

## A Study on the Relationships between the Palmette Patterns on Carpets of Sassanid Persia and Silla Korea

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This study analyzes the traces of East-West cultural exchange focusing on the palmette pattern expressed on Sassanid Persian and Silla Korean carpets. The results of the study are as follows. The palmette, which originated in ancient Egypt, is an imaginary flower made up of the transformation of a lotus, which combined with the Mesopotamian quadrant (四分法) and expanded to a four-leaf palmette and further to an eight-leaf palmette by applying the octant (八分法). The palmette, which was brought to Assyria, Achaemenid Persia, Parthia, Greece, and Rome, can be seen lavishly decorated with plant motifs characteristic of the region. Sassanid Persia inherited the tradition of the palmette pattern, which applied the quadrant and octant seen in several previous dynasties. On the one hand, it has evolved more splendidly by combining the twenty or twenty-one-leaf palmette and the traditional pearl-rounded pattern decoration of Sassanid Persia. These Sassanid Persian palmette patterns can be found through the palmette patterns depicted on the ceilings of the Dunhuang Grottoes located on the Silk Road. The palmette pattern of the Dunhuang Grottoes was expressed in the form of a fusion of Persian Zoroastrianism, Indian Buddhism, and indigenous religions. In the Tang Dynasty, it shows the typical palmette pattern of four and eight leaves in the medallion composition, which were mainly seen in Persian palmettes. The palmette pattern handed down to Silla can be found on a Silla carpet, estimated to be from around the 8th century, in the collection of *Sboso-in* (正倉院), Japan. The Silla carpet shows a unique Silla style using motifs such as peonies and young monks, which were popular in Silla while following the overall design of the Persian medallion.

**Keywords:** Sassanid Persia, Silla, carpet, palmette pattern, cultural exchange, medallion composition

## Introduction

Sassanid Persia was a dynasty that led East-West exchange by spreading high-level Persian culture to the East and the West through the Silk Road from the 3rd century to the 7th century. In particular, this exchange was connected to Silla in the Far East through the medium of the carpet, a representative product of nomadic culture. Persian carpets were also popular items in Silla and the record that carpet culture was passed down to Japan is interesting, likewise, it is very surprising that there are carpet artifacts of that time. The oldest carpet in existence today is a carpet excavated from Pazyryk, which shows very good weaving techniques dating back more than 2000 years. Recent studies suggest that it is the origin of Persian carpets (Eiland and Eiland 1998, 15). However, there are no real remains of Persian carpets after the Pazyryk carpet until the 14th century.

The material that will fill in part of this gap in the history of Persian carpets is the Silla carpet in the collection of *Sboso-in* (正倉院), Japan. This carpet was exported to Japan from the Unified Silla period between the 7th and 10th centuries. It can be seen that the palmette pattern expressed on the Silla carpet is very similar in appearance to the palmettes expressed on the existing Persian medallion design carpets since the 15th century. The palmette is an imaginary flower that originated from the Egyptian lotus and was formed during the development of ancient plant patterns (Riegl 1975, 80) and it can be inferred that the palmette pattern is connected through the Silk Road. This palmette pattern can be seen in the medallion composition most commonly used in Persian carpets and Silla carpets also follow this medallion composition.

Therefore, based on these similarities, this study aims to find traces of East-West cultural exchange through carpets by linking the Sassanid Persian period, which was the heyday of the Silk Road, and the Northern and Tang dynasties of China along with the Silla kingdom. The carpet culture that spread to Silla passed through the Goryeo dynasty and gave birth to a Korean-style carpet called *Chosŏn Ch'öl* (朝鮮綴), so a study on the carpet culture of Sassanid Persia and Silla is an important work to reveal the origins of Korean carpet culture. Thus, this study intends to examine the palmette pattern based on the remains of Sassanid Persian in order to find the correlation between Sassanid Persian and Silla carpets in the absence of existing Sassanid Persian carpets.

## Sassanid Persian Carpets and Palmettes

The earliest records of Sassanid Persian carpets are mentioned in Chinese literature. Persian carpets gained international fame during the Sassanid period and emerged as a major export. Sassanid weaving techniques were learned from the Parthians and the Parthians acquired silk techniques through trade with the Han Dynasty of China. In 628, the Eastern Roman emperor Heraclius conquered the Sassanid capital, Ctesiphon, and brought back a variety of Persian carpets. Since then, Persian carpets have been widely introduced in Europe. The

most famous Persian carpet of that time was the “Spring Carpet” of King Hosrow I (531-579). The size of the spring carpet reached 122 meters in length and 30 meters in width. It was embroidered with a beautiful garden woven of gold and silver threads and there are records that thousands of jewels were embedded in it (Yu 2012, 58). From this record, it can be inferred that the level of weaving technology and the product value of Persian carpets were high.

There are various design compositions such as trees, vases, and gardens for Persian carpets. The most common design is the medallion composition (fig. 1). The medallion design consists of a medallion in the center, two pendants above and below, a field in the background, semicircles at the four corners of the field, and borders on the edges. The overall composition of the medallion design generally presents a part of the universe (heaven or underworld) as a small-scale composition. The Persians thought that at the top of the heavens there might be other gateways, such as the gate of the sun that led to the throne of the gods. The name does not refer to the actual sun we think it is, but it is a metaphysically symbolic way of expressing the sun or the divine light. In the innermost circle found in the core of the central medallion of many Persian carpets, there is an eight-leaf flower symbolizing the center of the universe. These gates of the sun are beautifully drawn in the center of the medallions. It can be said that this gate of the sun is expressed as a circular palmette.

