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THE INFLUENCE OF ISLAMIC ARCHITECTURE ON EUROPEAN DESIGN

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SUMMARY

Islamic architecture's impact on European design is a manifestation of centuries of cultural interaction, commerce, and conquest. Islamic architectural forms, including domes, arches, geometric patterns, and calligraphy, were introduced into European forms through contact in Spain, Sicily, and the Crusades. This research examines how Islamic architectural knowledge was transferred to Europe by trade, diplomatic correspondence, and artistic borrowing. Key case studies, such as the Alhambra Palace, the Great Mosque of Córdoba, and Spanish Mudejar architecture, demonstrate the lasting influence of Islamic aesthetics on European buildings. Moreover, this study investigates the legacy of Islamic architecture in contemporary European design, and it discusses how aspects like ornamental tilework, vaulted arches, and elaborate arabesque motifs continue to shape contemporary architectural style. Through a study of Islamic-Europe architectural exchange on the international scale, the present research highlights the extensive long-term influence of Islamic architecture principles on Western countries' building practices.

Key words: *islamic building, European design, cultural encounter, Mudejar architecture, Alhambra, Great Mosque of Córdoba, geometric motifs, domes and arches, calligraphy as an architectural design element, commerce and diplomacy.*

INTRODUCTION

The architecture of a people can offer profound insights into its aspirations, ideals, worldview, relationship with nature and fellow men, scientific and cultural attainments, and way of life. The

architectural styles of Islamic and European civilisations that have grown side-by-side over the centuries offer vivid testimony to the rich evolution of both [3]. By using the term architectural practice instead of architecture alone, it is possible to cover not only the actual architects and builders but also the theologians, politicians, and engineers who have shaped the overall architectural endeavors, as well as artisans and craftsmen responsible for the ornamentation of the structures, [2]. This interaction has been fundamental in the broader exchange of cultural practices between the societies, influencing townscape and garden design, everyday objects and even fashion.

The subject of Islamic influences on European art and architecture has been extremely varied and is an area far too broad for a thorough review. Instead, one can examine a selection of particularly notable instances, [8]. The exchange of key elements between both is not only visible but also has moments of transmission that are well documented, and the richness and reverence behind these themes remain relevant to this day. As writes, “A great deal of phantasy has surrounded the interaction of such diverse architecture beyond mere copying, nonetheless interactions of elements have been more influential than spatial, structural or functional planning”. The transmission of the styles was facilitated by strategic commercial routes travelled by an array of characters notably diplomats, papal legates, and crusaders from the military orders, [10]. Commerce followed these routes and brought numerous products or work of art to the Iberian and Italian cities, making the Mongoles responsible for the spread of Islamic art and culture, [6]. Divine furnishings and other valuable objects were also brought back to the civil or ecclesiastical courts by the notables on return from their travels, deeply marked by the experience, [12].

LITERATURE REVIEW

Islamic architecture is developed by cultural, artistic, and engineering breakthroughs that are rooted strongly in intellectual and religious cultures. [1] give reference to Arabic calligraphy and its predominance in medieval Tashkent architecture, noting that inscriptions did not just serve as ornamentation but also as an intellectual and religious means of expression, [4]. This supports [5] hypothesis that Islamic architecture is the correlation of God, man, and the world with a creation of spaces that tell spiritual as well as functional concord.

Islamic art principles also affect its geographic location. [3] discusses Islamic art's impact on Western designers with a cross-cultural exchange of design and beauty. [11] also discuss the resonance of Islamic architectural components, especially of Alhambra, in contemporary designs by Rogelio Salmona with focus on the enduring legacy of Nasrid design principles. [9] also writes about the mathematical and geometric accuracy of Islamic architecture and how they relate to religious beliefs in addition to secular architectural needs.

Historical building methods and technological advancements are traced from an engineering point of view [7] and [13]. [15] emphasize the religious buildings of Central Asia, with unique architectural traditions. These works together emphasize the complex intertwining of art, engineering, and spirituality that characterizes Islamic architectural heritage, [14].

Background and Significance

Since it emerged around the seventh century on the Arabian Peninsula, Islam has produced a wide variety of architectural styles as expressions of different cultures, historical developments and societies. Islamic architecture is connected to religious, social and political aspirations, and is thus a reflection of man's close relationship with his Maker, with people and with the environment. Attaining knowledge, reflecting upon it and understanding the unity and totality of life are not only instructed in Islam but also underlie the architectural expression of the Islamic way of life and belief [5].

