

## Decorations on Bricks and Tiles (15<sup>th</sup>-18<sup>th</sup> Century) in the Ancient Royal Architecture in Northern Vietnam

Ngo Thi Lan  
Institute of Archaeology  
Vietnam Academy of Social Sciences  
(VASS)  
Hanoi, Viet Nam  
[ngolankch@gmail.com](mailto:ngolankch@gmail.com)

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### Abstract

The paper discusses decorations on the bricks and tiles from the 15<sup>th</sup> to 18<sup>th</sup> centuries which were found in the ancient royal architectural relics in Northern Vietnam. The aim of this paper is to learn the production and technical process of, as well as decorative patterns on, the bricks and tiles in this period. Based on archaeological documentary sources discovered from French scholars, and the findings and studies of Vietnamese scholars, royal bricks and tiles dated from the 15<sup>th</sup> to 18<sup>th</sup> century have been discovered in the northern Vietnamese sites, including Thăng Long-Đông Kinh-Eastern capital (Hà Nội), Lam Kinh site-Tây Kinh-Western capital (Thanh Hóa province) dated from the 15<sup>th</sup> to 18<sup>th</sup> century, and the second capital of the Mạc dynasty in Dương Kinh capital (Hải Phòng province) dated from the 16<sup>th</sup> century. The contents of the paper delve into the characteristics and evolution of the decoration on the bricks and tiles progression over time in terms of materials, colour, form, decorative pattern and techniques. The form and function of the types of ornamental bricks and tiles are also covered in this study. The study is also compared, in a broader context, with the bricks and tiles in the royal architecture of the Ming and Qing periods of China and some Southeast Asian countries. The research shows continuous development through the decoration on the bricks and tiles in the ancient royal architecture in Northern Vietnam as well as cultural exchanges, and Vietnam's unique character in the East and Southeast Asian region.

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Keywords: Brick, Tile, Royal Architecture, Decorative motif, 15<sup>th</sup>-18<sup>th</sup> century, Northern Vietnam

### **Introduction**

Bricks and tiles are one of the traditional terracotta materials in the ancient architecture of Vietnam. Decoration on bricks and tiles contribute to making architectural works more beautiful and solemn. According to archaeological findings, the bricks and tiles dated from the 15<sup>th</sup>-18<sup>th</sup> century have been discovered in over 100 architectural sites so far. The bricks and tiles involve the construction of royal and folk architectural decoration in the Northern Vietnam. This paper refers to the types of ornamental bricks and tiles found in the royal architecture works. The pattern-decorated bricks and tiles have so far been discovered in royal sites: the Thăng Long capital (Hà Nội) and the Lam Kinh site (Thanh Hóa province) dated from the 15<sup>th</sup> to early 18<sup>th</sup> century and the second capital of the Mạc dynasty in Dương Kinh (Hải Phòng province) dated from the 16<sup>th</sup> century. The ornamental bricks and tiles were decorated on all architectural positions, from the roof, floor, wall and foundations of royal architectural works such as the royal palace, altar, tower and tomb.

Artefacts of this type were first known through the discoveries of the French scholars in the École Française d'Extrême-Orient (French School of the Far East or EFEO) in Hà Nội. As announced by EFEO, the first artefacts, including many ornamental bricks and tiles were found in the capital of Thăng Long (Hà Nội) in the 1900s (Parmentier and Mercier 1952). The bricks and tiles in the Lam Kinh site (Thanh Hóa) were also disclosed in 1942 (Bezacier 1951: 22-42). After the discoveries of the French, ornamental bricks and tiles dated from the 15<sup>th</sup>-18<sup>th</sup> century have been continuously found by Vietnamese archaeologists in the architectural sites since the 1970s. Some initial research related to ornamental bricks and tiles had been also announced (Tống Trung Tín 2000; Nguyễn Văn Đoàn 2004).

Based on documentary sources, the paper discusses the types of ornamental bricks and tiles in order to find out about production and processing techniques as well as the decorative patterns on the bricks and tiles dated from the 15<sup>th</sup>-18<sup>th</sup> century from the imperial palace architecture works in the Northern Vietnam. Thereafter, the ornamental bricks and tiles are compared in a broader context with the ones appearing in the Ming and Qing periods (China) and some Southeast Asian countries to explore the cultural and trade exchanges among the ancient capitals in history.

