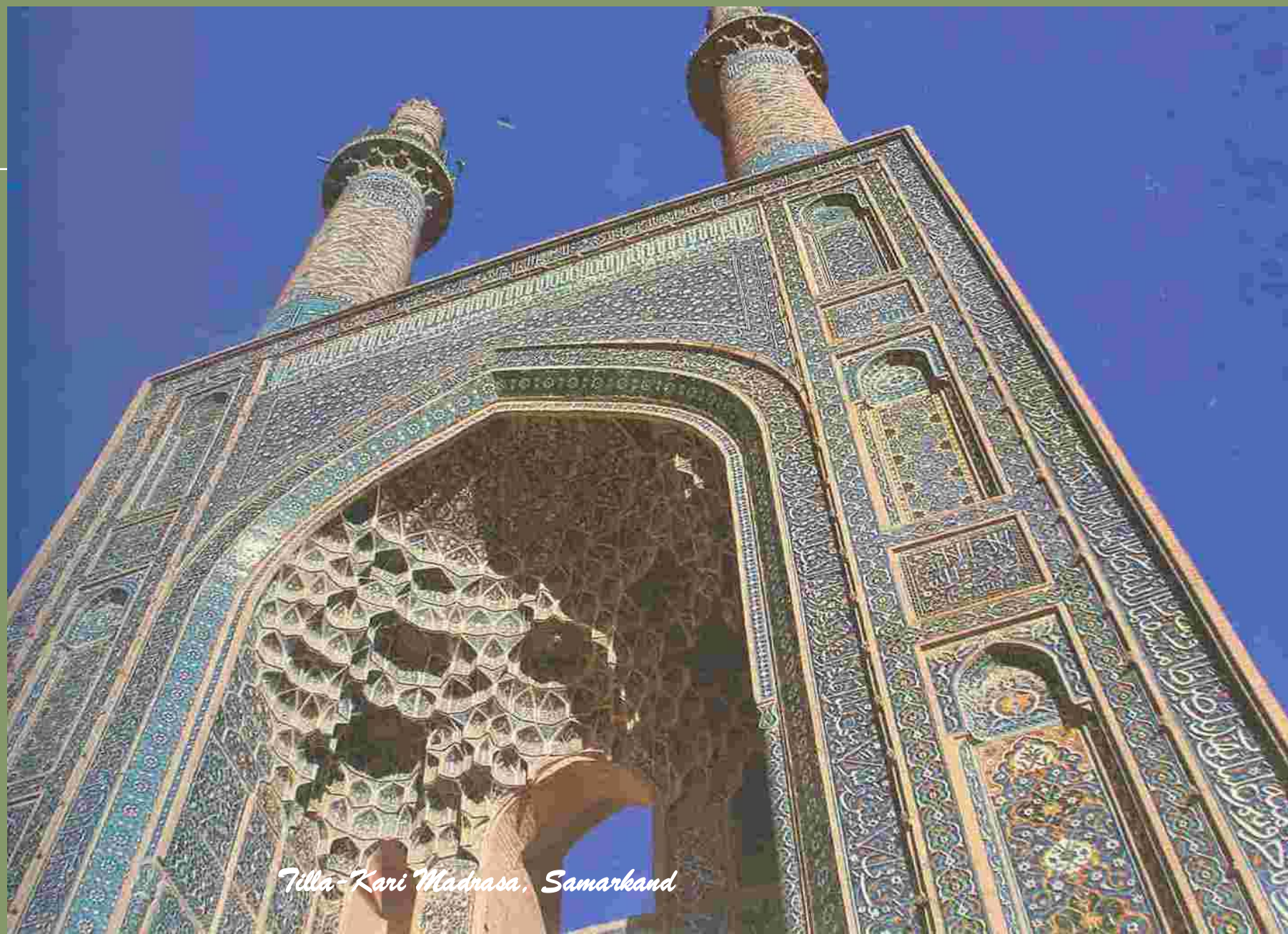
- Because the Muslim faith discourages pictorial representation, the extensive use of calligraphy evolved into a highly sophisticated decorative medium. Its role in recording the word of God renders it one of the most important forms of Islamic art.
- Like other Islamic decoration, calligraphy is closely linked to geometry. The proportions of the letters are all governed by mathematics. Inscriptions are most often used as a frame along and around main elements of a building like portals and cornices.

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- Many Islamic buildings have surface inscriptions in stone, stucco, marble, mosaic and/or painting. The inscription might be a verse from the Koran, lines of poetry, or names and dates.





Tilla-Kari Madrasa, Samarkand



□ Islamic Architectural Style Transfer to the West

- Many of the outstanding medieval buildings of the West are indebted to the techniques of Islamic architecture. In fact, the great medieval European architectural tradition is one of the elements of Western civilization most directly linked to the Islamic world.

Bargello Musium, Florence, 13th century





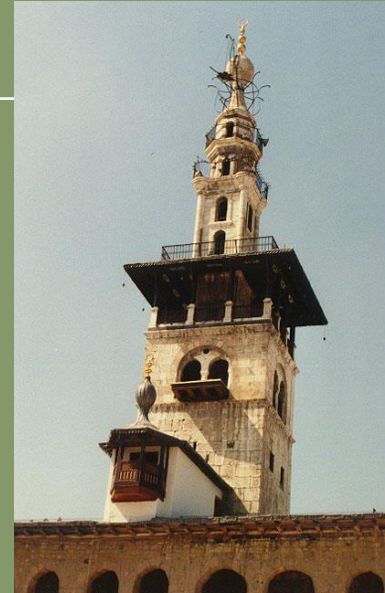
□ The Role of Spain



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- In the middle of the 8th century, Spain became part of the Islamic domain.
 - For centuries thereafter, it played a significant role as a recipient and disseminator of Islamic architecture.