In addition, the peoples of West Asia envisioned more than four possible passageways through the heavenly coverings to provide another way for the messengers of heaven to come down to earth. They believed that these tiny holes were located at the corners of the Earth in four intermediate directions and imagined the sun rising and setting at those points (David 1994, 38-39). This quaternary idea originated in Mesopotamia for the first time. This can be said to be the division of the universe into east, west, north, and south by looking at the trajectories of the stars, the sun, and the moon in the motion of the celestial bodies. The quaternary idea, which started after seeing the celestial motion, is connected with a cross pattern that crosses east-west and north-south (Nam 2005, 39-40). Furthermore, it can be seen that, based on the quadrant, it is extended to the octant and is connected to the eight-leaf flower. This medallion design can be seen in a typical medallion carpet (fig. 2) woven in the 16th century under the patronage of the Safavid court. This carpet was woven during the reign of Shah Ismail I (1501–24) and it was designed with an overall splendor and a very elaborate and detailed weaving pattern. The dark blue background is covered with a delicate, intricate floral embellishment, and a pale yellow central medallion of sixteen leaves adorned with fawn almond-shaped pendants.

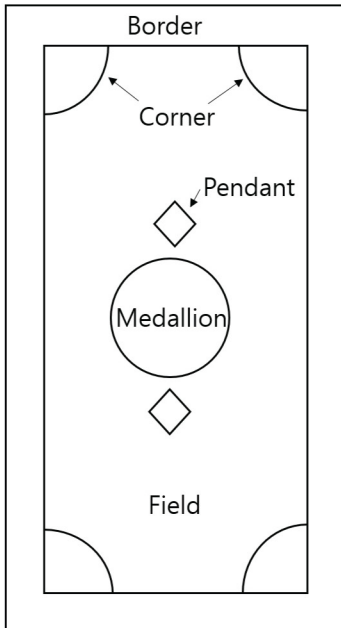


Fig. 1. Medallion design composition (illustration by author).



Fig. 2. 16th-century Persian medallion carpet. <https://www.metmuseum.org>

### Sassanid Persian Palmettes

Remains of Sassanid Persian palmette patterns can be identified in fragments of pottery excavated from Ctesiphon, the capital of Sassanid Persia conquered by Arab Muslim armies in 637 (fig. 3). The manufacturing period is estimated to be between the 3rd and 7th centuries and the four leaves are arranged between the cruciform axis and the central circle, which is surrounded by a circular border divided into small pieces and a pearl rounded pattern mainly found in Sassanid Persia. It appears to be an early form of the Sassanid Persian palmette pattern. Around the same time, the eight-leaf palmette appears in the ornament of the horse of Shapur I (r. 241-272) (fig. 4), which is depicted on the reliefs of Naqsh-e Rostam, the tomb of the Persian royal family. This is an evolved form from the palmette of figure 3 and it seems to express the authority of the king. This eight-leaf palmette takes the form of a medallion design adorning the border in relief (fig. 5) depicting a hunting scene by King Peroz I (459-484). An example of the evolution from a four-leaf palmette to an eight-leaf palmette is shown on a piece of square silk fabric (fig. 6) from Sassanid Persia, from the 5th-7th centuries. In the center circle of the piece of fabric, there is a warrior with a sword and a shield and there are eight circles around it. Inside the circles, a human face and a jar of round fruit are arranged alternately. Considering that the square has four corners and thin borders



seen in the medallion design, it is presumed that the carpet design composition was applied to the fabric design. In addition, round circles are arranged in each corner, so it can be seen that it is related to the above-mentioned rising and setting of the sun.

The eight-leaf palmette is found with some changes in a stucco relief (fig. 7) excavated from Ctesiphon in the 6th century. The tree of life is in the center of the relief, with two pairs of birds on the branches, a peacock on the bottom, and a partridge on the top, symbolically expressing the connection with the heavens. A pair of palmettes are placed under the two pairs of birds and four pointed leaves stretch out diagonally. Four heart-shaped leaves joined with two leaves are placed between them and it seems that the eight-leaf palmette pattern was modified. In a piece of fabric for a wall hanging (fig. 8), which is believed to have been made in the central Mediterranean region in the early 5th to 7th centuries, a man wearing a headband is seen holding a palmette with the pearl-rounded pattern. In the case of this palmette, it is composed of sixteen leaves, so it can be seen that the number of leaves has doubled from the previous eight-leaf palmette.

This increase in the number of leaves can be seen in an earthenware fragment (fig. 9) engraved with the palmette pattern excavated from Ctesiphon in the 7th to 9th centuries, which is estimated to be from the late Sassanid Persian period. The palmette pattern expressed on this earthenware fragment is a palmette with twenty or twenty-one leaves in the center circle and a typical Sassanid Persian ornament on the outside, which seems to have evolved from the sixteen-leaf palmette of the previous period. As shown in figure 2, it can be seen that this trend has evolved into a complex palmette pattern that combines very delicate and diverse patterns expressed in the medallion design in the Islamic era. For example, this palmette pattern can be seen elaborately and splendidly expressed in the Ardabil carpet medallion (fig. 10), which show the essence of Persian carpets from the Sassanid Persian fall in 651 to the Safavid dynasty in the 16th century.