## Typology

In ancient Vietnamese traditional architecture, not all parts of the building were decorated but depending on the nature of the works and their specific function, they were decorated differently. Usually, governmental buildings or those of the rich are often decorated. The houses of normal people are less decorated. According to the study of the types of bricks and tiles in the royal architectural monuments, they are decorated with patterns. Thus, it can be seen that the royal architecture expressed the importance of governmental buildings. The types of bricks and tiles with decoration in the 15<sup>th</sup>-18<sup>th</sup> century in the royal architecture works in Northern Vietnam are very abundant with many different types.

## Brick

There are many types of ornamental bricks with various sizes and functions. Regarding its shape, there are the following types of shape: rectangular, square and special shape like a hollow rectangle or a square box brick (also called ventilation brick) (Figs 1, 6). Square bricks were used to pave floors and paths, and tile terraces. Rectangular bricks were used for decorative purposes at the foundation, wall and other positions in the architectural works. Square and rectangular hollow bricks were used for panelling roof ridges and door frames. However, the function of the brick changed in some cases since it was reused in later periods.

Brick is usually made as mono-blocks in a mould, or two or more difference pieces are made in separate moulds and then linked to form a complete brick. The patterns decorated on the brick are commonly made of moulding printing techniques with patterns such as dragon, chrysanthemum, peony, dot, flower string and water wave.



Fig. 1 Brick with dragon pattern, 15<sup>th</sup> to early 16<sup>th</sup> century, Thăng Long capital, Hà Nội. Source: Ngô Thị Lan



Fig. 2 End ridge tile, 15<sup>th</sup> to early 16<sup>th</sup> century, Thăng Long capital, Hà Nội. Source: Ngô Thị Lan

### *Tiles*

The roof tile is an important component of the structure. The royal architectural, especially in Thăng Long is usually roofed with tiles. The decoration on the tile is more diverse and richer than those on the brick. An overall study of the types of tiles and components decorated on the tiles in the 15th-18th century royal architectures shows that decorated components include tube-shaped tiles, pan tiles, ridge tiles and lotus petal-shaped flat tiles. The decorative parts stuck to the tile include tile ends (round and half round shapes), tile borders in a half-moon shape (also known as the roof gutter with the functions of diverting rainwater drops for the roof and decorating the roof border), young lion statue and rectangular frame decorated strings and borders (Figs 3, 4, 5, 7, 8). Tiles were decorated directly on the body of the tiles such as flat, lotus-petal shaped tile and rectangular-shaped tiles.

End tiles were normally mounted to the row of tiles on the roof border. Lion statues were mounted on the ridge or on the hips of the roof. Types of decorative rectangular hems were decorated on the flat tile roof edges. The forms and functions of using the parts decorated on the tile found in Thăng Long also have been discussed (Ngô Thị Lan 2013a, 2013b, 2015).

A change in the type, materials, colour and decorative patterns as well as the difference in each royal architectural site has been found in all decorative forms on the brick and tile discovered in the royal architecture works in the 15th-18th century. Their evolution and the relationship among the sites will be discussed in the next parts.

## **Characteristics and Evolution**

Not including the Hồ dynasty, the 15<sup>th</sup>-18<sup>th</sup> century lasted nearly 400 years and covered three different periods: the early period of the Later Lê dynasty (15<sup>th</sup>-early 16<sup>th</sup> century), the Mạc dynasty (16<sup>th</sup> century), the Later Lê warlord period (Lê Trung Hưng dynasty) and Tây Sơn dynasty (17<sup>th</sup>-18<sup>th</sup> century). The patterns decorated on the brick and tile of each period in the royal architectural sites have their own characteristics and represent an uninterrupted continuation and innovation. There are also general and particular characteristics among these sites. The characteristics and evolution of ornamental bricks and tiles in ancient royal architectural will be presented below through the periods of 15<sup>th</sup>-early 16<sup>th</sup> century, 16<sup>th</sup> century, and 17<sup>th</sup>-18<sup>th</sup> century.