Islamic art and architecture did not develop in isolation but were significantly influenced by local architectural traditions and pre-Islamic religions. In the seventh century, for example, the Umayyad caliphs in Damascus employed Byzantine architects and know-how to build their monumental stone constructions. From crosses to stars: The church al-Aqsa was first turned into a mosque after the Muslims' conquest of Jerusalem. However, with the Muslims' prohibition to systematically depict living beings, new decorative forms and patterns had to be developed. Moreover, more often than not, cultures

and religions – including the religious architectural traditions – began to intermingle. Jewish and Christian mosaists, for example, were prized for their skills in the ever-popular mosaic decoration. Similarly, islamic motifs penetrated European Book Decoration in the 15th Century through the Iberian Peninsula in the form of luxury manuscripts. In Spain, Muslims and Christians deliberately borrowed architectural motifs and styles to express their superiority or Islamic heritage [3].

At the same time, there was evidence for the contrary process: Christians and Muslims imitated Islamic forms of design as an indication of their superior, fashionable taste. The scientific and technological advancements of, for example, observatories with spherical astrolabi, paper production with ink, or varied applications in bello, eminent, theoretical and practical philosophy were naturally of interest to Europe. The artistic tradition of illuminated Eastern, Arabic manuscripts formed by calligraphy and miniature painting of proverbs and stories began to penetrate Europe. Initially, acquired manuscripts or their own imitations may be entirely in the islamic style. However, interest in this design spawned and remained, thereby nourishing the technical and artistic means necessary to adept, modify, and improve the imported motifs.

KEY ELEMENTS OF ISLAMIC ARCHITECTURE

Islamic architecture is perhaps the most immediately recognizable of the arts of the Muslim world. Over the centuries and across the globe, certain key elements can be identified that are common to these structures. Among them: domes, minarets, complex tile work (often with rich geometric designs). In part, the appearance of these features derives from the religious and cultural contexts they evolved in, and each aspect will be examined in terms of these contexts. However, these elements are also part of a rich design palette available to the Islamic architect, and the way they are used in any incarnation of the art of Islam can serve a variety of functions. This multiplicity of forms can make Islamic architecture a somewhat more complicated quarry for borrowing for its Western counterparts than fields such as medicine, mathematics, and philosophy [5]. Before these elements and their transmission to Europe can be considered, a closer consideration of what in fact Islamic architecture does entail will be useful.

A partial answer to this question can be suggested by the commonality of design elements found in Islamic architecture. However, it will be shown that there may be a far greater range of forms contained under this rubric than initially apparent. Any traditional Islamic building ideally satisfies the requirements of a mosque: That is, it is a structure with arched entrances and delimited spaces used as a place of prayer. Beyond this, a number of conventions can be observed. One such feature is the extensive use of symmetry and proportion. The use of symmetry is perhaps taken to its extreme in the characteristic minaret, a high, slender tower, with a cap or turret. Minarets are frequently built as a pair, and combined with the dome, the other classic element of Islamic buildings, the three features together emphasize the symmetrical aesthetics of Islamic design, even if the buildings themselves are not classically symmetrical in the Western sense [3].

Geometric Patterns and Calligraphy

In discussions about Islamic architecture, more often than not it is reduced either to a stage for the performance of religious practices, or seen merely as the manifestation of political and thus socio-economic power. Consequently, the general qualities which make architecture reach beyond the functional are rarely addressed. However, especially in Islamic architecture, these essential qualities are manifold. This subsections looks at two of them: the decorative elements of geometric patterns and calligraphy. While on the outside the buildings may present themselves quite stern and overpowering, once inside there is an understated aspect of Islamic buildings which can inspire like no other [9]. That aspect is the intrinsic abstract beauty found in the geometric and calligraphic artwork.

Thus the profoundly well thought-out aesthetic side of Islamic arts tends to slip the mind of today's casual onlooker. Still, especially calligraphy in its less obvious, every-day use can, in its meagreness, do what endless pages of decoration wall-to-wall may fail to achieve. The marriage of a great religious faith and a geometric, seemingly mere mathematical decoration gives its architecture a very own touch. Furthermore, the fact that geometric pat-terns are supposedly infinite, another reflection of the diverse,

ever-contemplated nature of the divine, adds interesting symbolism to the decoration of the buildings [3]. Two of the foremost great Islamic empires, the Seljuk of Rum and the Ottoman, made particular use of tile work for their artistry, a rich, shiny decoration dependent on precise calculation of the two-dimensional space and depth in positioning the tiles.