Comparison of these two minarets reveals design elements carried through over eight centuries

Minaret of the Great Mosque of Damascus. 8th Century



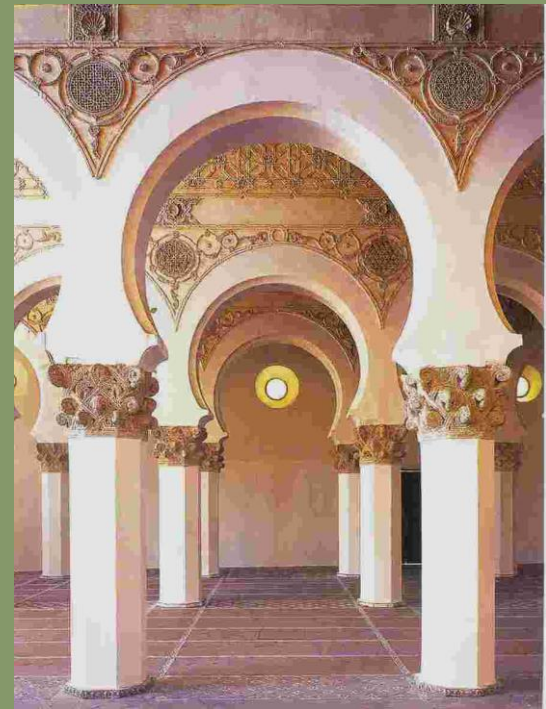
Tower Aragon Cathedral, Spain. 16th Century

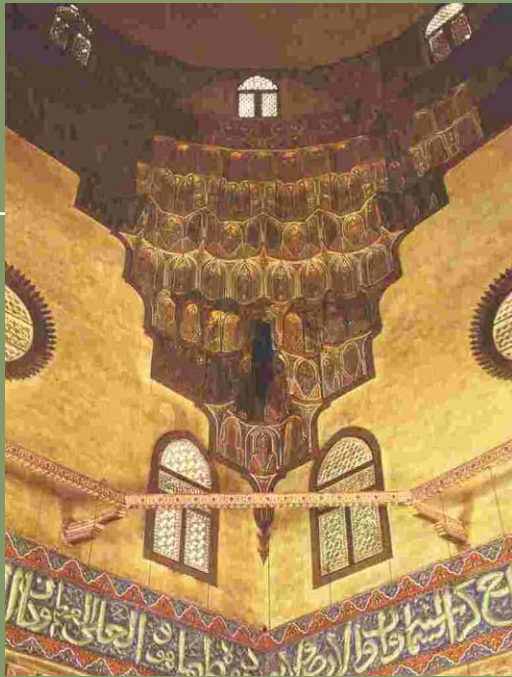


Great Mosque, Cordoba, Spain - 10th Century

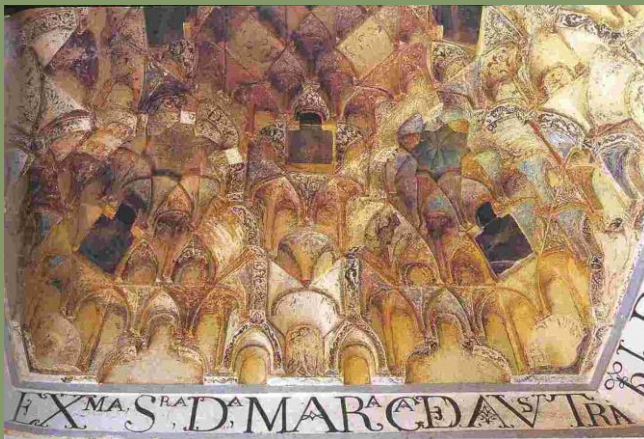


Church of Sanata Maria la Blanca, Toledo, Spain
15th Century





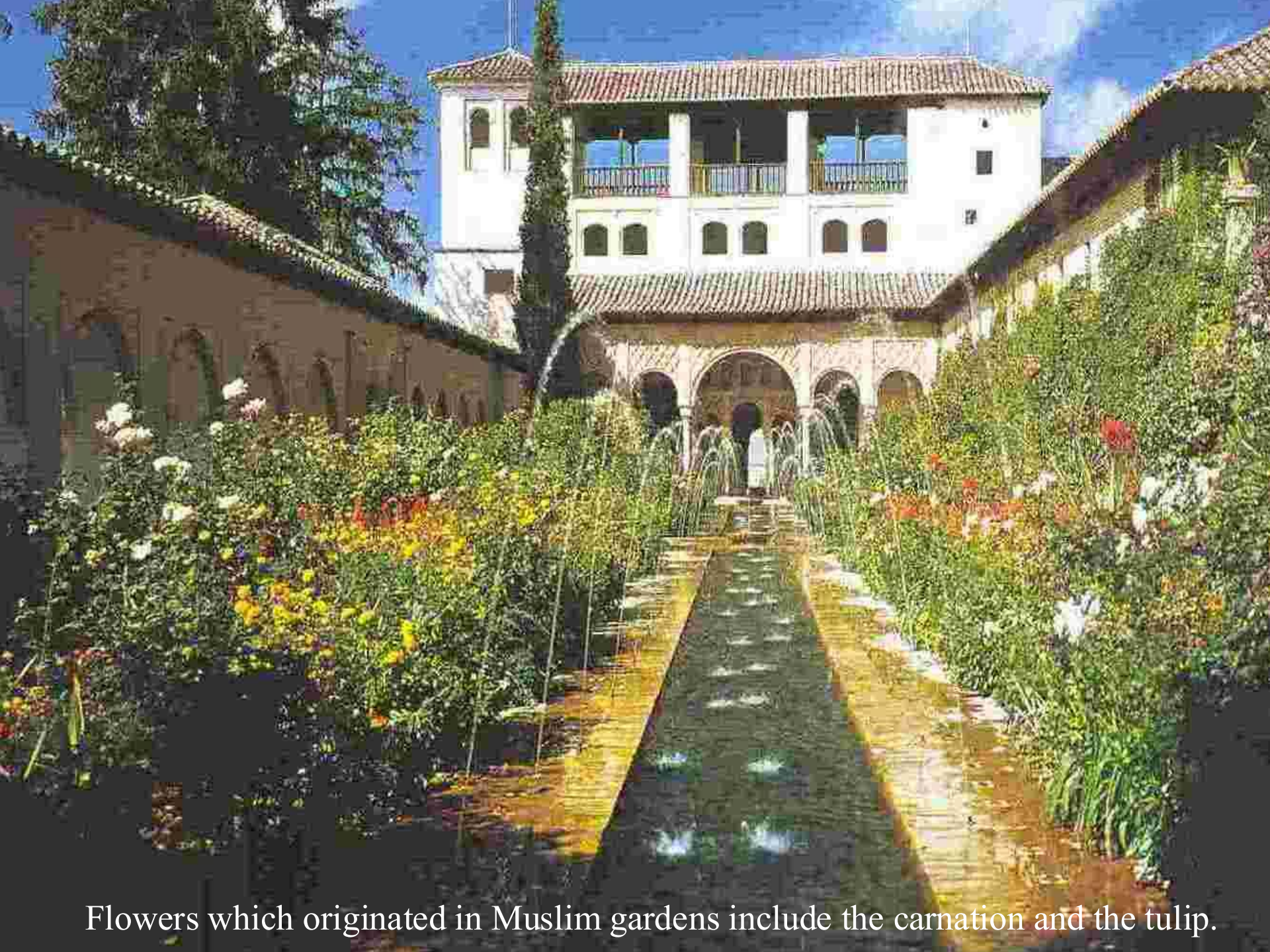
Sultan Hassan Mausoleum, Cairo, 14th century