### ***Early period of the Later Lê period (15<sup>th</sup>-early 16<sup>th</sup> century)***

According to the ancient annals, the king of Lê Thái Tổ was enthroned in Đông Đô (Thăng Long) in 1428 and renamed Đông Đô as Đông Kinh and built a royal tomb that was named “Tây Kinh” or “the Western imperial citadel” in Lam Kinh (Thanh Hóa) in 1430. Thăng Long was destroyed after the war against the Minh, so right after being enthroned, a series of architectural works were built in the early period of the Later Lê dynasty. According to the Complete Annals of Đại Việt, the construction of citadels in this period was mentioned in six times; 16 events were recorded mentioning the construction of the palace and the names of 19 palaces were mentioned in the period from 1428 to 1516. Tiles and bricks were noted in 1516 when King Lê Tương Dực ordered the construction of the Thăng Long citadel. Tiles were also mentioned in the Complete Annals of Đại Việt in the period of construction of the Temple of Literature and Thăng Long citadel in this period.

In parallel with the construction of the Eastern capital in Thăng Long, the kings of the early period of the Later Lê dynasty attached special importance to building their tombs in the Western capital that is the Lam Kinh site on a tremendous scale. In the early period of the Later Lê dynasty, the new construction of the palaces in the Lam Kinh was mentioned four times in the Complete Annals of Đại Việt.

According to archaeological discoveries in Thăng Long and Lam Kinh, a large amount of the parts decorated on the brick and tile were used for the royal buildings during the early period of the Later Lê dynasty. Besides the brick types of the Lý and Trần periods such as square bricks used for floor, there appeared some new types such as rectangular bricks decorated with dragons or wave-shaped flower strings, square-shaped hollow bricks decorated on one side, or rectangular hollow bricks decorated with a dragon and dot rows on both sides (Fig. 1).

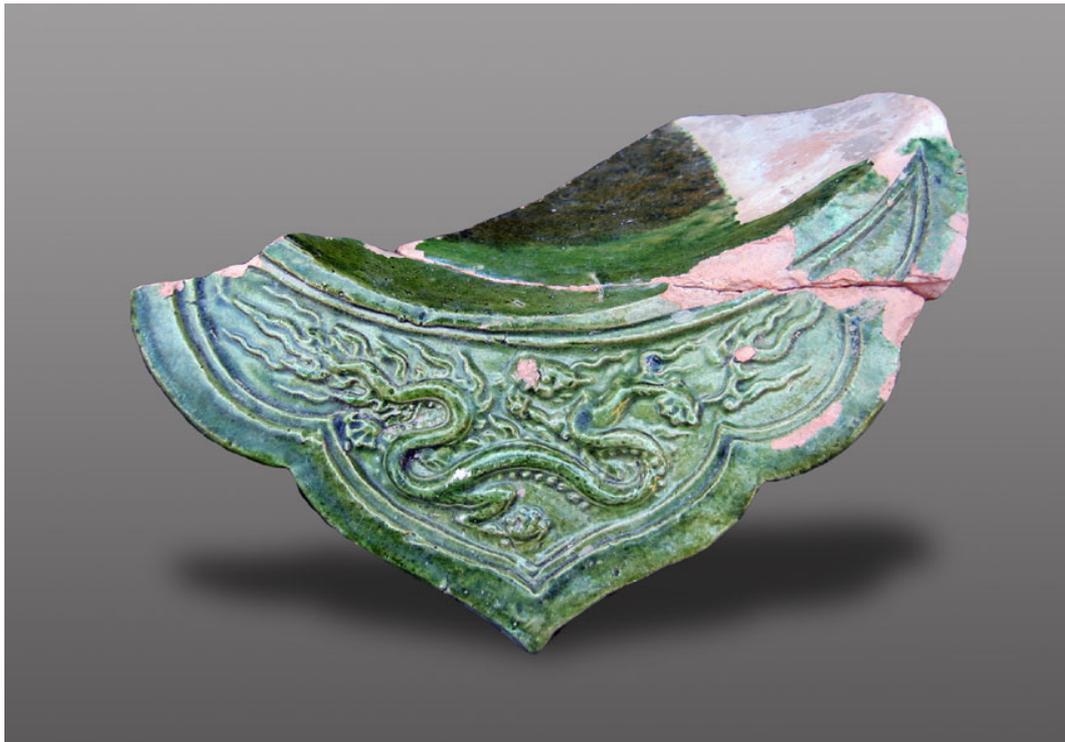


Fig 3. Water extraction tiles, 15<sup>th</sup> to early 16<sup>th</sup> century, BắcMôn site, Thăng Long capital, Hà Nội. Source: Ngô Thị Lan