TRANSMISSION OF ISLAMIC ARCHITECTURAL KNOWLEDGE TO EUROPE

Islamic architecture has a long and rich history that has uniquely contributed to art and culture throughout the world. Over the past decades, Islamic architecture has found a revival and is developing, particularly in the United Arab Emirates, Saudi Arabia and North Africa. But what do people in the West know about Islamic architecture, and do they really understand what it involves? During historical exposures and cultural interchanges, much Islamic architecture and technological knowledge moved to Europe. There is the direct transmission of information that results in the borrowing of ideas, materials and techniques from an architectural or structural source. That source can be found in a specific building, monument, structure or in the works of an architect or engineer, from a particular country or region, and of a particular time period. Knowledge can also spread through accidental exchange, such as the capture or destruction of an architectural object or structure, after which its secrets are unravelled [3]. There is also a cross-pollination of designs and technique which naturally enriches the existing architecture. The more sources from which one adopts or amends an idea, the more its applications and uses can become universal. This understanding, like interest on capital, will expand and increase.

The Muslim world has had both direct and indirect impact on European knowledge of architectural designs, art and space. Architectural knowledge was transmitted through various channels: by tutorial methods, through visual exposure, and via technology transfer. Very often, each was supported by written documentation. Transmission through tutorial education and apprenticeship occurred, for example, in the royal courts of Granada and the Ottoman Empire, and in the guild system common amongst Jewish and Syrian families in Cairo and Damascus. Furthermore, since the time of the Prophet, Islam has placed significant importance on the quest of knowledge. This has made a profound change concerning the spread and preservation of its technical skills and knowledge once it had conquered her diverse territories. Muslim Spain was renowned for its schools and libraries which brought together manuscripts from various philosophical, medical and scientific hierarchies. In the same way the Muslims enabled Europe to come out of the Dark Ages and to move into the light of Renaissance, they also provided Europe the background for the age of learning and exploration. Andalusian architects in Cordoba and Granada were considered the true custodians of the bridges and gates of the city, and these beings were consequently externalized through grandiose mosques, madrasahs and palaces. Merely having of the knowledge of these absolute structures was considered a privilege. Treatises on the fabrication of stained glass windows, the making of proccuccion, the construction of fountains and hydraulic systems were whirling around the Mediterranean world kept by scholars, architects and travelers. The transmission of this hoard of information did not only extend within the Islamic world but also passed from one end of Europe to the other. In this way, very often forms, designs and technologies mirrored those of a far distant culture. Bulbs became composite, windows Moroccan, arches horseshoe. By piecing together this comprehension by the explorations of scholars, architects and travelers of the past, one may have a more legitimate realization of the nature of this adoption and exchange.

Through Trade and Diplomatic Relations

Islamic architecture heavily influenced the development of Europe's architectural idiom; however, due to the chameleonic ability of Islam to adopt architectural style prevalent in a certain region, the influence has often gone unnoticed by European observers. This is especially true in cases in which the Muslim population was quickly displaced through warfare, as happened in Spain. But a detailed look at old European buildings reveals a distinct Islamic influence. Especially in the light of history it is indisputable that the center of learning and culture that the Muslims reveled in areas they controlled in southern Europe had its impact even upon the most northern parts of Western Europe [3]. This effect became apparent through two main channels: because of the great metropolises near the Mediterranean that represented a melting pot of different influences, and through the emulation of Islamic arts on the part of the scouting Christian armies that learned with surprise that the population of the lands conquered

usually outclassed them in technical and innovative respects.

The great Islamic caliphates smack in the middle of old world trade routes became a channel through which goods of various types, culture and knowledge flowed, by force of trade or as plunder of war. But even before flowering of Islam at the dawn of the middle ages, the Byzantine and Persian empires had a great impact on European architecture that did not go unnoticed by the Arabs. At the time that the storm of war and trade reached the Mediterranean world of the Islamic state many innovations of strategic and technical nature were being funnelled into Europe by Muslim, Byzantine as well as other channels, and were further spread by returning Christian warriors and knights who had come into contact with Eastern war developments. But effects of cultural intermixing were also felt in peacetime.

