



## MOTIFS AND ORNAMENTATIONS OF ERZURUM SELJUK MADRASAS IN THE CONTEXT OF INTERCULTURAL INTERACTION

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**Abstract:** Throughout history, cultural and artistic activities in various civilizations have been shaped by the unique lifestyles of societies and transmitted across generations. The data transferred through trade routes and economic relations, migration and population movements, empires, wars and alliances, the spread of religions, as well as scientific and artistic interactions, have both influenced and been influenced by other civilizations. One of the states where these interactions were intensely experienced due to its vast territories hosting diverse ethnic, religious, and cultural groups was the Seljuk Empire. The Seljuks synthesized the art, architecture, and culture of various civilizations, including Byzantine, Persian, Arab, Central Asian, and Armenian traditions. By adapting the motifs, ornamentations, and construction techniques of these cultures to their own aesthetic principles, they created a unique architectural language. Situated in a strategic location, Erzurum was an important part of the Seljuks' dominance in Anatolia. The historical caravanserais, madrasas, and tombs in Erzurum reflect the Seljuk architectural techniques, ornamentation styles, and motifs, showcasing their interactions with both local cultures and other Islamic and non-Islamic civilizations. One of the most renowned Seljuk-era structures in Erzurum, Çifte Minareli Madrasah, is regarded as a symbol of the city. Although Yakutiye Madrasah was constructed during the Ilkhanid period, it still exhibits the influence and architectural style of Seljuk art. This study aims to examine these influences in terms of motifs and ornamentations through an analysis of these two madrasas in Erzurum. By comparing and analyzing the motifs and ornamentations found in Seljuk architecture with those of different cultures, the study seeks to highlight the cultural interactions embedded within these structures. Ultimately, the study aims to identify the influences of various cultures through the motifs and ornamentations of Çifte Minareli and Yakutiye Madrasas. It further seeks to explore how these interactions contribute to the identity of the structures and to cultural sustainability.


**Keywords:** Erzurum, Madrasah, Motif and decoration, Art, Cultural interaction

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### 1. Introduction

Culture consists of the material and intangible elements produced by individuals within a society as a result of their interactions and shared way of life within a specific time and space. Culture holds great significance for societies, accumulating and transforming over time to be transmitted to future generations (Polat, 2020). Over successive generations, culture evolves through language, religion, geographical proximity, intellectual and artistic traditions, kinship, economic and political systems, bringing groups of people closer together while continuously developing.

Since culture is passed down through generations, it can be altered, developed, or, in some cases, forgotten over time. This dynamic nature of culture has ensured that, even as human communities and states have disappeared throughout history, their cultures have endured by

adapting and transforming within different societies (Peterson and Anand, 2004).

In addition to the intergenerational development of culture over time, its transformation and evolution also occur through interactions with different human communities and cultures. Several key factors influence the interaction between civilizations, including trade routes and economic relations, migration and population movements, empires, wars and alliances, the spread of religions, as well as scientific and artistic exchanges (Çorbacı et al., 2021).

Among these, migration movements have played a particularly significant role, leading to demographic, economic, historical, and social changes, ultimately resulting in dynamic cultural interactions (Haas, 2008).

Throughout history, cultural interactions have been intensely experienced in various geographical regions,



and due to its strategic location, Anatolia has been one of the most significant areas where these interactions took place. When examining Anatolia's pre-Turkish history, it is known that during the period of Byzantine rule, the region underwent a Hellenization process, while in earlier historical periods, it had a Roman heritage. Additionally, it is documented that until the 5th century, many ethnic groups inhabited the region (Öztürk, 2018). With the arrival of the Turks in Anatolia, Turkish and Islamic culture exerted a dominant influence on the region. However, this did not result in the complete disappearance of the existing local culture. The Turks adopted a policy of tolerance towards the ethnic groups present in Anatolia. Initially, these cultures preserved their distinct existence, but over time, they interacted with one another—either transforming under the dominant culture or influencing the dominant culture while preserving their own values (Türkoğlu, 2019).

In this context, during the period that began with the Battle of Manzikert in 1071, the Seljuk Empire regarded cultural pluralism as a form of enrichment, incorporating it within its governance and actively pursuing conscious policies in this direction (Kutlu and Göksel, 2014; Sipahi and Yalçın, 2021). Throughout its historical journey, the Seljuk Empire, which housed many different ethnic groups, harmonized the cultural elements of these groups in the material cultural assets it produced, making it one of the notable civilizations of its era.