Fig 4 End tile with chrysanthemum flower, 17<sup>th</sup>-18<sup>th</sup> century, Thăng Long capital, Hà Nội. Source: Nguyễn Hữu Thiết

The traditional decoration on the roof such as round-end tile in the previous periods (the Lý, Trần periods, 11<sup>th</sup>-14<sup>th</sup> centuries) still continued. Many new types of decoration, including half part of round-end tile, pan-end tile, lion statues, flat-end tile and directive decoration on lotus petal tile and rectangular-shaped tile appeared.

The decorative bricks and tiles in the early period of the Later Lê dynasty were made of smooth terracotta material with bright red, dark grey and white colours. The colours can be grey and dark red with unglazed clay ware, or red and white, and glazed in blue and yellow. This type of glazed tile was very popular during this period. This demonstrates that the terracotta technique reached an advanced level in this period.

Confucianism was regarded as the state religion in the early period of the Later Lê dynasty. In addition to the dragon, the kind of patterns bearing the symbol of Confucianism such as chamomile and apricot became popular. All tube tiles and tile ends were decorated with five-clawed dragon, which was the symbol of the king's power (Figs 2, 3, 7). The lotus pattern was uncommon. The Bodhi tree leaf and duct figure symbolizing Buddhism, which was popular in the Lý and Trần periods, did not appear in this period. Besides the tiger face, stylized motifs of flowers, landscapes and lion statues also abundantly decorated the tiles in the early period of the Later Lê dynasty. During this period there also appeared many types of bricks with Chinese characters which recoded the name of army units or number under the Lê Thánh Tông dynasty, such as 壮 锋 军 (Zhuang Feng Jun), 忠 威 军 (Zhong Wei Jun), 三 字 军 (San Zi Jun) or 虎 威 军 (Hu Wei Jun). This reflects the highly stable political and social situation in the early period of the Later Lê dynasty.

The comparison between the Lam Kinh site and the Thăng Long capital initially shows the similarities and differences between the two sites in materials, colour, type, pattern and technique (Fig. 7). However, some types of artefacts were found only in Thăng Long or Lam Kinh. For example, a type of rectangular brick with dragon motif and square box bricks with chrysanthemums motif were found in Thăng Long only (Fig. 1). The type of tube tile which is not only decorated on the ends but also connected to form a complete dragon is also very unique (Fig. 2). This decoration was found only in the Thăng Long capital. Lotus petal tiles that feature a blooming lotus flower decorated on the back were discovered only in the Lam Kinh site but not in Thăng Long.



Fig. 7 End tile with dragon pattern, 15<sup>th</sup> to early 16<sup>th</sup> century, Lam Kinh site, Thanh Hóa province.  
Source: Ngô Thị Lan

### ***Mạc period (16<sup>th</sup> century)***

In the Mạc dynasty, due to the focus on building the second capital in Dương Kinh (Hải Phòng) and other wars, attention was not paid to the construction of the Thăng Long capital. According to the ancient annals, the Thăng Long citadel was built three times (1585, 1587 and 1588) and two events of palace construction (1529 and 1582) were recorded. The bricks and tiles were mentioned in 1585 (Complete Annals of Đại Việt 1993, vol. III; Lê Quý Đôn 1978, vol. II: 344). In the Mạc dynasty, the Lam Kinh site was also repaired in 1527.

Archaeological sources show that some tube-end tiles and big bricks decorated with the dragon motif have been found in Thăng Long. The discoveries reflect the existence of the Mạc period here. The results of excavations in Dương Kinh show that no ornamental brick was discovered in this site but some tube-end tiles with dragon motifs were. Based on the results, it is possible to note that the decoration on the tiles in the Dương Kinh capital still followed the traditional decoration on the tiles in the royal architecture of the early period of the Later Lê dynasty but it was significantly simplified (Fig. 5).