Church of Santa Maria la Blanca, Toledo, Spain 15th century

Gardens in Europe

- It was in Toledo in 11th century Muslim Spain, and later in Seville, that the first botanical gardens of Europe made their appearance. They were pleasure gardens as well as trial grounds for the acclimatization of plants brought from the Middle East.



Flowers which originated in Muslim gardens include the carnation and the tulip.

- Today the influence of the Muslim garden can now be seen all over Europe.
- The 18th Century gardens of the Chateau de Versailles in France are magnificent examples.







The perfectly regular series of geometrical compartments seen in Versailles are reminiscent of typical Islamic garden designs



□ Impact on Gothic architecture

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- Following the end of the Arab presence in Spain, the splendor of the Islamic architectural style lived on, first through its impact on Gothic architecture, then carried on into the 18th century through influences to the Renaissance and Baroque styles.

Mudéjar Gothic

- Mudéjar is the name given to the Muslims of Al-Andalus, who remained in Spain after the end of Arab rule, but were not converted to Christianity.
- It also denotes an Iberian vernacular style (sometimes referred to as Mudéjar Gothic) particularly of Aragon and Castile, strongly influenced by Muslim taste and workmanship.



Royal Residence built by Peter of Castile, 14th century

Pointed Arches, Defining Element of Gothic Architecture

- The pointed arch, so characteristic of Europe's Gothic cathedrals, was an invention borrowed from Islamic architecture.