Due to its geographical origin and commercial relations, the Seljuk Empire interacted with Central Asian, Persian, and Sassanian art. Additionally, Byzantine and Roman art, which had historically shaped Anatolia, were also influential in the development of Seljuk art. Moreover, Shamanistic beliefs and Islam influenced Seljuk art in various ways, leading to the emergence of a distinctive artistic and architectural style (Türkoğlu, 2019).

One of the arts that developed as a result of interaction with different communities and cultures in the Seljuk Empire was ornamental art. Ornamentation is a sub-branch of painting that involves the use of shapes, images, and motifs to enhance the aesthetic appeal of an object (Tütüncüoğlu, 2016). The richness of Turkish ornamental art stems from the diversity and abundance of motifs used.

When the Seljuks migrated from Central Asia to Anatolia, they encountered stone, a new building material unfamiliar to them in their homeland. They applied the decorative techniques they had brought from Central Asia onto this new material. The motifs and ornamentations seen in surviving Seljuk architectural works reflect this decorative adaptation (Yıldız, 2019).

Although it is known that Seljuk ornamentation evolved through influences from different societies, it remains unclear which decorative motifs were brought from Central Asia and integrated into architecture and which ornamental elements were already present in Anatolia and incorporated into Seljuk architecture.

One of the cities where ornamental art, applied to various

architectural examples across different regions of Anatolia, is prominently featured is Erzurum. Among the most well-known Seljuk structures in Erzurum, Çifte Minareli Madrasah and Yakutiye Madrasah stand out as significant examples where motifs and ornamentations were extensively used.

Among these structures, Çifte Minareli Madrasah is believed to have been built in 1253 and attributed to Huand Hatun, the daughter of Alaaddin Keykubad. However, no conclusive evidence has been found to verify this claim (Aydın, 2008). Yakutiye Madrasah, on the other hand, was commissioned by Hoca Cemaleddin Yakut in 1310 (Aytaç, 2017). Known as the largest madrasa in Anatolia, Çifte Minareli Madrasah features a two-story, open courtyard design with four iwans (Sipahi and Yalçın, 2021). Yakutiye Madrasah was built in the 14th century by Emir Cemaleddin (Kocaman et al., 2018). It is recognized as the largest single-story enclosed madrasa in Anatolia (Akçay, 1968). In this context, Yakutiye Madrasah is considered one of the best-preserved examples of the single-story, closed courtyard, three-ivan, and porticoed madrasa plan type in Anatolia (Konak, 2022).

In conclusion, based on the literature review, this study aims to analyze the cultural interactions in Seljuk ornamental art through the motifs and decorations used in the Çifte Minareli Madrasah and Yakutiye Madrasah, shedding light on the influence of different cultures in Seljuk architectural works in Anatolia.

## **2. Materials and Methods**

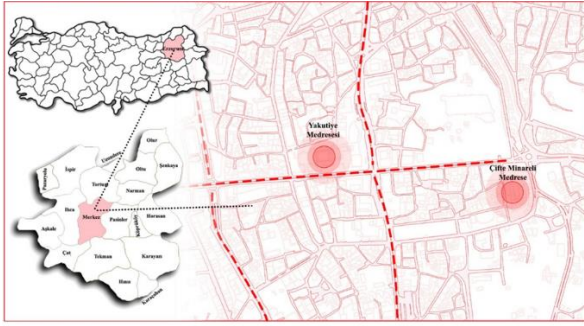
### **2.1. Study Area**

The study area is the city of Erzurum, located in Turkey. Situated in the northeastern part of the Eastern Anatolia region, Erzurum lies at an altitude of 1,850–1,980 meters above sea level. Since antiquity, the city's strategic location has maintained its military and commercial significance, making it a prominent center throughout history (Özen, 2016).

Erzurum has a rich historical background, bearing the traces of numerous civilizations. Since the Chalcolithic and Early Bronze Ages, Erzurum has been positioned at the intersection of major trade and military routes, retaining its importance during the Seljuk period as well. Following the 1071 Battle of Manzikert, the Anatolian Seljuk State adorned many cities with architectural works such as mosques, madrasas, tombs, pavilions, caravanserais, inns, and baths.