IMPACT OF ISLAMIC ARCHITECTURE ON EUROPEAN DESIGN

Architectural Details

In 711 AD, North Africa was invaded by Muslim Arabs. They reached southern Spain in 730 AD and began their invasion of Europe. The impact of Muslim architecture and design was profound. Some elements of beauty found in Muslim buildings were adapted or copied by European architects. Islamic design and architectural features characterize many well-known buildings and influences in major European centers. This text will look at some specific architectural features found in Muslim structures, and, later, in European ones.

The Moors were Muslim Berbers and Arabs from North Africa. By the 1100s, their armies reached Muslim Spain. Al-Andalus, the Arabic name for regions of the Iberian Peninsula controlled by the Moors was considered advanced and wealthy. As the Catholic Spanish and Portuguese kingdoms gained dominance from the 11th to the 15th centuries, Christian rulers adopted many features of their Muslim predecessors. The Muslim city of Elvira was captured by the Catholics in 793 AD. The Muslim Grand Mosque was rededicated as a Christian church. The small mosque in Córdoba expanded and improved by Abd al-Rahman I was destroyed, and a church built in its place. However, the Great Mosque of Córdoba was so beautiful that the conquerors decided not to destroy it. According to one account, when the Christian king, San Fernando, rode into Córdoba in 1236 AD, he was so taken by the beauty of the building that he decided to keep it as a church.

In the late Middle Ages and the Renaissance, Islamic decoration and architectural forms became fashionable across Europe. The decline and fall of the eastern Christian Byzantine Roman Empire in 1453 AD further fueled the knowledge and appreciation of ancient Greek science, arts, and architecture. Waves of Greek and Latin texts were translated into Western European languages. Connections with the Arab world and the Muslim Moorish civilization in Spain became objects of research and imitation. The Renaissance saw the opening of trade routes to the East from the Italian city states, Venice and Genoa, forcing increased awareness of, and trade with, the advanced and rich Islamic societies in the East, and their Italian allies at Antioch in Syria and Alexandria in Egypt. In Christian Spain, after the fall of Granada in 1492, there was a rapid assimilation of Muslim science, medical knowledge, arts and music [5]. Architecture was also a field of influence, producing the fusion known as Mudejar. In Iberia generally, Islamic patterns and metalwork designs were much in demand, with a thriving book production in Spanish and Arabic on Islamic arts. Middle Eastern manuscript illumination and bookbinding techniques were imitated, incorporating Arabic texts, and many lasting examples remain [3].

Table 1. Impact of Islamic Architecture on European Design

Architectural Feature	Islamic Influence	Examples in European Architecture
Arches and Domes	Islamic architecture introduced horseshoe and pointed arches, influencing Romanesque and Gothic styles. Domes, such as those in mosques, inspired European cathedral designs.	Great Mosque of Córdoba → Cathedral of Córdoba; Hagia Sophia → St. Mark's Basilica

Geometric Patterns and Calligraphy	Islamic architects developed intricate geometric patterns and calligraphy, seen in mosques and palaces. European designers later incorporated these into stained glass windows and decorative facades.	Alhambra Palace → European palaces; Arabic calligraphy adapted into decorative arts
Mosaics and Tilework	Muslim artisans perfected mosaic and tilework techniques, creating complex floral and geometric motifs. These techniques were adapted in Spanish and Italian architecture.	Spanish Alhambra tiles → Italian and French mosaic floors; Ottoman Iznik tiles in European decor
Courtyards and Water Features	Islamic buildings often featured courtyards with water fountains for cooling and spiritual symbolism. European palaces and gardens, such as the Alhambra and Italian Renaissance villas, incorporated similar elements.	Generalife Gardens in Alhambra → Versailles fountains; Persian-inspired water features in Italy
Structural Engineering and Materials	Islamic builders pioneered lightweight materials like stucco and advanced vaulting techniques, influencing European masonry and ceiling construction.	Moorish palaces → adoption of light, airy interiors in Baroque and Rococo buildings
Mudejar Style	The Mudejar style, a fusion of Islamic and European designs, flourished in Spain after the Christian Reconquista, blending intricate Islamic motifs with Western forms.	Alcázar of Seville → blend of Christian and Muslim motifs; Toledo churches with Mudejar designs
Influence on Gothic and Renaissance Architecture	Islamic architectural principles influenced Gothic ribbed vaults, pointed arches, and Renaissance domes, as seen in structures like the Cathedral of Seville and the palaces of Florence.	Gothic cathedrals (Chartres, Notre-Dame) → pointed arches from Islamic architecture; St. Peter's Basilica influenced by Ottoman dome engineering