Mausoleum of Ibn Kalaoun, Cairo



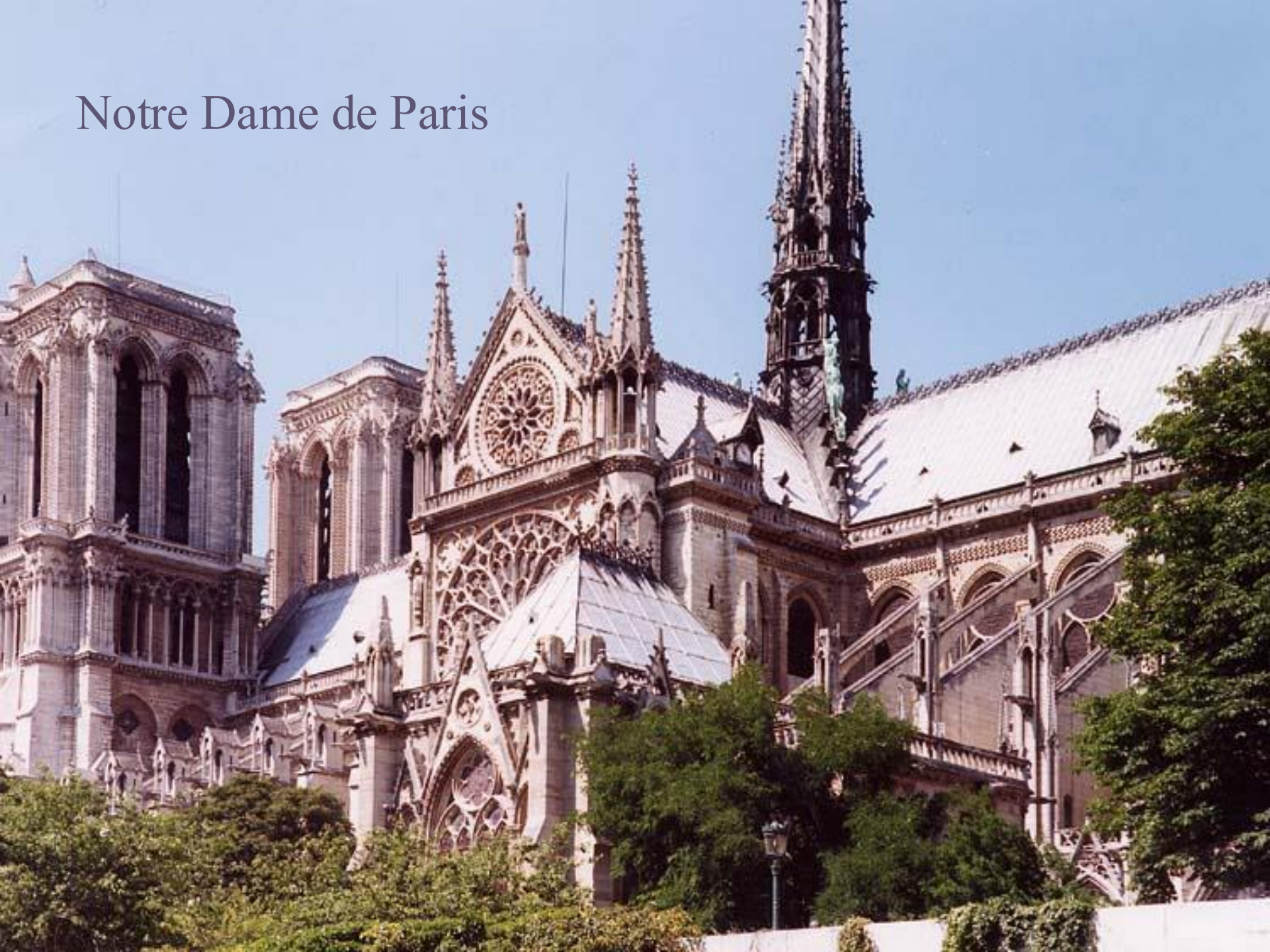
Rheims Cathedral, Paris



European Gothic Architecture

- Pointed arches allowed for better distribution of vertical forces away from windows and doors. Walls could then be lighter and buildings could be built bigger, higher, and more complex.
- Europeans adopted then further developed this practice, (complemented by “flying buttresses”) producing cathedrals of breathtaking beauty and proportions.
- When one views the magnificent European Gothic cathedrals, one is reminded of the building techniques which traveled from Muslim Cordoba northward.

Notre Dame de Paris



Palma de Mallorca Cathedral



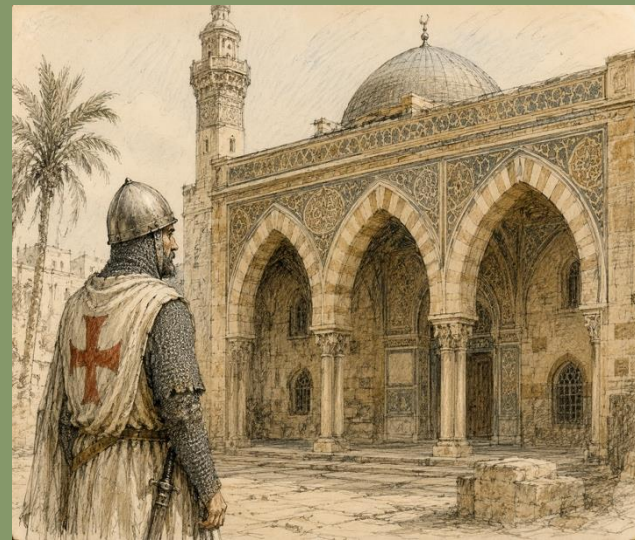
“Campanile” derived from the Minaret

- In addition to the pointed arch, another good example of the profound impact of Arab architecture on Europe is provided by the ubiquitous campanile that may be seen as an adaptation of the tall graceful slender minaret , clearly perceptible in the skyline of Florence, Italy



The Crusades

The architectural influence brought back by returning Crusaders is often overlooked in Western accounts. Their encounters with the Islamic world exposed them to **pointed arches, sophisticated vaulting and geometric ornament**, forms that later became prominent in Gothic architecture.



Kaulbach (1805–1874) was a German painter, and the work shows European Crusaders gathered before Jerusalem, with the architecture of the Holy Land behind them.



- ❑ **Cross-cultural
Exchange Through
Trade and Travel**



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- One of the best examples of cities where trade and contact with Muslims played a major role in sustaining Islamic style influence on the West was Venice.
 - For almost 1000 years, Venice (the last stop on the “silk road”) was the meeting place of Europe and the East. This illustrious merchant city traded both goods and ideas with its Islamic neighbours, such as Cairo, Damascus and Constantinople.
 - The resulting Islamic influence on Venetian structures remains clearly detectable.



Piazza St. Marco, Venice. 18th Century Painting by Canaletto

Saint Mark's Basilica, Venice 12th Century

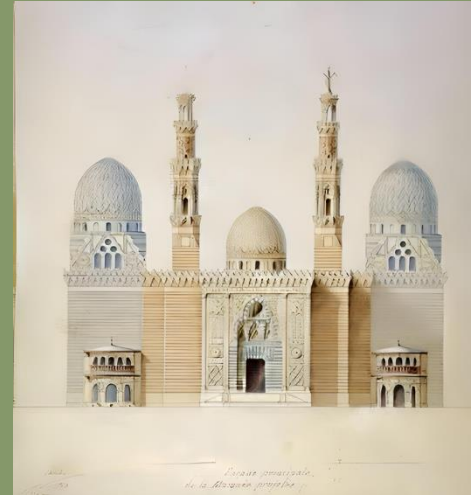




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- The transfer of Islamic architectural concepts was supplemented by observations and records of the numerous Western scholars, architects and travelers to North Africa, the Middle East and Asia.

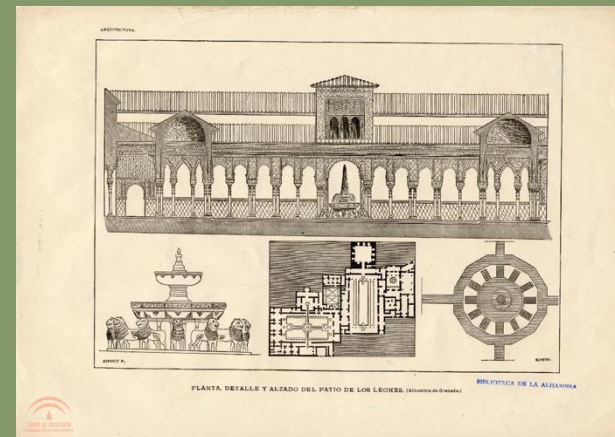
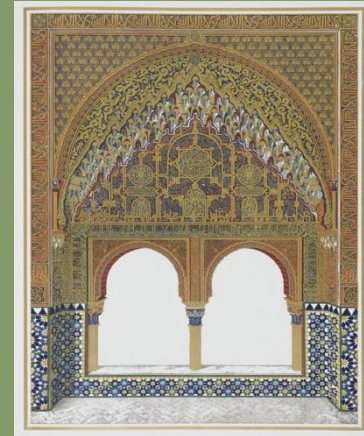
Pascal Coste — Cairo, 1818–1826

- Pascale's measured drawings and watercolours of Islamic architecture helped introduce the forms and decorative vocabulary of Cairo to European architects and scholars.