The study sample consists of Çifte Minareli Madrasah and Yakutiye Madrasah, two Seljuk-era madrasas in Erzurum that have survived to the present day.

As shown in Figure 1., the Çifte Minareli Madrasah and Yakutiye Madrasah, which are the focus of this study, are situated on Cumhuriyet Street. Yakutiye Madrasah is located north of the street, while Çifte Minareli Madrasah is positioned south of the street.



**Figure 1.** Study Area and sample group.

These two structures are situated in close proximity to each other, and the surrounding area contains architectural works from different historical periods, contributing to the rich architectural landscape of Erzurum.

## 2.2. Methodology

The objective of this study is to examine the reflection of interactions between different cultures in architecture, specifically in terms of motifs and ornamentations, through the analysis of Yakutiye Madrasah and Çifte Minareli Madrasah in Erzurum.

In the first stage of the study, a literature review was conducted on the origins and usage of motifs and ornamentations found in Seljuk-era madrasas in Erzurum, focusing on their introduction to and application in Anatolia.

In the second stage, on-site observations were carried out based on the findings obtained from the literature. The identified motifs and ornamentations were compared with the literature data, and the results were presented in Table 1 and Table 2.

Literature Review



Determination of motifs and decorations in Madrasahs through on-site examinations



Tabulation of the identified motifs and decorations



Determining the number of motifs and decorations identified by grouping them according to their types.



Discussion of the identified motifs and decorations in the light of literature

Following the fieldwork, the motifs were categorized and quantified according to their botanical and animal characteristics. These were then compared to similar examples found in other Anatolian architectural works. Symbolic interpretations of each motif were considered alongside their aesthetic roles, with special attention paid to cultural origins and historical dissemination patterns. This methodological framework allowed for a

holistic evaluation of the intercultural influences embedded in the decorative schemes of the selected madrasahs.

## 3. Results and Discussion

The Anatolian region possesses a rich artistic heritage, where botanical and animal motifs from various cultures have converged and been incorporated into the madrasahs of Erzurum. In this study, the botanical and animal motifs used in Çifte Minareli Madrasah and Yakutiye Madrasah in Erzurum were examined, with an analysis of their cultural origins, dissemination, and frequency of use.

The findings reveal that among the botanical motifs, the tulip, inverted tulip, hatayi (lotus), palmette, rumi, penç and tree of life are particularly prominent. Regarding animal motifs, examples such as the dragon, eagle, lion, and scallop shell were identified.

### 3.1. Botanical Motifs

The tulip motif holds a significant place in Turkish culture, with its origins tracing back to Turkmenistan. This motif spread from Central Asia to Anatolia, was incorporated into Seljuk art, and later diversified and became more widespread during the Ottoman period through ceramic art (Ünal, 2021).

In Yakutiye Madrasah, stylized tulip motifs can be observed, whereas Çifte Minareli Madrasah does not feature this motif. The tulip motif in Yakutiye Madrasah is used in conjunction with turquoise, purple, and turquoise-blue mosaic tiles on the minaret. Notably, turquoise, known as the "Turkish color," serves as a defining characteristic in Seljuk architecture (Özkul, 2020a).

On the minaret, the inverted tulip motif is present. This motif is associated with the "weeping bride" (*Fritillaria imperialis*), an endemic plant that thrives in cold climates. Considered sacred in Christian culture, this motif is also found in Indian culture. During the Ottoman period, the inverted tulip was a highly valued plant in Turkish gardens, spreading from Istanbul to Vienna, and later to the Netherlands and England (Özler, 2018).

One of the main motifs in Turkish ornamental art, the Hatayi motif, originated in Far Eastern culture. This motif spread to Central Asia through Chinese influence and later diversified and developed in Anatolia. Composed of interwoven stylized leaves and flowers, the Hatayi motif had a simplistic appearance during the Seljuk period (Karaca, 2021). However, in the Ottoman period, it was influenced by ceramic art, evolving into more elaborate and detailed forms, enriching its aesthetic diversity.

The palmette motif is a botanical ornamentation type consisting of symmetrically arranged leaves around a central axis. While its exact origin is unknown, this motif is found in the ornamental arts of Sumerian, Egyptian, Assyrian, Greek, and Roman civilizations, as well as in Islamic art. During the Sassanian period, the ancient palmette motif was stylized and further developed under Persian influence, eventually spreading to Anatolia via Iran (Yıldız, 2019).