Summarizing the above, it can be seen that the Sassanid Persian palmette starts with the four-leaf palmette, then the eight-leaf palmette, and further increases in the number of leaves to sixteen leaves, eventually evolving into a more complex and delicate design. In order to understand this phenomenon, the palmette pattern of the pre-Sassanid Persian period from Egypt to the Parthian period was considered as follows.



Fig. 3. Sassanid Persian four-leaf palmette, 3rd-7th C. <https://www.metmuseum.org>.



Fig. 4. Relief of Shapur I on horseback (photo by author, July 9, 2017).

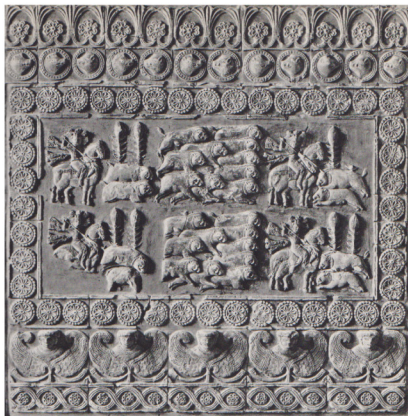


Fig. 5. Relief of King Peroz I's hunting scene (Ghirshman 1962, 187).



Fig. 6. A piece of square silk fabric from Sassanid Persia, 5th-7th CE. <https://www.metmuseum.org>.



Fig. 7. Sassanid Persian palmette, 6th C.  
<https://www.metmuseum.org>.



Fig. 8. A piece of fabric for a wall hanging, 6th-7th C. <https://www.metmuseum.org>.



Fig. 9. Sassanid Persian palmette, 7th-9th C.  
<https://www.metmuseum.org>.



Fig. 10. Medallion of the Ardabil carpet (Stone 2013, 30).

## Palmette Pattern Before the Sassanid Persian Period

The early form of the palmette pattern is observed in the pattern expressed in mummy lid handles (fig. 11) of Egypt, 1981–1550 BCE. This palmette has four lotuses in a cross shape around a red circle in the middle and four green leaves with a red border between the lotuses. This composition suggests that the original form of the four and eight-leaf palmette patterns of Sassanid Persia originated in Egypt. This lotus is a sacred flower that symbolizes eternal life (Chung 2010, 12) and contains a desire for the owner of the tomb to live forever while the red circle in the middle is presumed to symbolize the sun. This can be said to be the starting point of the placement of a medallion, or palmette, symbolizing the sun and celestial bodies, in the center of the medallion composition of the Persian carpet. Another early palmette pattern is observed on an amulet seal, 1770–1670 BCE (fig. 12) with a round circle in the middle, four lotuses arranged around the circle, and four leaves between the lotuses. A scarab is engraved on the surface of this amulet seal, which symbolizes resurrection and it contains the wish for the owner of the tomb to be resurrected and live forever along with the lotus.

It can be seen that the palmette, consisting of four lotuses and four leaves, evolved into the eight-leaf palmette, represented in a pottery plate (fig. 13) excavated from the tomb of Ruiiu, an Egyptian official, 1504–1447 BCE. Around the center palmette of this plate, sixteen heavily damaged lotuses are arranged in a radially extending shape. A more stylized palmette is observed on an inlaid porcelain tile (fig. 14), 1184–1153 BCE. In the center of this tile, there is a cypress tree and the eight leaves of the palmette are placed on the left and right. This cypress is a sacred tree that symbolizes death and immortality and it is placed together with the lotus, which symbolizes eternal life. The cypress is a tree that grows widely in the Mediterranean region, which ancient people highly valued as a valuable medicine or incense, moreover, there is a record on papyrus that ancient Egyptians used cypress as incense and medicine (Gang 2010, 130) In addition to this effect, in Greece and Rome, it was mainly planted around tombs (*ibid*). Therefore, it can be seen that it was planted around the tomb of the Achaemenid Persian king Cyrus and it was also used as a pattern to distinguish each ethnic group depicted in Apadana Palace in Persepolis, as shown in figure 23.

The palmette pattern, which originated in Egypt, is also observed in the relics of the Assyrian dynasty in Mesopotamia. The relics related to the palmette pattern of Assyria can be found in the palmette pattern expressed in the lid of a small round box (fig. 15), which is estimated to be from the 9th–8th century BCE. This round lid has double leaves on the outside around the center circle and is characterized by a palmette pattern consisting of twelve leaves on the inside and twenty-one leaves on the outside. Looking at this form, I presume that the palmette pattern was derived in a modified form by combining with plants native to Assyria in the process of being transmitted from Egypt to Assyria.





Fig. 11. Coffin knob. <https://www.metmuseum.org>.



Fig. 12. Seal amulet with cruciform lotus decoration. <https://www.metmuseum.org>.



Fig. 13. Pottery plate. <https://www.metmuseum.org>.



Fig. 14. Inlaid porcelain tile. <https://www.metmuseum.org>.