Owen Jones— The Alhambra, 1834–1837

- Jones made drawings, plans, tracings and plaster casts and published *Plans, Elevations, Sections and Details of the Alhambra* in 1842–45. His studies of Islamic geometry, ornament and colour subsequently became highly influential in Victorian design.



David Roberts — Cairo, 1838–39

- Roberts's famous detailed drawings and watercolours of Cairo's mosques, streets and monuments helped familiarize nineteenth-century European audiences with Islamic architecture.

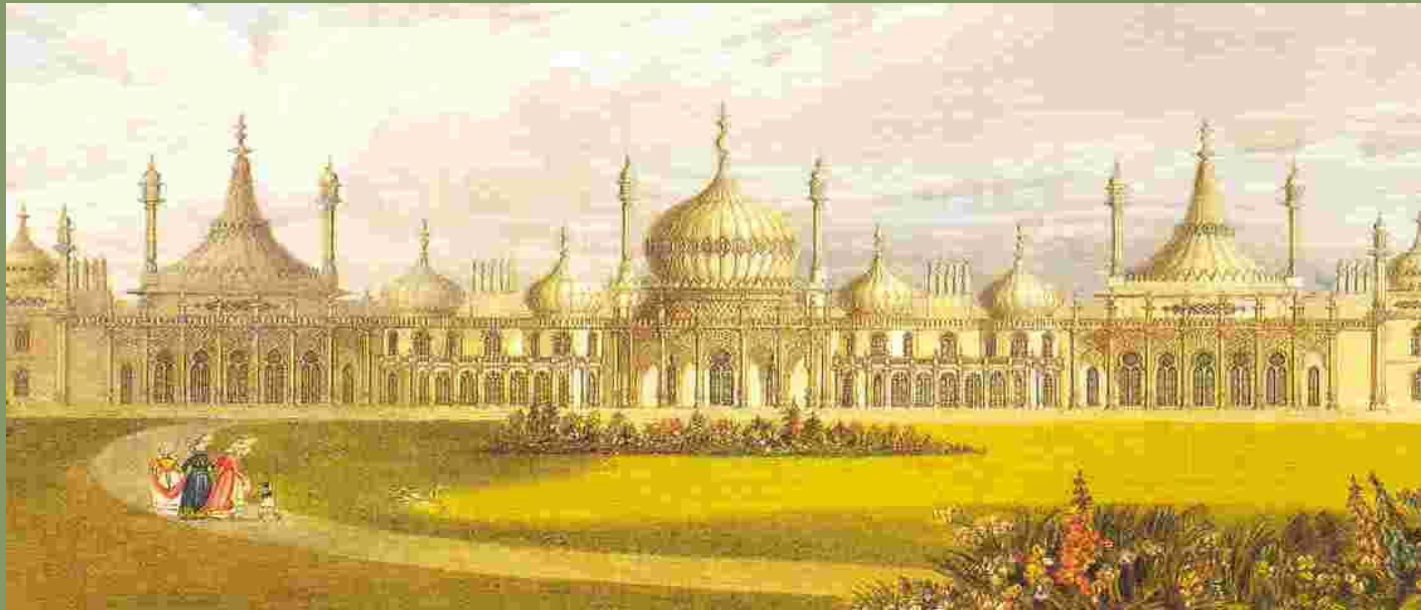


Sir Christopher Wren

- ❑ Sir Christopher Wren, England's celebrated 17th century architect, was a fan of Islamic architecture and an advocate of its effect on Gothic styles.
- ❑ In his greatest project, St Paul's Cathedral, several Islamic elements may be detected, including the structure of the dome and aisles, and the combination of dome and towers.



John Nash (1752-1835)



- George IV commissioned architect John Nash to remodel an unfinished structure at the London **Royal Pavilion**. The design submitted was inspired by the Taj Mahal. It was built in the 19th Century as a seaside retreat for the then Prince Regent .



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- ❑ The Islamic influence then died out in Europe for decades until it was brought back by the creative 20th century the Modernist (Art Nouveau) architectural movement .



London Royal Pavilion

London Royal Pavilion, John Nash

Owen Jones (1809 – 1874)

- English designer, architect, and writer, best known for his standard work treating both Eastern and Western design motifs
- He travelled for four years in Italy, Greece, Turkey, Egypt and Spain, making special study of Alhambra. On his return to England in 1836, his contribution to Islamic characteristics in contemporary architecture was significant.



Christ Church, Streatham Hill.



□ **Alexandra Palace** was built in North London, England, in 1863 based on the drawings of Owen Jones



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- Jones was a strong advocate of ornamentation as an integral part of design.
 - The “Grammar of Ornament”, a book authored by Jones and first published in 1856 became an important tool of the period by introducing designers to decorative arts from cultures where Jones traveled: Chinese, Persian, Indian and most notably Islamic.

