



TILES

An Artistic Exploration into Islamic Geometric Patterns

By Humza Omar



Window from Córdoba

This work's geometry is based on certain marble window grilles from the Great Mosque of Córdoba in Spain. This pattern, which has appeared in many historic buildings across the globe, consists of superimposed hexagons and 6-pointed stars.

The Great Mosque of Córdoba is an example of Umayyad architecture. It was constructed in 785 under the rule of Abd ar-Rahman I, a surviving member of the Umayyad royal family who fled Syria to Córdoba after the Abbasids revolted in 750.

This pattern was popularized by the Umayyad and Fatimid Caliphates between the 8th and 10th centuries. During this time period, this exact geometric pattern was also notably used in the al-Azhar Mosque in Cairo, Egypt, as well as the Jāmeḥ Mosque (aka the Friday Mosque) of Isfahān in Iran.

Abstract

This research project intends to educate my community about the art of Islamic geometric patterns by exploring the significance of these patterns and analyzing various styles of this art form. Islamic geometric patterns are a subject that most people in this community will go their whole lives not thinking about; this is something I want to change. People need to be aware of the art associated with Islam and the rich history behind that art, especially considering that the stigma and prejudice around Muslims are plentiful in the US. Education about Islamic art leads to an appreciation of Islamic art, leading to an understanding of Islam and the reduction of discrimination against Muslims in our community by negating biased misconceptions.

The results of this project are 4 paintings, each an example depicting unique Islamic geometric patterns, all from different places and periods. These paintings enable the community to explore their intricacies and variety. I also produced a website to act as a virtual educational space for viewers to learn about the history of these patterns, the global significance of these patterns, and the mathematical complexity and evolution behind these patterns. In combination, the results of this project will serve to educate the Carolina community about Islamic geometric patterns, acting as just one of many efforts to reduce Islamophobia in this country.

History and Significance

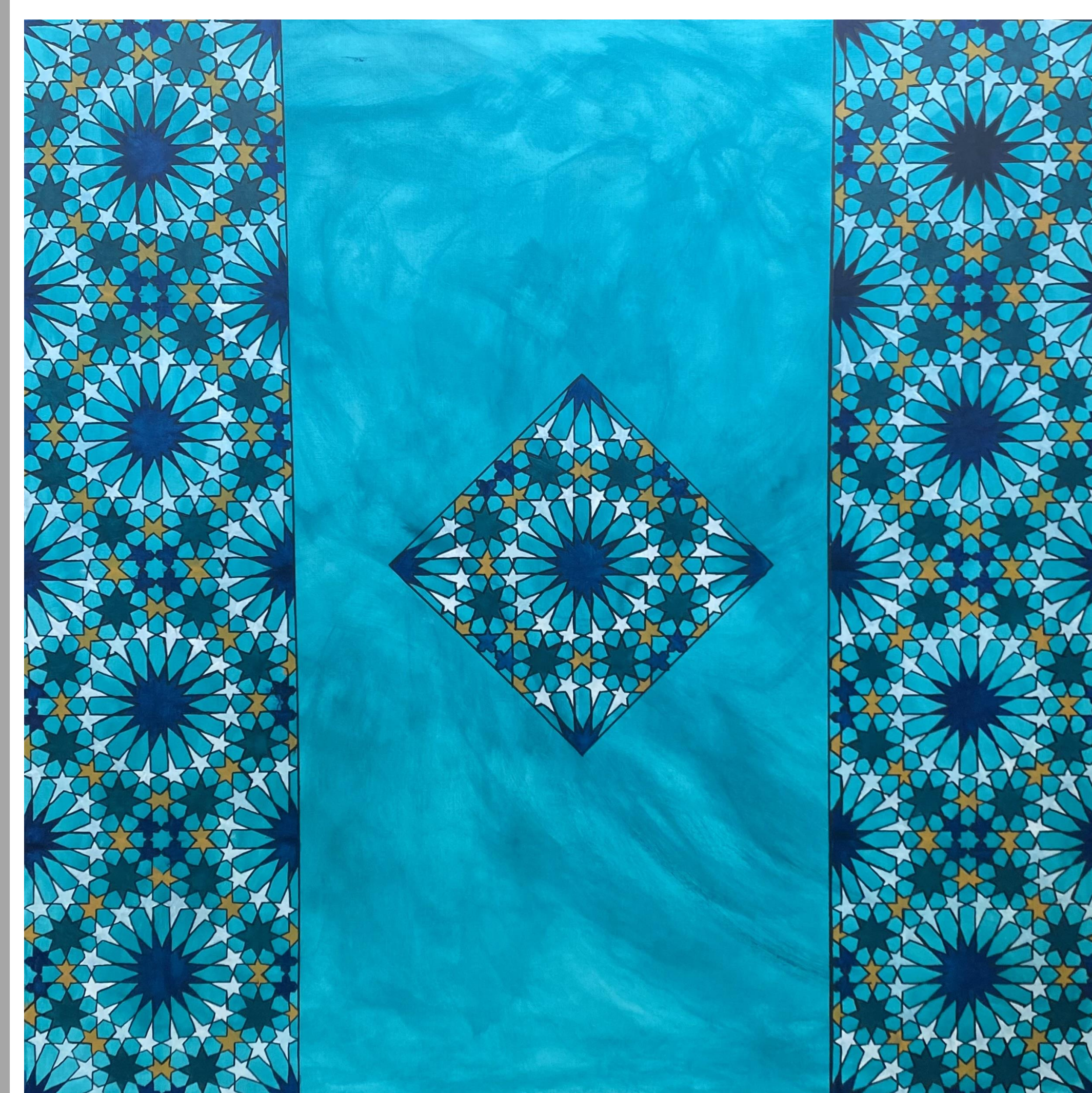
Since the 8th-century, Islamic geometric patterns have been a staple of Islamic art (Abdullahi). But how can art be Islamic? Islamic refers to the religion's spirituality. Much of Islamic art is also Islamicate, referring to the "cultural complex" surrounding Islam's influence (Dressler). Islamic geometric patterns have become Islamic as they were not initially created with spirituality in mind. Over time people have given it that interpretation and connection.