Another pattern of the Assyrian palmette is shown in the palace relief (fig. 16) of Ashurnasirpal II, King of Assyria, 883–859 BCE. This relief depicts Ashurnasirpal and his servant while palmette-patterned bracelets (fig. 17) are observed on both wrists of the king. This palmette pattern consists of sixteen leaves. Such a bracelet with a palmette pattern can also be seen in another relief (fig. 18) found in the same palace. In the relief, a pair of men with wings appear on the left and right sides of a stylized sacred tree and a pair of eagle-headed

humans with wings are arranged above and below. It is observed that the four supernatural figures also wear palmette-patterned bracelets on both wrists. Through this, it can be assumed that the palmette pattern bracelet is a sacred item that kings and gods can wear. In addition, lotuses are arranged one after another around the tree, and lotuses and palmettes are used together in various reliefs, which contain meanings such as authority and wishes.



Fig. 15. Lid fragment.  
<https://www.metmuseum.org>



Fig. 16. Palace relief of Ashurnasirpal II 1.  
<https://www.metmuseum.org>



Fig. 17. Bracelet of Ashurnasirpal II.  
<https://www.metmuseum.org>



Fig. 18. Palace relief of Ashurnasirpal II 2.  
<https://www.metmuseum.org>



Fig. 19. Panel fragment unearthed in Ziwiye.  
<https://www.metmuseum.org>



Fig. 20. Relief from Nineveh.  
<https://www.metmuseum.org>

The sixteen-leaf palmette can also be found in panel fragments (fig. 19) excavated from Ziwiye in northwestern Iran, 8th–7th century BCE. It is characterized by a border on the edge of the leaves. A relief where a palmette and lotus coexist (fig. 20) was also found in Nineveh, located northwest of Nimrud. This relief from the 7th century BCE has a border consisting of two rectangular frames in the center, palmettes with sixteen leaves outside, and lotuses. Within the rectangular frame, there is a palmette in the center with large diagonal leaves and lotuses between them; the overall composition suggests the early form of the Persian medallion-design carpet composition.

Following Assyria, the tradition of palmette and lotus designs is also confirmed in Achaemenid Persia (550–330 BCE). The tradition of lotuses is confirmed in Darius I's relief (fig. 21), holding a lotus in his left hand and a cane in his right hand while sitting on the throne. This posture is compared to the Egyptian pharaoh holding a cane symbolizing authority in his left hand and a flail in his right hand to pray for a good harvest (Chung 2010, 11). It can be seen that the lotus, which symbolizes eternal life, was also accepted as an important factor in the royal authority of Achaemenid Persia. In the case of the palmette, it is observed in a bronze bracelet (fig. 22), which has a circle with a border in the center, twenty-four leaves around it, and a palmette pattern with a border outside it. Two winged lions are placed on the left and right sides of the palmette, emphasizing the sacredness of the palmette

The Achaemenid Persian palmette pattern is also observed in the tribute scene of the twenty-three ethnic groups depicted on the reliefs of the Apadana Palace in Persepolis (fig. 23). This palmette pattern is border-like above and below the ethnic groups in a row and cypress trees are placed between each ethnic group to distinguish them. Figure 24 is a staircase portion that goes up diagonally with an empty space filled with lotuses between the borders composed



of palmettes. The fact that the palmette pattern was sacred is also observed in the sixteen-leaf palmette pattern engraved on a supporting stone in the Hall of a Hundred Columns (fig. 25).

Following Achaemenid Persia, the palmette pattern of Parthia (247 BCE–224 CE) is found in stucco excavated from the Parthian palace Kuh-i-Khwaja. Figure 26 is a schematic diagram of the pattern expressed in the stucco. Acanthus leaves surround the palmette on the left and right surrounded by heart-shaped borders while a Greek key pattern and acanthus leaf pattern are arranged in an alternating manner inside. It appears to have had a Greek influence. The circles with round dots symbolizing the sun in the center are formed of four-leaf flowers in a way that overlaps and intersects each other. Through this pattern, it is possible to guess the relationship between the sun and four-leaf flowers.



Fig. 21. Darius I and the lotus  
(photo by author, July 7, 2017).



Fig. 22. Bronze bracelet  
(photo by author, July 7, 2017).



Fig. 23. Relief of Apadana Palace 1  
(photo by author, July 9, 2017).



Fig. 24. Relief of Apadana Palace 2  
(photo by author, July 9, 2017).



Fig. 25. A supporting stone in the Hall of a Hundred Columns (photo by author, July 9, 2017).

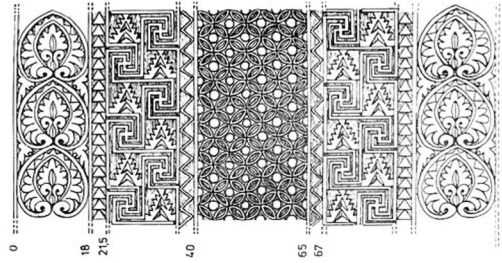


Fig. 26. Schematic of the palace Kuh-i-Khwaja stucco (Zoheir, Reza, and Seyyed 2018, 118, fig.4).

The palmette pattern, which originated in Egypt, was also introduced to Greece across the Mediterranean Sea and can be found in figure 27 and figure 28. Figure 27 is a palmette represented by a fragment of a Greek pottery cup, dated to 550-525 BCE. This is a form in which half of the palmette is placed on the calyx of the Egyptian lotus. It looks similar to the lotus placed consecutively on the border part of figure 20, but it is a palmette with a round tip and a circle in the middle. Figure 28 is an eight-leaf palmette with a rim depicted in some parts of a Greek jar, dated to 520-510 BCE. It looks like a rose at first glance, given that there are pointed thorns between the leaves. This is a combination of the existing palmette pattern and roses made by Aphrodite, the goddess of beauty in Greek mythology, to create beauty, and is presumed to be a mixture of tradition and local characteristics. Figure 29 is a Greek earring pendant, dating to the 4th–3rd century BCE. The pendant has a seven-leaf palmette in the center, with Egyptian a lotus on both sides and Greek acanthus leaves arranged in a cross shape at the top and bottom. This can also be seen as a pattern of cases similar to figure 28.