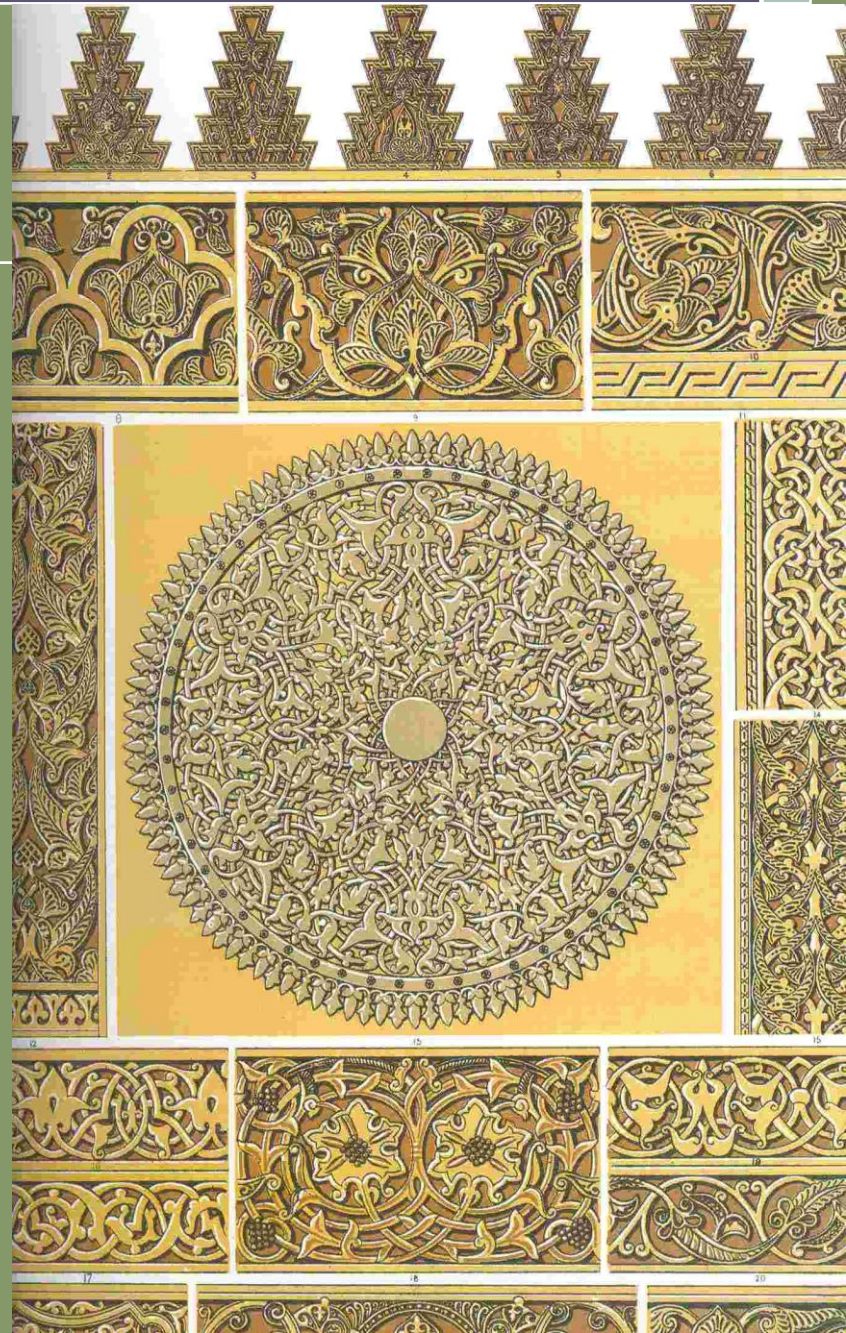


Illustration from *The Grammar of Ornament* (1856)

Gabriel Davioud (1823-1881)

- Islamic elements in the Trocadéro Palace in Paris (1878) were the two square towers, modeled after the minarets of North African mosques—with elaborately ornamented facades and domed pavilions.
- Davioud described the towers as recalling both European bell towers and **“the minarets that announce prayer in the East.”**





Frank Furness (1839 – 1912)

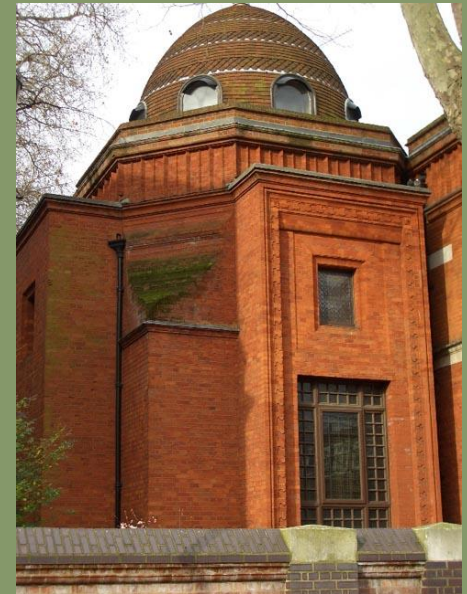
- Publications of Owen Jones appear to have been the main source of Islamic influence on Furness



Pennsylvania Academy of the Fine Arts ,1875

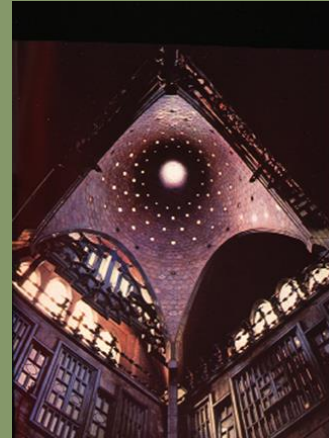
Lord Leighton (1830-1896).

- Leighton House Museum in London is the former studio-house of the great Victorian artist Frederic, Lord Leighton (designed by George Aitchison).
- His appreciation of Islamic work is reflected in the “Arab Hall”



Antoni Gaudí (1852 –1926)

- Gaudí a great Spanish architect of the Modernism movement, had studied and admired Islamic architecture.
- He is famous for his unique style and highly individualistic designs and personal adaptation of Islamic, Gothic and Baroque styles.
- Gaudí's only documented journey outside Spain was to Morocco in 1891.



Johan van der Mey

- Johan was a leading member of the modernist or expressionist architectural movement that developed in Northern Europe during the first decades of the 20th Century.
- Expressionism is described as “drawing as much from Moorish, Islamic, Egyptian, and Indian art and architecture as from Roman or Greek” (Wikipedia)



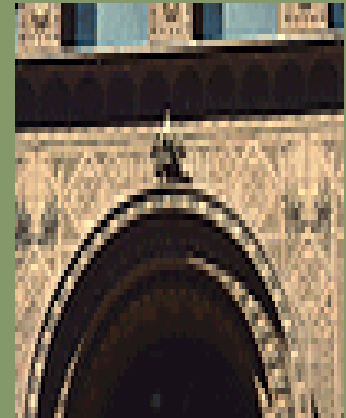
Shipping House, Amsterdam, 1912

Louis Sullivan (1856 – 1924)

- Traces of Islamic character can be found in works of Louis Sullivan, one of the fathers of modernism in America.