Islamic geometric patterns have evolved with varied, increasing complexity. In the 10th century, the Islamic scientific community built upon Greek work with contributions in geometry. Islamic scientists developed geometric methods which were used by Islamic artists and architects, contributing to the popularization of these patterns in architecture (Berggren). Islamic geometric patterns have made notable appearances in works beyond the buildings of old Islamic caliphates that surrounded the Mediterranean. These patterns can be found from the Assalam Center in Boca Rotan, Florida, to the Masjid Wilayah in Kuala Lumpur, Malaysia. Islamic geometric patterns carry dense history into a vast modern presence.

In addition to the stylistic components, the mathematical complexity of these patterns is significant. The variety of Islamic geometric patterns comes from the number of points in stars present in the designs (Abdullahi). Different star patterns are made using algorithms developed by early Islamic mathematicians.

Their presence across mediums is also significant. They are found in tiles, woodworking, textiles, stained glass, and more (Milwright, Muhammad). And as previously mentioned, examples of these patterns can be found in nearly every country. These geometric patterns have gone wherever Islam has gone.

This brings me to my final component: Islam. Islamic geometric patterns are associated with one of the largest religions in the world, while geometry is universal. Geometry has existed long before Islam, and it belongs to nobody. However, the individual creations of Islamicate artists connect to this universal property. Art depicting Islamic geometric patterns is tensioned with this duality of universality and individuality. By this, I mean that the geometry does not change between artists. The mathematics of the patterns between creators is identical. It is the remaining characteristics: the texture, colors, brush strokes, and so on, that are unique to each artist and capture a universal concept in individual work. The creators of the first examples of these patterns in Islamic architecture were craftsmen commissioned for work like any other tradesmen. They did not endow their work with any spiritual meaning. However, their work has been given plenty of meaning over time. Many Muslims have derived Islamic ideas from work that had the original intent of simply looking beautiful. Now they are present in the pages of the Qur'an, on the walls of rooms where billions pray. These patterns are significant to the experience of any modern worshiper just as they are significant to the eyes of any viewer.



Alhambra Mosaic

The geometry of this work is based on a Nasrid *Zillij* mosaic panel found in the famous Alhambra Palace in Grenada, Spain.

"Nasrid" refers to the Nasrid Dynasty, which was the final Muslim dynasty to rule over the Iberian Peninsula; their reign ended in 1492.

"*Zillij*" refers to a style of mosaic made up by hand-cut tiles of often varying bright colors which was initially popularized by Islamic architecture between the 10th and 11th centuries. The bright colors and small, intricate shapes in this painting intentionally pay homage to this historic mosaic style.