Examples of such convergence are also observed in a Roman mosaic tile (fig. 31), from the same period as an Egyptian Ptolemaic Period mosaic tile, dated to 100 BCE–100 CE (fig. 30). In figure 30, four-leaf palmettes are arranged in the middle and four acanthus leaves are connected to the corner of the tile while four flowers with round petals are connected by vines, so it is a somewhat exotic design from Egypt's point of view. This seems to include a yearning for new and other cultures. In another Roman mosaic tile in figure 31, there are four palmettes in the middle and four lotuses in the direction of the tile corners while four flowers with round petals that are believed to grow naturally in the Roman region are connected by vines, which seems to be reinterpreted as a Roman design.

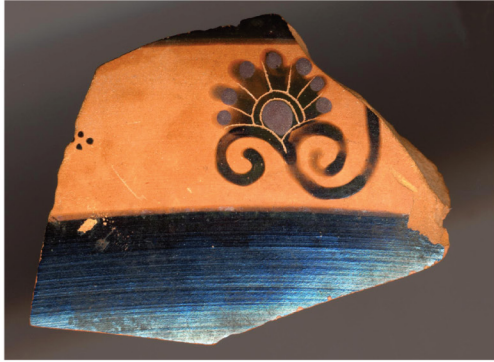


Fig. 27. Fragment of the Greek pottery cup, 550BCE-525BCE. <https://www.britishmuseum.org>



Fig. 28. Parts of the Greek jar 520BCE-510BCE. <https://www.britishmuseum.org>



Fig. 29. Greek earring pendant, 4th–3rd century BCE. <https://www.metmuseum.org>



Fig. 30. Ptolemaic period–Roman period mosaic tile, 100BCE–100 CE. <https://www.metmuseum.org>



Fig. 31. Roman mosaic tile, late 1st century BCE–1st century CE <https://www.metmuseum.org>

## Silla Carpets and Palmette Patterns

As a record on the carpets of Silla, in the *Samguk-sagi* (三國史記), there is a prohibition against the use of tiger skins, *kyu* (毬氈), and *t'apdŭng* (搭氈), by the people of the 6<sup>th</sup>~4<sup>th</sup> *tup'um* (頭品, classes) and lower classes in the Silla class society.<sup>1</sup> In this reference, *kyu* and *t'apdŭng* are kinds of carpet woven from wool. Also, in the *Samguk-yusa* (三國遺事), there is a record that a five-colored *gyu* was sent to the Tang emperor *Daizong* (代宗) during the reign of King *Kyōngdōk* (景德王) of Silla,<sup>2</sup> which is also regarded as a type of carpet. The etymology of *t'apdŭng* is taken from the Arabic word *taptan* or *takht*. Takht in Arabic means table or seat

<sup>1</sup> Kim Pusik, *Samguk sagi* (Sōul: Minjok Munhwa Ch'ujinhoe, 1973), 33: 9b.

<sup>2</sup> Iryōn, *Samguk yusa* (Sōul: Sōmun Munhwasa, 1983), 141.

and after it was introduced to China, it was pronounced as *t'apdŭng*, and it is thought that the meaning was transferred from the original meaning to the carpet placed on the table or seat. It can be seen that the use of *t'apdŭng* was prohibited by the people 6<sup>th</sup> *tup'um* or below, indicating that they were favorably used by the Silla people (Muhammad 1994, 253).

As for records related to the manufacture of carpets in Silla, in the *Samguk-sagi*, a *mojŏn* (毛典) and a *sŏkchŏn* (席典) were installed in the palace,<sup>3</sup> which was a specialized government office that collected woolen fibers and supervised the manufacture of woolen fabrics and carpets. Carpet relics from the Silla period are in the collection of *Shoso-in*, Japan. In *Shoso-in*, there are about thirty carpets made of felt, such as *saekchŏn* (色氈, colored felt) and *ch'aejŏn* (彩氈, felt with colorful patterns), which are estimated to be from around the 8th century and some of them are made in Silla with a label attached to it. Among Silla's exports to Japan, *hwajŏn* (花氈, flower pattern felt) and *pijŏn* (緋氈, red felt) are described in the *Mae Silla murbae* (買新羅物解) in the *Chomo imnyŏ pyŏngp'ung hachŏp munsŏ* (鳥毛立女屏風下貼文書, A document about folding screen painting with a beauty under the tree). Thus, it can be seen that carpets were manufactured and sent to Japan during the Unified Silla Period (668~918) (Sim 2002, 55).

Currently, the Silla carpets in the *Shoso-in* collection mainly have flower patterns as shown in figures 32-35. The Silla carpet in figure 32 is a medallion-design composition consisting of two palmettes and there are unknown eight-leaf flowers in the center of the palmette while eight petals and a border surround it. Outside the border, eight peonies symbolizing wealth are arranged. Except for the two palmettes, the peonies are also densely arranged in the field and peonies form the four corners of the carpet. The edges of the carpet have borders connected by semicircles. The Silla carpet in figure 33 is also composed of two palmettes in the same composition as figure 32. Unknown eight-leaf flowers are arranged in the center of the palmette and five-leaf flowers are arranged in three rows of eight around it. The rest is filled with vine leaves. The carpet's field is dotted with blurry stems of flowers and the four corners consist of flowers and branches. There is a row of narrow-lined borders on the edge of the carpet.