The palmette motif was used as an ornamental element in both Yakutiye Madrasah and Çifte Minareli Madrasah. In Yakutiye Madrasah, various palmette motifs appear on the borders located on the sides of the main entrance portal. In Çifte Minareli Madrasah, this motif is present on the column capitals of the tomb in the eastern section as well as on numerous decorative borders within the madrasa.

The Rumi motif, a Western-origin ornamental element, is also referred to as "arabesque". There are differing opinions regarding its origins, with some suggesting that it is derived from half-palmettes, while others argue that it has animalistic origins. Believed to be stylized from bird wings, this motif was brought from Central Asia to Anatolia, where it was further developed by the Anatolian Seljuks, gaining a distinct artistic identity. Before the Seljuk period, the Rumi motif was also used in Karahanid, Ghaznavid, Abbasid, Andalusian, and Fatimid art (Yavuz, 2008).

In Yakutiye Madrasah, the Rumi motif appears in a simple and interwoven form on the stone entrance decoration panel. In Çifte Minareli Madrasah, it is incorporated into the marble surfaces within the tomb, forming a harmonious composition together with the palmette motif, contributing to an aesthetic unity.

The word "penç", meaning "five" in Persian, refers to the cross-section of stylized flowers in ornamental arts. Due to its top-down perspective, this motif is also known as "central Hatayi". The Penç motif has been used in the art of various civilizations, including Egyptian, Assyrian, Iranian,

Greek, Roman, Uighur, and Central Asian cultures. Iran played a significant role in the spread and development of this motif in Anatolia (Tavashli, 2014). While the Penç motif is not found in Yakutiye Medrese, it is used in Çifte Minareli Medrese, specifically on the tympanum of one of the doors in the southern iwan.

The Tree of Life is a universal symbol found in all belief systems, representing fertility, the sky, and the ever-changing nature of the universe. Used throughout various periods of human history, this motif entered Turkish culture through Shamanism and spread across Central Asia. According to Central Asian beliefs, the Tree of Life represents the center of the world (Arslan, 2014).

In Çifte Minareli Medrese, the Tree of Life motif is present in four panels, positioned on both the right and left sides of the main entrance portal.

In Yakutiye Medrese, two Tree of Life motifs are located on the side surfaces of the main entrance portal. In Erzurum Çifte Minareli Medrese, four botanical motifs with different cultural origins have been identified, whereas three of these motifs are present in Yakutiye Medrese. The on-site examinations conducted on these madrasas provided visual documentation, and the examples of these motifs in various structures are presented in detail in Table 1.

### **3.2. Animal Motifs**

Among the animal motifs, the dragon motif (Ejder), originating from China, holds a significant place in Central Asian and Far Eastern cultures as a mythological figure. Symbolizing power, abundance, strength, and prosperity, this motif was adopted by the Turks from China, introduced to Western Asia, and gradually became widespread. As the Turks settled in Western Asia and the Iranian region, the dragon motif also found its place in Islamic art (Mutlu and Özdemir, 2022).

Brought to Anatolia through Seljuk art, this motif is present on the front façade of Çifte Minareli Medrese, depicted at the base of the Tree of Life. However, no examples of the dragon motif have been found in Yakutiye Medrese.

The eagle figure has been used by many civilizations since ancient times, including the Hittite and Assyrian periods. Symbolizing power and authority, this motif was widely adopted in Central Asia, the Islamic world, and Anatolian Seljuk art. The origin of the eagle motif in Seljuk art can be traced back to Central Asian culture and Shamanic beliefs (Tecir, 2024).

As a symbol of the Seljuks, the eagle motif is also present in Yakutiye Medrese and Çifte Minareli Medrese. In both madrasas, it is positioned at the top of the Tree of Life. However, in Yakutiye Medrese, the eagle is depicted as single-headed, whereas in Çifte Minareli Medrese, it is represented as double-headed.

The lion figure is recognized as a symbol of power, heroism, strength, and victory. The discovery of lion depictions in Hun kurgans of Central Asia indicates that this symbol was introduced to Central Asia by the Turks through Shamanic beliefs (Öten, 2023).




























Over time, with the acceptance of Islam, the lion motif continued to exist in Turkish art, preserving its symbolic meaning. In Seljuk-era art, the lion motif was used to represent the ruler's power and authority. In Yakutiye Medrese, the lion figure appears in a figurative panel on the side surface of the main entrance portal, forming a composition together with the Tree of Life and the eagle. However, no examples of this motif have been found in Çifte Minareli Medrese.