Fig 5. Water extraction tiles, 16<sup>th</sup> century in Dương Kinh capital, Hải Phòng province. Source: Ngô Thị Lan

The types of decoration made on the tiles were still the tube-end tile, pan-end tile, lion statues and L-shaped decoration strings with T-shaped decoration strings also appearing. The material of tile uses of fine clay as the early period of the Later Lê dynasty and additional material is quite porous, unglazed with red and grey colours. The tile size is also smaller.

Following the tradition of pattern techniques from the Later Lê period, the patterns of the Mạc period were created by mould printing techniques. The main patterns were still dragon, chrysanthemum, “Ru yi” (如意) cloud pattern, and lion statues which were simpler than the statues in the Later Lê period. Absent was the half of tube-shaped end tiles.

There was a difference in the decoration on the tiles in the royal architecture between the capital of Thăng Long and Dương Kinh capital. For example, the tube-tile ends were decorated with a dragon. The dragon on the tube-tile ends in the Thăng Long site was fat with connected blocks and was carved in detail. This motif in the Dương Kinh site, however, was small and simple with a floating line on the dragon body.

#### ***Later Lê warlord period (17<sup>th</sup>-18<sup>th</sup> century)***

Thăng Long and Lam Kinh continued to build in the Later Lê warlord period. Thăng Long was not mentioned much in the ancient annals during this time. The biggest event was in 1629, when three palaces and 10 corridors were constructed as ordered by the king. All construction activities during this period focused on the Trịnh palace with a very beautiful and magnificent palace space (Hải Thượng Lãn Ông 1977: 114,

168; Dampier 2011: 68-72). The Western king palace was repaired in 1595 and the Càn Long palace was constructed in 1671 (the Complete Annals of Đại Việt 1993, vols. II and III).

The decoration made on the brick and tile in this period still followed the traditional style from the early Lê and Mạc periods but some variations and new types appeared. Tiles decorated with dots and wave-shaped flower strings were popular. The decorative form on the tile was still attached tube tiles, tiles for floor edges and decoration strings. Directive decoration made on lotus petal-shaped tile stem was relatively popular but was more simplified and changed. Chrysanthemums and lotus flowers were popular motifs (Fig. 4), whereas the dragon was uncommon. The lotus petal flat tile was popular, decorated with the “Ru yi” (如意) motif and geometric patterns. There were many different levels of materials (very coarse, coarse and fine) and prone to be coarse with pale grey, yellowish and crimson colours.

The tile and brick production techniques of the Later Lê warlord period still closely followed the later Lê and Mạc periods that used common mound printing techniques but less importance was attached to their refinement and aestheticism.

The type of bricks and tiles of the Mạc dynasty were not found in the Lam Kinh but many bricks and tiles with decoration of the Later Lê warlord period were discovered in Thăng Long (Figs 6, 8). Similarities exist in the materials, colours, forms and decorations between the sites.

The bricks and tiles decorated in the royal architecture of this period continued to be simpler than the same kind in folk architecture. The bricks and tiles in the royal architecture were not decorated with many patterns. Conversely, the bricks and tiles in the folk architecture were common decorated patterns, especially on the bricks. That reflects to some extent the decline in the power of the Later Lê warlord period during this period.



Fig 6. Brick, 15<sup>th</sup> to early 16<sup>th</sup> century, Lam Kinh site, Thanh Hóa province. Source: Ngô Thị Lan



Fig 8. Flat tile with “Ru yi” (如意) motif, 17<sup>th</sup>-18<sup>th</sup> century, Lam Kinh site, Thanh Hóa province.  
Source: Ngô Thị Lan.

### **Evidence of Exchanges And Trading**

From the 14<sup>th</sup> century, Confucianism flourished in China and influenced other countries in Southeast Asia, especially Vietnam. There were many similarities in the ornamental bricks and tiles dated from the 15<sup>th</sup>-18<sup>th</sup> century in the royal architecture of the Northern Vietnam to the same type in the Ming and Qing periods, China. (Harrison-Hall 2001: 518-37; Thượng Quan Phong 2003). Comparative studies show that the types of end tiles decorated with dragons, pan-end tiles with chrysanthemum, lion statues and rectangular bricks with flower strings were influences from China. The difference was in the glaze materials on the brick, dragon, and chrysanthemum and lion statues on the brick.