On the Silla carpet in figure 34, a total of thirty-six palmettes are arranged, nine horizontally and four vertically, and there is a narrow-line border on the edge. Looking at the shape of the flower, there are four-leaf flowers in the center, and ten to thirteen petals are spread to the left and right like the side of a lotus. There are twenty-eight flowers arranged between thirty-six palmettes with stems. What is unique about this carpet is that in the center of the carpet, a figure that appears to be a young monk is placed. It can be assumed that this composition was modified for the religious purpose of Buddhism, based on the medallion design. Additionally, the Silla carpet in figure 35 is a typical medallion design carpet, with a frontal peony in the center of the palmette and eight small petals and eight large petals overlapping around it. The outer part is surrounded by eight side-shaped peonies connected by vines. In the field of this carpet, large and small flowers that appear to be native plants of the Silla region are scattered and there is a thin-line border on the edge.

<sup>3</sup> Kim Pusik, *Samguk sagi*, 39: 5b, 7b.



As described above, it can be seen that the four Silla carpets in the *Shoso-in* collection have evolved into original Silla-style carpets by adding Silla's unique design elements while following the Persian medallion-design composition.



Fig. 32. Silla carpet 1  
(*KBS History Special*, May 11th, 2022).



Fig. 33. Silla carpet 2  
(*KBS History Special*, May 11th, 2022).



Fig. 34. Silla carpet 3  
(*KBS History Special*, May 11th, 2022).



Fig. 35. Silla carpet 4  
(*KBS History Special*, May 11th, 2022).

As the number of palmette patterns expressed on the Silla carpets confirmed above was too small to analyze the characteristics, to compensate for this, the palmette patterns engraved on the floor bricks of a temple during the Unified Silla period were considered. In Korea, the palmette pattern engraved on floor bricks is called Posanghwamun (寶相華紋), meaning an imaginary flower that transforms lotus (Hwang 1978, 73). Figure 36 is a floor brick excavated from the site of *Punhwangsa* (芬皇寺) Temple, with eight-leaf flowers inside the central circle and sharp leaves surrounding the rim. Small pointed leaves are arranged between the pointed parts of the rim. There are eight leaves around it. Then outside, there are peony flowers inside eight heart-shaped vines while there are four vine-shaped corners. Outside the corner, there is a border full of vines, showing a typical medallion design.

Furthermore, figure 37 is a floor brick excavated from the site of *Sachŏmwangsa* (四天王寺) Temple. It has two layers of circles in the center and four round leaves are arranged vertically and horizontally. Between the round leaves, four leaves similar to the acanthus leaves shown

in the diagonal line in figure 29 are arranged in an oblique line. Eight heart-shaped leaves with sharp ends and round sides are connected in a row on the outer part while acanthus leaves are arranged inside each of the leaves, giving off a Greco-Roman atmosphere. There are four corner designs on the floor brick but the border is not expressed. Next, figure 38 is a floor brick excavated from the site of *Mangdōksa* (望德寺) Temple. It shows a composition where the field is filled with vines like the carpet in figure 33, centering on a flower with eight pointed leaves. In this floor brick, the corners are not visible and the borders appear to be only above and below. Figure 39 is a floor brick excavated from the site of *Hwangnyongsa* (皇龍寺) Temple. In the center, there is a palmette with sixteen leaves, including eight leaves with leaves between them. There are also sixteen lotuses in a row while a pair of acanthus leaves surround the outside of the lotus with eight opposing round hearts. There are four corners in the shape of vines and there are no borders around the stone.

Furthermore, figure 40 is a floor brick excavated from a temple site in *Inwang-dong* (仁王洞) and, as shown in figure 32 and figure 33, two palmettes are placed in the center, showing a very similar arrangement. However, it is peculiar that the two palmette patterns engraved on this stone are different from each other. In the case of the left palmette, there are four flowers in the center, and the outer rim is decorated with the pearl-rounded pattern mainly seen in Sassanid Persia. Eight leaves are arranged outside the pearl-rounded pattern and then eight leaves with a rounder end than the outer leaves in figure 37 surround the outside. On the other hand, the center of the right palmette is similar to the left palmette and the pearl-rounded pattern is surrounded by a four-leaf flower, but there is a difference in that the vine pattern is complicated outside. Figure 41 is the pedestal of a stone lantern displayed at the Gyeongju National Museum's outdoor exhibition hall with eight leaves engraved with palmettes while each leaf is divided into two branches, thus it looks like sixteen leaves. This appears to be very similar to the palmette of the supporting stone in the Hall of a Hundred Columns in figure 25 and judging from this, I infer that Silla was influenced by Persia to some extent.



Fig. 36. Floor brick excavated from the site of Bunhwangsa Temple (photo by author, May 23rd, 2022).



Fig. 37. Floor brick excavated from the site of Sacheonwangsa Temple (photo by author, May 23rd, 2022).



Fig. 38. Floor brick excavated from the site of Mangdeoksa Temple (photo by author, May 23rd, 2022).