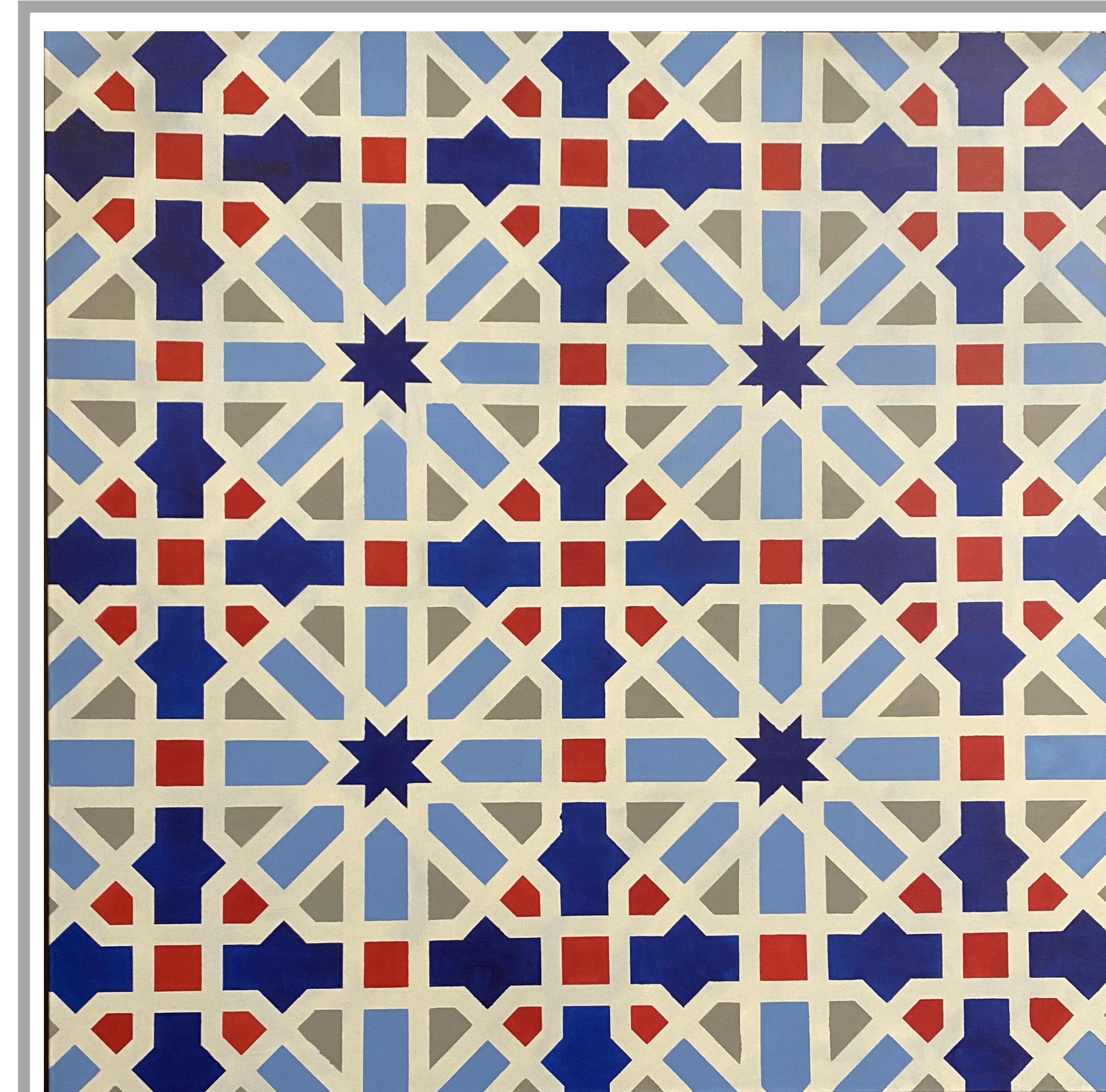


Kayersi's Facades

The 4-fold geometry in this work is based on the exterior facades of the Haunt Hatun mosque in Kayersi and the Haci Kilic mosque and madrassa, also in Kayersi, Turkey. These examples were both constructed in the early 13th century by the Seljuk Sultanate of Rum, which notably superseded the Great Seljuk Empire responsible for the pattern featured in my painting *Erzurum's Facade*.

The Seljuk Empire of Rum was also Sunni and Turko-Persian in culture. "Rum" refers to the people of the Byzantine empire, as here the Suljuks' Sultanate was ruling over conquered Byzantine land and byzantine people.

"Madrassa" refers to any school or college teaching various subjects such as, but not limited to, architecture, law, and religious studies in Islam. These madrassas were first made popular under the Seljuks in the 11th century.



Erzurum's Facade

The 4-fold geometry in this work is based on an exterior facade of the Great Mosque of Erzurum in Turkey, built in 1179. This mosque was built by the Saltukid Kingdom who ruled a portion of Anatolia (the peninsula which is today known as the Asian part of Turkey) between the 11th and 12th centuries. This Octagonal and 8-pointed star pattern and similar 4-fold patterns, were popular throughout Anatolia and can be seen in constructions by other local empires and kingdoms, notably by the Seljuks. The Seljuk Empire was a large, Sunni, Turko-Persian culture who's influence likely led to this pattern's other notable appearances eastward in Chist, Afghanistan.

Citations and References:

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Website

Scan here to see the website associated with this project. I will be continuing to research this subject and build the website further post-graduation. This will come in the form of adding to the website research on the mathematics of Islamic geometric patterns, and an additional look into the process of creating the paintings. I may even create more paintings for the series!