Southeast Asian countries were also influenced by Indian civilization. Flat tiles originated from India in the 1<sup>st</sup> century BCE (Oh-Ya 2005: 85-106). This type of tile appeared in Champa culture in central Vietnam from the 10<sup>th</sup> century (Lê Đình Phụng 2009: 45-52; Nishimura 2010: 433-57). The Đại Việt people have received a creativity of the Cham people from the 10<sup>th</sup> century in the Hoa Lu capital (Ninh Bình province). This tradition continued to grow over the 11<sup>th</sup>-14<sup>th</sup> century and the 15<sup>th</sup>-18<sup>th</sup> in Northern Vietnam.

According to the observation of the point flat tiles found at the site of the Sangkhalok dated from the 15<sup>th</sup> -16<sup>th</sup> centuries (displayed in the National Museum of Thailand), their shape are similar to the point flat tiles in Vietnam and their motif is close to the

“Ru Yi” pattern decorated on the lotus petal flat tile in Vietnam. Although they are close in shape and decorations, the size of the point flat tiles of the 15<sup>th</sup> -16<sup>th</sup> centuries in the Northern Vietnam is small, the point and part of tile is well-proportioned. Meanwhile the size of this type of tile in Thailand is large and its body is long. This type of tile in Thailand is also decorated the pattern. There is another difference that the point flat tile in Thailand is made of white glazed materials while this type of tile in Vietnam is unglazed.

In the 15<sup>th</sup> century there was trade exchange between the Đại Việt and other Southeast Asian countries. This period was strongly developed through the maritime trade routes. Fragments of Vietnamese wall brick with blue and white ceramics used for facing walls dated to the 15<sup>th</sup> century were discovered in Trowulan, the capital of Majapahit (1293-1527). It is possible that the items were ordered by the king of Majapahit from Vietnamese ceramic workers (Abu Ridho 1982, Miksic 2009). Fragments of the same kind found in Trowulan have been discovered in the recent archaeological excavations in the Thăng Long capital (The Center for Imperial City Research 2016). This is great evidence of trade between the Thăng Long capital and the Majapahit Kingdom in the 15<sup>th</sup> century.

Fragments of terracotta tower models and tube-end tiles adorned with green enameled, red coloured terracotta Bodhi tree leaf were also found in Trowulan. When they were compared, it was noted that they are similar in materials, colour and forms of decoration on the tower model in the sites dated from the 14<sup>th</sup> century and early 15<sup>th</sup> century in Vietnam (Ngô Thị Lan 2013b). This form of decoration can be considered as a unique national characteristic that has not been found in other regional countries. Although they did not directly affect the early period of the Later Lê dynasty in Vietnam, the discovery also suggests an open cultural exchange, at the beginning of the 15<sup>th</sup> century, between Vietnam, Indonesia and other Southeast Asian countries.

## **Conclusion**

Decoration on bricks and tiles dated from the 15<sup>th</sup>-18<sup>th</sup> century found in the ancient royal architecture in Northern Vietnam were abundant with many different types reflecting the architectural decoration process over 400 years of history. The study results reflect the traditional inheritance and continuous innovation of forms, materials, colours, production techniques and decorative patterns over time.

The royal architecture works are places where the national cultural value is typically expressed. The ornamental bricks and tiles of the royal architecture works in the 15<sup>th</sup>-18<sup>th</sup> century not only represent the advanced nature of the architecture which is the unique features of each relic but also shows the same features compared to other contemporary folk architecture. The general features show similarities in development levels and particular features express the distinctive characteristics of the nature of the site. The combination of general and particular features will create a continuous flow in the Vietnamese architectural decoration development process.

The decoration on the bricks and tiles is a result of the meticulous and complicated manufacturing process that requires talent and skilled fabrication techniques as well as an eye for aesthetics. It has been improved through many periods and has reflected economic, political and social aspects. The research of bricks and tiles with

decoration in the royal architecture in the 15<sup>th</sup>-18<sup>th</sup> century in Northern Vietnam has contributed to understanding the social and cultural history of Vietnam in general and the 15<sup>th</sup>-18<sup>th</sup> century in particular. The study results have also contributed to reflecting the exchanges among the cultures in the region as well as maritime trade among the ancient capitals of the Southeast Asian countries in history.

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