Fig. 39. Floor brick excavated from the site of Hwangnyongsa Temple (photo by author, May 23rd, 2022).



Fig. 40. Floor brick excavated from the temple site in Inwang-dong (photo by author, May 23rd, 2022).



Fig. 41. Pedestal of a stone lantern (photo by author, May 23rd, 2022).

Lastly, the palmette pattern expressed in Silla relics is observed on the ceiling (fig. 42) and eaves (fig. 43) of the *Daeungjŏn* (大雄殿) Hall of *Pulguksa* (佛國寺) Temple, which was built at the request of the Prime Minister of Silla, Kim *Taesŏng* in 751. These various palmette patterns are unique in the Silla style and symbolically express eternity as the best flower in heaven. The diversity of these palmette patterns can be seen in the tombstone of King *Muyŏl* (武烈), the 29th ruler of Silla (r. 654-661), *Kim Ch'unch'u* (金春秋), who laid the foundation for unification (fig. 44). It can be seen that the palmette engraved between the tortoise's back and the tombstone has sixteen leaves within the rectangular border and a pattern very similar to the palmette drawn on the fragment of a Greek pottery cup in figure 27 is engraved on the inside of the leaf (fig. 45).





Fig. 42. Ceiling of the Daeungjŏn Hall in Pulguksa Temple (photo by author, May 24th, 2022).



Fig. 43. Eaves of the Daeungjŏn Hall in Pulguksa Temple (photo by author, May 24th, 2022).



Fig. 44. Tombstone of King Muyeŏl (photo by author, May 23rd, 2022).



Fig. 45. Palmette patterns of tombstone of King Muyeŏl (photo by author, May 23rd, 2022).

## Palmette Pattern in the Dunhuang Grottoes

As a result of the study of palmettes in Persia and Silla, it can be assumed that there must have been a lot of exchanges between the two dynasties. These assumptions can be traced through the palmette pattern depicted on the ceilings of the Dunhuang Grottoes located at the midpoint between Persia and Silla along the Silk Road. Dunhuang is a crossroads where European and Asian civilizations influence each other and the Dunhuang Grottoes are a treasury of Buddhist art from the 4th to 14th centuries that fused Chinese, Persian, Indian, Greek, and Islamic cultures. In this study, in order to find traces of the exchange of palmette patterns between Persia and Silla, the transition of palmette patterns expressed in Dunhuang Grottoes from the 4th to the 8th century was considered. The eras are from Northern Wei (北魏, 386-534) to Western Wei (西魏, 535-557), Northern Zhou (北周, 557-581), Sui (隋, 581-

619), Early Tang (初唐, 618-712) and High Tang (盛唐, 713-765).

The palmette pattern of the Northern Wei period (fig. 46) can be seen on the ceiling of the northern wall of cave 254 in Dunhuang. In the center of the palmette pattern, there is a black round circle while the original picture is blackened due to the oxidation of the iron pigment. There are seventeen leaves around the black circle and twenty-eight leaves outside them, which are obscured by a thick circular border and are faintly visible. Outside the palmette, three tetragonal borders are arranged at an angle of forty-five degrees. In the corner of the second border from the inside, there is a Zoroastrian flame pattern and in the third corner, there is a painting of Pich'ōn (飛天, a flying god) of Indian Buddhism.

Likewise, the palmette pattern (fig. 47) painted on the ceiling of Dunhuang 285 cave in the Western Wei era has a round circle in the center and small circular dots are scattered inside the circle, so it looks like a lotus seed. It seems to be connected like a coil of petals around a circle, with fourteen leaves inside and sixteen leaves outside. The three tetragonal borders outside of the palmette are drawn with vines in the same composition as in figure 46. In the corner of the second border from the inside, there is a flame pattern and in the third corner, unknown flowers are drawn.

Figure 48 is the palmette pattern of cave 428 of Dunhuang in the Northern Zhou period. There are double lotuses with twelve and twenty-three leaves in the center and the field part within the first border is filled with a thin swirl pattern. Also, the first and second borders have a cloud pattern and the third border has various geometric patterns and totem-like tiger patterns that can be seen in ancient Chinese relics. In the corner of the second border from the inside, there is a flame pattern and in the third corner, there are Pich'ōn.

In the Sui Dynasty, like the ceiling of Dunhuang cave 420 (fig. 49), an ambiguous human figure is depicted inside a round circle in the center and twenty-three small leaves and nineteen large leaves surround it in double layers. The first and second borders have plant patterns and the third border is surrounded by fifty-three pearl-rounded patterns. In the corner of the second border from the inside, there is a Pich'ōn pattern and in the third corner, monsters showing various movements are drawn.

The palmette patterns of the Dunhuang Grottoes in the Tang Dynasty are clearly distinguished from the previous periods as follows. First of all, the palmette pattern (fig. 50) in Dunhuang cave 420 is from the Early Tang period with four small palmettes and four larger leaves in the center and another form of four leaves between the large leaves. Around it are five borders and on the first border, there are faint flowers while the second border contains nineteen palmettes with eight leaves that vary in size. The third border is surrounded by forty squares with a circle in the center. Here, it is presumed that the circle symbolizes the sky and the square symbolizes the earth. Next, a semicircle is drawn on the fourth border, and a pearl-rounded pattern on the fifth.