Structurally resembling fans and seashells, the scallop motif symbolizes abundance and rebirth. This motif spread through Egyptian, Roman, and Byzantine architecture (Turan, 2013).











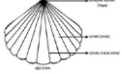



Commonly found in Islamic architecture, the scallop motif was extensively used in both interior and exterior decorations during the Seljuk period. In Yakutiye Medrese, the scallop motif appears within the muqarnas elements beneath the inscription band and in the decorative frames of the main entrance portal projection. In Çifte Minareli Medrese, this motif is present within the muqarnas on the portal and at the arch terminations of the iwans.



**Table 1.** Comparison of plant motifs on madrasahs

Motif-Decoration	Cultural Interaction	Drawing	Example in Anatolia	Double Minaret Madrasa	Yakutiye Madrasa
Tulip- Inverted Tulip	Middle Asia	 Taç Mahal (Özler, 2021)	 Rüstem Paşa Mosque (Çevik, 2014)	---	
Hatai (Lotus)	China- Middle Asia	 (Garagaşov, 2006)	 Bursa Yeşil Cami (Değerbilir, 2012)	  (Aydın, 2008)	---
Palmette	Persia	 Develi Sivasi Hatun Mosque (Yıldız, 2009)	 Döner Kümbet (Yıldız, 2009)	  (Aydın, 2008)	  (Taflan, 2008)
Rumi	Western- Middle Asia	 (Garagaşov, 2006)	 Develi Sivasi Hatun Mosque (Yıldız, 2009)	  (Aydın, 2008)	  (Korkutan, 2011)
Penç	Persia- Middle Asia	 (Garagaşov, 2006)	 İzmir Nilüfer Hanım İmareti (Tavaslı, 2014)	  (Korkutan, 2011)	---
Hayat Ağacı	Middle Asia	 (Arslan, 2014)	 (Kurt Kırtay, 2023)		

**Table 2.** Comparison of animal motifs on madrasahs

Motif-Decoration	Cultural Interaction	Drawing	Example in Anatolia	Double Minaret Madrasa	Yakutiye Madrasa
Dragon	China- Middle Asia	 (Inan, 1987)	 (Çevik, 2014)		---
Eagle	Shaman- Middle Asia		 (Özkul, 2020b)	 (Korkutan, 2011)	
Lion	Shaman- Islam	 (Çorhunlu, 2019)	 (Odabaşıoğlu, 2022)	---	 (Taflan, 2008)
Oyster	Byzantine- Islam	 (Turan, 2013)	 (Turan, 2013)		

In Erzurum Çifte Minareli Medrese, three different animal motifs from various cultures have been identified, while Yakutiye Medrese also contains three distinct animal motifs. The on-site examinations conducted on these madrasahs provided visual documentation, and examples of these motifs in different structures are presented in Table 2.

#### Frequency of Use of Motifs

A total of eight motifs were identified in Çifte Minareli Medrese, while seven motifs were found in Yakutiye Medrese, as documented in Table 1 and Table 2. The frequency of use of the botanical and animal motifs observed in the madrasahs was evaluated based on on-site examinations, and the corresponding data have been presented in Table 3.

**Table 3.** Frequency of use of plant motifs

Motif Type	Double Minaret Madrasa	Yakutiye Madrasa	Total
1 Palmette	64	38	102
2 Rumi	28	18	46
3 Tree of Life	6	2	8
4 Hatai (Lotus)	4	-	4
5 Penç	2	-	2
6 Tulip- Inverted Tulip	-	1	1

According to the ranking of botanical motifs presented in Table 3, the palmette motif is the most frequently observed motif, with 64 instances in Çifte Minareli Medrese and 38 instances in Yakutiye Medrese, totaling 102 occurrences. The origins of the palmette motif trace back to the Sumerians, which played a significant role in its spread and diversification over time. The Rumi motif, believed to have evolved from half-palmettes, was used both individually and in compositions alongside palmettes. It was identified 28 times in Çifte Minareli Medrese and 18 times in Yakutiye Medrese, making a total of 46 instances, ranking it as the second most common motif.