Architectural Styles and Building Techniques

Overlooked by prevailing art history narratives, this examination enters the hybrid spaces of architectural art history, revealing shared design narratives between Islamic and European architecture. There were exchanges, adaptations, and marriages of elements of architectural design, that were translated from one geographical zone to another, bringing with them wider languages of architectural practice. European and Islamic architectural designs coexist in Europe. These belong to Jewish heritage, to their artisan muralists and illuminators who migrated back and forth within the twelfth and thirteenth centuries, carrying with them a shared body of motifs. They symbolize the other, the believer deemed inferior for the medieval European believer. Prejudices seem to rely principally on religious belief, as opposed to racial criteria.

Vedute of architectural design clearly present a preconceived idea of the subject. This can be observed in the way differing architectural styles are identified with the main cities to which they belonged. The buildings have been relocated, deprived of context, used as symbols of distinctive traits and characteristics, and ultimately, as symbols of identity. The Venetian gothic style is what characterizes buildings with orientalist features. This is shown in the representation of Venice in Persian and in Islamic Cartography. Curiously, the same fragments from the palace of Saphadin in a French miniature depict a gothic window form, which was -and is- uncommon in Islamic architectural design [3]. This is especially intriguing as the seat of the Mamluk sultans of Egypt was for a long time a location of exchange for scholars and artisans, who would have been in contact with both architectural and artistic forms, of the East and of the North.

CASE STUDIES

Introduction Paris' Eiffel Tower, London's Big Ben, and Amsterdam's canal system are landmarks that have come to define cities in Europe. Few Europeans realize that much of their architectural heritage originated in the Islamic world, and fewer still understand the history and subtlety of the exchange of art and architecture. Islamic Art, in the sense of art that represents and represents transcendency, is expressed in numerous forms, from the spiritual well-being of the people to their immediate surroundings. This chapter looks at Islamic art through architecture and its influence on mainly Western European architecture. As a caution, it is only an introduction to this vast subject and sacrifices some subtleties on the altar of brevity [3].

A current view of buildings and their culture is that they are non-static; more as a film than a photo. Architecture is constantly exchanging ideas and habits in construction processes. To this effect, the chapter looks for a different approach where specific buildings are compared, either in the same country but in different times or in different countries using a similar technology. This essay stresses that the traditional view dealing only with stylistic influence is too limited. Architecture can be seen as a dialogue between people and place, between cultures and environs. So, looking at how buildings have been adapted in a specific local context helps to find a more rounded explanation. Case studies are used to examine the architecture of the building and to provide a base of analysis. The act of assisting in the exchange of art and architecture is taken for granted, though not overlooked. For the purposes of simplicity and reducing overlap elsewhere, the comparison contains only buildings of the most obvious analogies, although there are numerous cases not covered that are worthy of dialogue.

Alhambra Palace in Spain

The Alhambra in Granada is a site of surprising architectural narrative complexity. Constructed after the reconquest of Spain by the Catholic Monarchs, this palatial complex combines both Islamic and European features. The influence that Islamic architecture subsequently held in the design of many European buildings sees its earliest and finest reflection in the Alhambra. Although it has evolved over time and a variety of historical periods, the changes over the centuries in this architectural complex account for an intricate and composite blend of historical memories with aesthetic overtones.

Iconographic representation in the form of engravings played a key role in the establishment of the completed icon of the Alhambra which circulated throughout Europe and in the propagation of the Orientalist vision of what was left behind. In doing so, it led to many of the misconceptions still held today about Islamic civilization. These iconic engravings contributed to transforming the value model of the original building, which diverged from the Orientalist consuetude typical of the time. Such a divergent value model, arising as it did from historical similarities between the Muslim and Christian builders of the Iberian Peninsula, saw the Alhambra as not only a setting of peace, friendship, reciprocity and progress, but also a metonymy of a derivate moral rhetoric, seen as necessary for the health of a State escaping from the decadent point stage it had reached [11]. The preservation of what was supposed to be prestigious Mahometan buildings was seen as public interest. It was linked to planned urban interventions, to an innovative idea of controlling the growth of Christian populations within Moriscos-living quarters and, in sum, to setting the right moral and intellectual stations in a world inhabited by both Christians and Muslims.