Guaranty Building, Buffalo, 1895

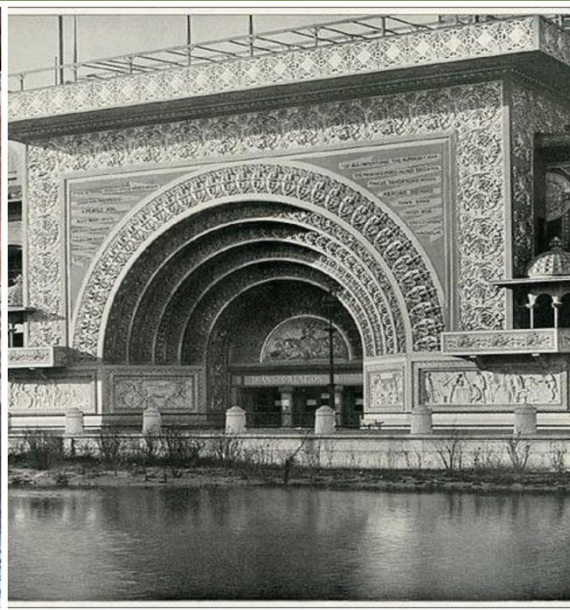
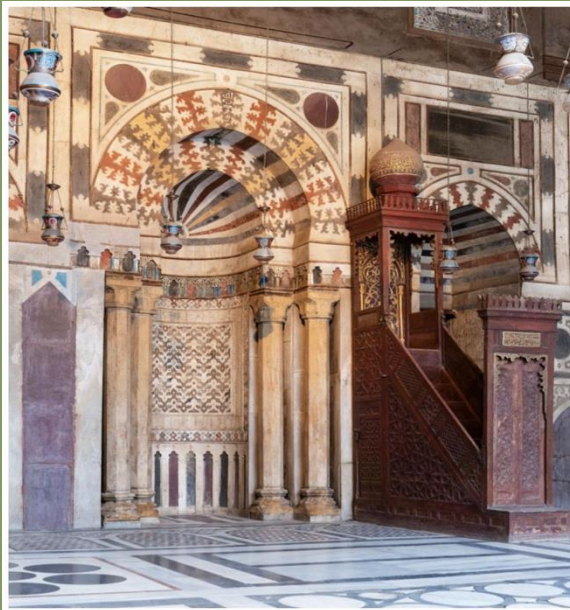
Carson, Pirie, Scott



□ Louis Sullivan and Dankmar Adler's Transportation Building was one of the most memorable structures at the 1893 Columbian Exposition in Chicago.



Architectural historian Zeynep Çelik points out striking parallels between the Transportation Building and Islamic architecture: the **multiple receding arches** of the Golden Gateway resemble Islamic portals and mihrabs; similar forms occur in Mamluk architecture in Cairo



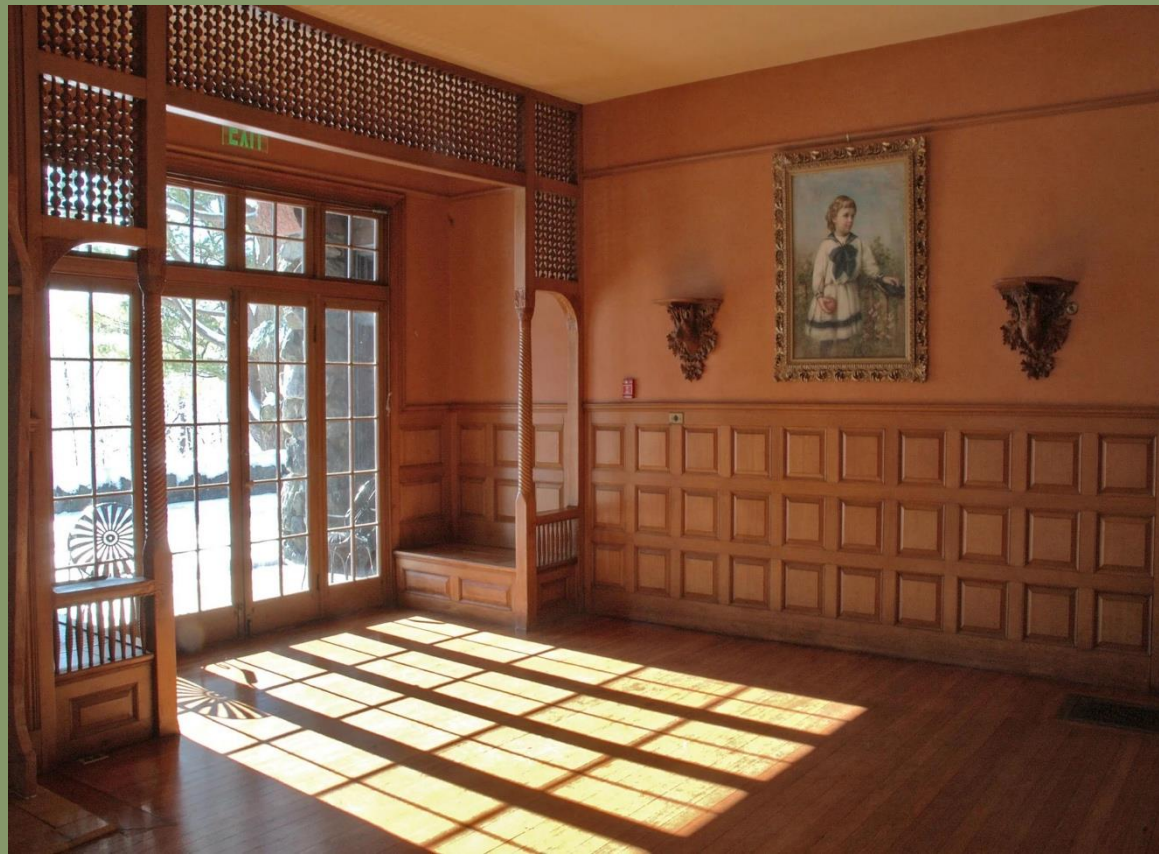
- Sullivan draped his buildings with intricate vegetal ornament.
- The ornaments and decorations were integral to the idea and design of the building itself, a primary Islamic design concept.