The Tree of Life motif, which is referenced in various belief systems and has been widely used throughout different periods of human history, was determined to be the third most frequently used motif, following the scallop motif. It was observed 6 times in Çifte Minareli Medrese and 2 times in Yakutiye Medrese, amounting to a total of 8 instances. The Hatayi motif was identified 4 times in Çifte Minareli Medrese but was not found in Yakutiye Medrese, making a total of 4 instances, placing it in fourth position.

Unlike palmette, Rumi, and Hatayi motifs, the Penç motif, which does not follow an interwoven pattern, is among the least frequently used motifs. It was identified twice in

Çifte Minareli Medrese and was not found in Yakutiye Medrese, totaling 2 instances, placing it fifth in the ranking. The inverted tulip, a specific motif, was only observed once in Yakutiye Medrese and was not used in Çifte Minareli Medrese. With just one instance, it is the least frequently used motif.

The palmette motif, due to its structural characteristics, possesses the ability for endless variation. Its origins trace back to ancient civilizations such as the Sumerians, Egyptians, Assyrians, Greeks, and Romans, which played a significant role in its spread across different regions and its adaptation into various forms (Mülayim, 1976).

Anatolia, having hosted numerous cultures throughout history, became a center for the diversification and widespread use of the palmette motif, making its prevalence not coincidental. During the Seljuk period, the influence of Persian culture, with which there was significant interaction, played a crucial role in the dissemination of the palmette motif in Anatolia.

Due to its strategic location, Erzurum has been a hub of intense cultural interactions, making it one of the cities where these influences are most evident. The Seljuk architectural masterpieces in Erzurum, particularly Çifte Minareli Medrese and Yakutiye Medrese, serve as tangible examples of this artistic and cultural exchange.

The palmette motif is a widely used element in decorative arts and frequently appears in Seljuk architecture in various variations. This motif is found in multiple architectural structures, including the borders

of Diyarbakır Ulu Mosque, the main entrance portal of Aksaray Sultan Han (Karadaş, 2011), the corner towers of Sivas Gök Medrese (Akkaya and Urfaloğlu, 2022), the border decorations of the main entrance portal of Eşrefoğlu Mosque (Çilek, 2021), the mihrab of Develi Sivas Hatun Mosque (Ulu Mosque) at the peak of the pointed arch, and the niche of the entrance portal of Alaca Kümbet (Yıldız, 2019). In addition to these, the palmette motif is commonly observed in many other Seljuk-era architectural structures.

According to the frequency of animal motifs presented in Table 4, the scallop motif, which structurally resembles fans and scallop shells and appears in various forms in decorations, is the most frequently used animal motif. It was observed 45 times in Çifte Minareli Medrese and 7 times in Yakutiye Medrese, making a total of 52 instances.

The eagle motif, which is the symbol of the Seljuk State, ranks second with 2 instances in Çifte Minareli Medrese and 2 instances in Yakutiye Medrese, totaling 4 occurrences.

The dragon motif was identified 4 times in Çifte Minareli Medrese, but was not found in Yakutiye Medrese, making a total of 4 instances, placing it in third position.

The lion motif, which symbolized the ruler's power in the Seljuk State, was not present in Çifte Minareli Medrese, whereas it appeared twice in Yakutiye Medrese, making it the least frequently used animal motif, with a total of 2 occurrences.

**Table 4.** Frequency of use of animal motifs

	Motif Type	Double Minaret Madrasa	Yakutiye Madrasa	Total
1	Scallop	45	7	52
2	Eagle	4	2	4
3	Dragon	2	-	4
4	Lion	-	2	2

The scallop motif, due to its similarity to fan and scallop shell motifs and its traceable origins in Ancient Greek architecture, has played a significant role in its widespread geographical distribution. Recognized as a symbol of life and creation, the scallop motif has been incorporated into various belief systems and cultures, carrying similar meanings in Turkish-Islamic art, where it has been associated with paradise depictions (Çakmakoglu Kuru, 2008).

This acceptance in Turkish-Islamic art led to the wide use of the scallop motif in Anatolia, making it a frequently preferred decorative element, particularly in Seljuk art. Among the notable Seljuk structures in Erzurum, Çifte Minareli Medrese and Yakutiye Medrese stand out as prominent examples of this artistic tradition.