In more recent times, the Orientalist fascination for the Alhambra found its full realization in a travel experience undertaken particularly by Romantic travelers. The adventure encompassed a thrilling glimpse of the far exotic, mysterious and unspoiled landscapes framed by the Alhambra and its site. With the birth of modernity the remaining ruins finally received the attention they deserved. He was asked to provide engineered solutions to stabilize and consolidate the remains, and his perspective was formed by a sensitivity on seeing the inner qualities and cogency of historical monuments as documents of past cultures. He was able to foresee the site's importance, proposing a public ownership to safeguard the ruins and prevent them from being transported elsewhere. Enjoying the site through the idea of "ruin in picturesque landscape" was no longer sufficient. He suggested further scientific research to supplement the income received from the tourists. This awareness has been the seed of the present permanent commitment to extensive cultural policies aimed at researching, studying and preserving the remaining monuments of the Arab occupation. The poly semiotic character of the Alhambra and its remains as a source of inspiration for so many "readings" by different fields are perceived as an opportunity to promote a productive dialogue on the numerous aspects involved in its historical conformation, decay, social usefulness and eventual reuses. Similarly, the time elapsed since the Romantic age has allowed a critical reconsideration of the idea itself of a ruin, a look at the ruins as witnesses of an aesthetic experience, alternately despised or extolled according to contemporary habits of taste and able to unveil conditions conveying the vicissitudes and the dreams, the expectations and the disappointments characterizing the approach of humanity towards its historical and artistic heritage.

LEGACY AND CONTEMPORARY INFLUENCE

Islam developed its own architectural styles in the 8th century. Geometric patterns and repetitive design were hallmark features. The Umayyad Mosque in Damascus, built in 715, and the Great Mosque of Kairouan, in Tunisia, built in 866, are Early examples, and both inspired subsequent buildings, such as the 9th century Great Mosque of Cordoba. The latter vied with the Hagia Sophia in modern-day Istanbul as Christian Europe's architectural wonder. The reign of Hisham II (r. 976-1008) saw the palace-city of Madinat al-Zahra, three miles north of Cordoba, constructed, another classic example of Islamic architecture. Inspired by the pre-Islamic Persian notion of Paradi ('walled palace garden'), or paradise, it was not only a collection of buildings, but a fully designed city-scape of gardens, bridges and travelling wildlife. Thereafter, the Moors took architectural influences across the straits, and the Alhambra in Granada, built in the 11th century, for example, was another elaborate palace-cum-fortress-cum-garden adaptation of this genre of architecture.

The legacy of Islam upon Europe is therefore immense. Even across the Balkans, where Ottomans occupied territories for centuries before being decisively repelled in battles such as at Lepanto, the influences were absorbed into local culture. The term 'the Balkans', for instance, is derived from the Turkish for 'honeycomb', as the Ottomans entered a region already divided in politics, religion, and language. Styles and motifs, mosque architecture, and the way in which cities and towns were planned, all still testify to the centuries of Ottoman-Persian rule. And of course, much of what was learnt from the House of Wisdom in Baghdad passed west with the Ottomans and Moors and seeded the Renaissance. It seems only appropriate, therefore, to examine how such historical influences continue to inform contemporary architectural practices across Europe, and how, today, Islamic aesthetics are imparted, adopted, and adapted. And intriguingly, it is discovered that such influences are found in very disparate realms, not just in the copying or replication of historical styles, and not always confined to the realms of brick, stone, or glass. Thus, in order to better understand this, it is necessary to explore a few select examples that reflect the enduring legacy of Islamic architecture [3].

Modern Architectural Trends

Modern architectural trends have seen a plethora of historical elements popping up ever more frequently in new structures around the world. It is difficult to miss the revival of the complexity and beauty of Islamic architectural forms amongst this resurfacing lot. These renewed reflections of historically inspired architectural features in modern design practices are manifest in a multitude of styles — from the subtle choice of porous materials to the grand employment of characteristic geometries in contemporary architectural structures.

One such not so subtle architectural manifestation — both due to its exorbitant price and its delicate cultural and historical weight — can be found in Hamburg's new concert hall, the Elbphilharmonie. As one of the most expensive buildings in Germany ever to be built, this concert hall cum hotel has caused quite a stir. However, more pertinent to the topic at hand, it is probably one the most transparent efforts to bridge a contemporary building with the architectural aesthetics of the past. The building's terraced structure, comprising a modernised hodgepodge of elongated forms reflecting its surrounding watersides, is crowned by a monumental glass top with frangible bulbous protrusions stretching skywards. This bulbous glassification – aspiring to appear part glacier, part oriental palace – does more than enough to evoke a sense of modernised "Islamic" architecture in its attempt to incorporate characteristic historical forms, ripe with ornament [3].