In the High Tang period, as shown in the Dunhuang cave 46 palmette (fig. 51), four-leaf palmettes and eight-leaf palmettes overlap in two layers and the composition is very similar to the palmette pattern expressed on the floor bricks of Silla. There are four corners with leaf patterns and there are four borders outside the corners. The first is a flower pattern, the second

is a pearl-rounded pattern, the third is a palmette pattern, and the fourth is a plant pattern.

To summarize the above, the palmette pattern from the Northern Wei period to the Sui dynasty was expressed in the form of a fusion of Zoroastrianism in Persia, Buddhism in India, and indigenous religions. In the Tang dynasty, it shows a typical palmette pattern and medallion composition of four and eight leaves, which were mainly seen in Persian palmettes, and it is presumed that it functions as a bridge connecting Persian and Silla palmette patterns.

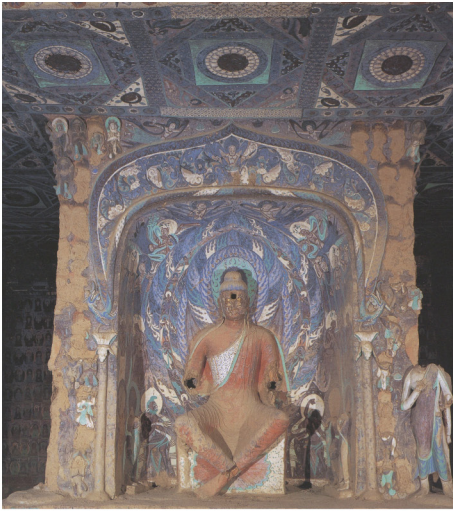


Fig. 46. Palmette pattern in Dunhuang cave 254 (Dunhuang Research Institute 2002a, 74).



Fig. 47. Palmette pattern in Dunhuang cave 285 (Dunhuang Research Institute 2002b, 16).



Fig. 48. Palmette pattern in Dunhuang cave 428 (Dunhuang Research Institute 2002c, 165).



Fig. 49. Palmette pattern in Dunhuang cave 420 (Dunhuang Research Institute 2002d, 16).





Fig. 50. Palmette pattern in Dunhuang cave 322 (Dunhuang Research Institute 2002e, 179).



Fig. 51. Palmette pattern in Dunhuang cave 46 (Dunhuang Research Institute 2002f, 167).

## Conclusion

The East-West cultural exchange between Persia and Silla through the Silk Road is being studied in various fields. This study attempted to discover the traces of East-West cultural exchange centering on the palmette pattern expressed on the carpets of Sassanid Persia and Silla Korea. I propose that the palmette, which originated in ancient Egypt, is an imaginary flower made up of the transformation of a lotus combined with the Mesopotamian quadrant and it was extended to the four-leaf palmette and, further, the eight-leaf palmette was applied to the octant. The Egyptian palmette contains the desire for eternal life and the center circle of the palmette symbolizes the sun and is connected to the worship of the sun in Egypt.

The palmette pattern, transmitted to Assyria in Mesopotamia, developed into the sixteen-leaf palmette, used for decorative purposes by kings and gods, and signifies authority and aspiration at the same time. In Achaemenid Persia, following Assyria, the sixteen-leaf palmette was used to splendidly decorate ornaments and palace reliefs. In the case of Parthia, under the influence of Greece, the palmette-acanthus-leaf pattern appeared and it can be seen that the quadrant elements are still connected. The palmette, which was transmitted to Greece and Rome, is decorated with curved vine patterns and acanthus leaves, which can be said to be the characteristics of the region, combined with motifs of native plants.

Sassanid Persia inherited the tradition of the palmette pattern, which applied the quadrant and octant seen in the previous several dynasties mentioned above. Also, it evolved more splendidly by combining twenty or twenty-one-leaf palmettes and the pearl-rounded pattern of the typical Sassanid Persian pattern. The Sassanid Persian palmette pattern can be seen elaborately and splendidly expressed in the Ardabil carpet medallion, which show the

essence of Persian carpets from the Safavid dynasty in the 16th century during the Islamic era since the fall of the Sassanians in 651.

This Sassanid Persian palmette pattern can be found through the palmette patterns depicted on the ceilings of the Dunhuang Grottoes located at the midpoint between Persia and Silla along the Silk Road. The palmette patterns of the Dunhuang Grottoes were expressed in the form of a fusion of Persian Zoroastrianism, Indian Buddhism, and indigenous religions. In the Tang dynasty, they shows the typical palmette pattern and medallion composition of four and eight leaves, which were mainly seen in Persian palmettes.

The palmette pattern handed down to Silla can be found on Silla carpets, estimated to be from around the 8th century, in the collection of *Shoso-in*, Japan. It can be seen that Silla carpets evolved into a unique Silla style using motifs such as peonies and young monks, which were popular in Silla while following the overall design of Persian medallions. In addition to carpets, splendid palmette patterns unique to Silla were used on floor bricks laid in various temple buildings along with Persian medallion designs.

Figure 52 is a distribution map of artifacts engraved with palmette patterns. Through this map, we can visually confirm that the palmette pattern, which started in Egypt, passed through Greece, Rome, and Mesopotamia, to Sassanid Persia, and to Silla through Dunhuang, the crossroads of the Silk Road. This thesis is a study on carpet pattern design and it is hoped that the historical data dealt with in this study will be used as basic information for developing high-value-added carpet designs.



Fig. 52. Distribution map of artifacts engraved with palmette patterns

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