During the Seljuk period, the scallop motif was used in various forms as an architectural decorative element in numerous structures. This motif can be found in the arch of the doorway of Gevher Nesibe Darüşşifası, the mihrab

arch of Kızılören Han Mosque, the window arch of İzzeddin Keykavus Şifahanesi, the fountain pediment of Alara Han Fountain, the mihrabiye arch of Burmalı Minare Mosque, the mihrabiye arch of Burmalı Minare Mosque Tomb, the niche arch of the mihrab in Huand Hatun Mosque, the main entrance arch of İncir Han, the mihrabiye arch of Alaaddin Mosque, the mihrabiye arch of Malatya Ulu Mosque, the mihrabiye arch of Sarıhan Caravanserai, the facade niche arch of Kadem Paşa Hatun Kümbet, and the facade niche arch of Patnos (Zortul) Kümbet (Turan, 2013).

#### 4. Conclusion

This study aimed to analyze the cultural origins, dissemination, and frequency of use of botanical and animal motifs used in Çifte Minareli Medrese and Yakutiye Medrese in Erzurum, thereby revealing the cultural interactions and aesthetic principles of Seljuk-period art. The findings indicate that the ornamental art

in these madrasas is not merely a decorative element but also represents a symbolic language reflecting the religious, philosophical, and cultural values of the period. In this study, botanical motifs such as palmette, rumi, hatayi, penç, and tulip were identified as the most prominent. The palmette motif, with 102 instances, was found to be the most frequently used motif. Its origins trace back to Sumerian, Egyptian, Assyrian, Greek, and Roman civilizations, which played a significant role in its spread and diversification across different regions.

The rumi motif, ranking second with 46 instances, was observed to have originated in Central Asia, later spreading to Anatolia, where it developed further within Seljuk art, appearing in various compositions. The hatayi motif, influenced by Chinese art, spread to Central Asia and later diversified and evolved in Anatolia. The penç motif was among the least commonly used motifs.

The inverted tulip motif was found only once in Yakutiye Medrese, making it the least frequently observed motif in the study.

Among the animal motifs, figures such as scallop, Tree of Life, eagle, dragon, and lion were found to be the most prominent. The scallop motif, with 52 instances, was the most frequently observed animal motif. Recognized for symbolizing abundance and rebirth, this motif was widely accepted across different cultures and frequently used in Seljuk art.

The Tree of Life motif, with 8 instances, ranked second. This motif held significant importance in various belief systems as a symbol of the ever-changing nature of the universe and fertility. The eagle motif, regarded as a symbol of the Seljuk State, was identified 4 times, placing it in third position.

The dragon motif appeared 4 times in Çifte Minareli Medrese, but was not found in Yakutiye Medrese. The lion motif was observed only twice in Yakutiye Medrese, making it the least frequently encountered animal motif in this study.

These findings indicate that Seljuk-period art was enriched through influences from various cultures, and these interactions were reflected in architectural ornamentation. The presence of both local Anatolian and foreign cultural motifs in the architectural texture of Erzurum reveals the integrative approach of the Seljuks towards cultural diversity. In this sense, ornamentation in Seljuk architecture emerges not only as an artistic endeavor but also as a medium of intercultural communication and legacy. Additionally, the frequency of motif usage provides significant insights into the cultures with which the Seljuks had the most interaction and the artistic heritage of these cultures.

In conclusion, this study serves as a significant resource for understanding the cultural and artistic heritage of Seljuk-period art. The motifs and ornamentations found in the madrasas of Erzurum provide a valuable reference point for comprehending the artistic and cultural interactions between different civilizations. The preservation and transmission of this cultural heritage to

future generations is a responsibility shared by all members of society.

Furthermore, expanding this study to include a comparative analysis of Seljuk architectural works in other Anatolian cities would contribute to a deeper understanding of regional variations and common aesthetic principles within Seljuk art.

#### Author Contributions

The percentages of the authors' contributions are presented below. All authors reviewed and approved the final version of the manuscript.

	S.P.	B.Y.	S.K.
C	40	30	30
D	40	30	30
S	60	20	20
DCP	60	20	20
DAI	40	30	30
L	40	30	30
W	40	30	30
CR	60	20	20
SR	60	20	20
PM	60	20	20
FA	60	20	20

C=Concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision, PM= project management, FA= funding acquisition.

#### Conflict of Interest

The authors declared that there is no conflict of interest.

#### Ethical Consideration

Ethics committee approval was not required for this study because of there was no study on animals or humans.

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