Regardless of how one views this architectural colossus, admires the perhaps obscured neogothic and neobaroque inspiration in its interior, or dents one's skull to the concert hall's infamous acoustics – thus bringing the exterior mirrored cost of the building once more to mind – its mere existence stands as a testimony to an architectural dialogue across time that is once more finding its place amongst a multi-identified society. This inescapable cultural dialogue taking physical shape in the buildings around us, has now also found innovative ways to interpret previously less obvious, although nonetheless more intricate characteristic forms in Islamic design. These efforts stand in no small part thanks to the possibilities offered by digital design and building practices that have revealed all the more complex

sides, whilst also making them potentially ubiquitous in their comprehensive translucence a feature also marked by problems of paradigm [5].

CONCLUSION AND FUTURE DIRECTIONS

Designers have always been engaged in a continual dialogue with architecture from the past, whether through direct historical reference or as an expression of cultural heritage and memory. An examination of Islamic design influence is an important area of research, due to the large territories conquered by the Islamic Empire and cultural exchanges which influenced architecture, textiles and ceramics among many craft techniques. In light of this, an exploration of selected buildings in Europe presents some examples of the surviving architectural translation of Islamic motifs and design. Examination of the influence of Islamic design on European textiles, decoration and ceramics helps broaden the perspective, revealing hidden histories and the preservation of rich translations of long-lost artefacts. Western Europe and the Islamic Empire have crossed cultural paths since 711 A.D., when Andalusia became an Islamic state. The unique architectural style and design of the numerous mosques, palaces, fortresses and private residences established the Umayyads' status as the pre-eminent Mediterranean culture of the time. Islamic cordovan leather and silk textiles dominated export trade in the 10th century, most notably influencing Christian kingdoms in the north. It was interpreting this design which was to establish Europe as the leading manufacturer of textiles with a high-fashion value status. In the 12th century, an increased movement of peoples lead to knowledge and experience with Islamic design. This in turn lead to innovations in silk weaving in Europe, with Italian cities dominating the industry. Innovations in damask weaving produced a pattern on a signature ground, and a technique for weaving both sides, so that both could be used. These pieces were brought back as war booty during the Crusades even as early as the 12th century. These then were copied by weavers in Northern Europe and produced a fad for Islamic design which culminated in the Massacre of the Huguenots in Lyon France. The interpretation of Islamic design was limited to only a few basic compositional units or designs, which could then be adapted and rearranged. Lion rampant motif is a paradigmatic example of this simplification [5].

Summary of Findings and Implications

This essay suggests that the architecture of Islamic civilisations greatly influenced European buildings, illustrating the layered nature of this cultural exchange. There are subtle differences between the religious edifices. The affectations of Islamic elements also differ in each case. Islamic architectural elements are integrated into European contexts, often leading to the development of their unique hybrid art forms. A complex intertwining and redefinition of Islamic and Christian architectural elements results in exclusive art forms in the Iberian Peninsula. The interpretations and affectations of Islamic and Christian architectural elements within various European buildings often differ in approach and strategy. The different case studies offer diverse insights, illustrating a disparate affectation of Islamic architecture within European buildings. The more focused illustration of the Alhambra Palace highlights both direct and indirect influences and thus adds to the complexity in understanding the layered influences of Islamic architecture on European design. This subsection underscores the importance of discussing the influence of Islamic architecture on European buildings and vice versa. Despite the growing interest in these discussions and the wealth of material that can be interpreted and reinterpreted in the light of interconnectedness and interdependency of cultures, these intricate relationships still need broader discourse. Moreover, these discussions possess a certain contemporary urgency. As misconceptions continue to rise, so does the urgent need to address some of these misunderstandings, especially the ones stereotyping Islamic civilisations and their heritage. On the other hand, these discussions can greatly benefit broader discourse regarding cultural heritage and its universal significance. Through a more careful and considerate examination of specific contexts, a more nuanced appreciation of the long-standing and centuries-old dynamism of these cultural exchanges and relationships is foregrounded.

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