Guaranty Building, Buffalo, 1895

H. H. Richardson — Stonehurst, Massachusetts, 1886

Richardson designed intricate turned-wood lattice screens for several rooms. Stonehurst itself identifies these screens as among American architectural examples inspired by the mashrabiya





Islamic architectural influence eventually
crossed the Atlantic to North America, carried
through European and Spanish traditions and
later reinterpreted by **modernist architects**

Hearst Castle , San Simeon, California



Alcazar Theatre Building, San Francisco, California



Opa-locka, City Hall, Florida

Some architects have demonstrated much enthusiasm in adopting Islamic design features!



Frank Lloyd Wright

- Following his visit to Baghdad, and his design of the master plan for Baghdad university, Wright, one of the U.S.'s greatest architects, designed the Civic Center in San Rafael, California in the late 50's with an Islamic flavour.





Civic Center in San Rafael, California

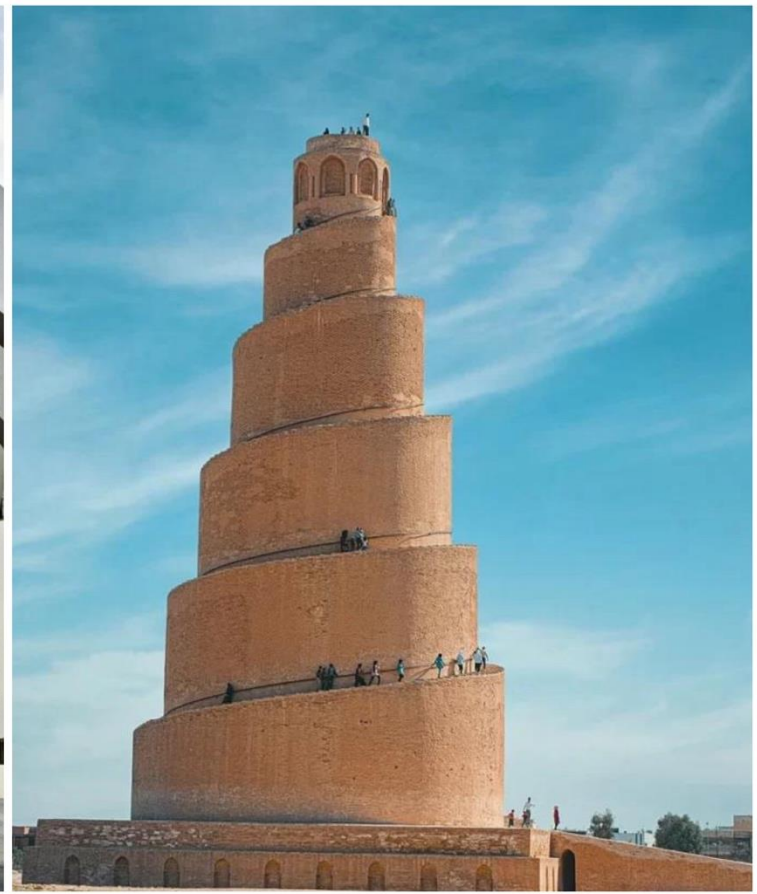
The Berkeley City Club, California





Frank Lloyd Wright's Guggenheim Museum, New York

The Frank Lloyd Wright Foundation says Wright's spiral architecture Building contains echoes of the spiral minaret of the Great Mosque of Samarra, although inverted—the Guggenheim expands upward rather than tapering upward



Arther Ericson

- ❑ **Arthur Erickson, prominent Canadian architect commented on Al-Azhar University, Cairo:**
“The atmosphere was one of great serenity – the endless quiet repetition of the columns and arches.”
- ❑ **The courtyard of Al-Azhar later became one of the inspirations for Erickson’s design of Simon Fraser University.**

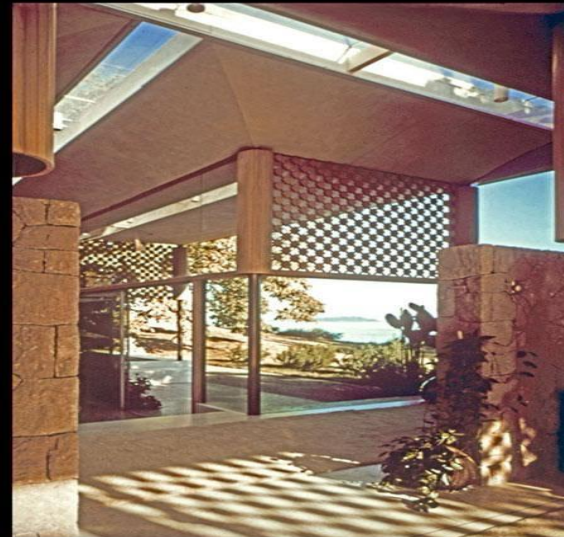


Al Azhar University, Cairo



Simon Fraser University, British Columbia

**Filberg House, 1958 — Erickson was influenced
by Andalusian Islamic architecture**



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- ❑ The Filberg demonstrates how Islamic architectural ideas could be transformed into West Coast modernism. Its inward-looking composition, sheltered spaces, water and close relationship between house and landscape recall the traditions of Andalusian Islamic architecture, interpreted in a distinctly Canadian setting.
 - ❑ “At first glance the house is ... altogether more decorative and curvilinear, with its upswept eaves and **perforated** screens like Islamic woodwork mashrabiya.”
 - ❑ — Rhodri Windsor Liscombe, architectural historian



Western and Islamic Dialogue

- As we have glimpsed in these examples, Islamic architecture has had a significant and lasting influence on the West. At the same time, Western culture has continuously interacted with—and strongly influenced—the architecture and arts of the Islamic world.
- This exchange has never travelled in only one direction. Architectural ideas, forms, materials, and techniques have crossed borders, been adapted, transformed, and given new life in different cultures.
- The result is a shared architectural heritage that transcends geography and time, linking the creativity of diverse and distant peoples.