

## Patternization of Decorative Elements of Antique Architecture

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### Abstract

*Various decorative patterns and sculptures found in antique architectures like palace architecture and temple architecture are not only valuable assets of our culture but have religious meaning at the same time and show aesthetic aspiration and desire of Korean people. In this study, potential application of patterns in textile industry is suggested based on the reconstructed and patternized geometric patterns of window grids, a decorative element in architecture, and stair and stair somaetdol, a architectural element in Buddhist temples, using Photoshop and Illustrator program of Adobe INC AND Tex-pro program of Youngwoo CNI INC. All around the world today, efforts to reinterpret unique and antique architectures and cultural assets in a modern way has been increasing. Decorative patterns displayed in Buddhist temple architectures which are antique Korean architectures have excellent geometric aesthetic value. And the development potential of patternizing these elements into modern designs is high. Therefore, it is thought to be possible to develop high value-added fabric and to develop various fashion items including apparel and interior decoration based on modern reinterpretation of patterns of window grid and decorative elements of stairs and stair somaetol that are part of our antique architectures.*

*Key words : textile design, patternization, antique architecture, adobe, tex-pro.*

### 1. Introduction

Over the times, human has been displaying aesthetic aspiration through oneself and the environment surrounding us. It is a natural trait of human and one of the visual expression is the pattern. This could be explained by theory of decoration that humans seek beauty, theory of symbolism that humans pray for the happiness and survival and xenophobia theory that humans seek a relief and overcome the fear over empty spaces by imposing order and beauty on it (Choi, 2006). Korean patterns are embedded in various architectures, paintings, art crafts, ornaments for clothing. Among those, Korean antique architectures

as residence of Korean people display beautiful shapes, lines and colors.

History and characteristics of Korean antique architecture can be found in palace architecture, residential architecture and temple architectures. Royal palace, symbolic area and also the residential area of king, has many architectural spaces with various types and functions. Korean royal palaces can be viewed as a vessel of the old wisdom. In addition, Buddhism was introduced to Korea in Three Kingdoms period and was blooming in Koryo dynasty. Along with flourishing of Buddhism, temple architectures evolved a great deal and show their magnificence through various decorative patterns and structures until today. In that sense, temple architectures have significant

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value as heritage not only religiously but also culturally.

In this study, potential application of patterns in apparel textile industry is suggested based on the reconstructed and patternized geometric patterns of window grids, a decorative element in architecture, and stair and stair somaetdol, a architectural element in Buddhist temples, using Photoshop and Illustrator program of Adobe INC AND Tex-pro program of Youngwoo CNI INC.

## II. Theoretical Background

Decorative elements of antique architecture is easily found in walls, tiles, Dancheong, window grids and bridges, stones in stairs. One of the most common decorative elements is pattern in the window grids.

A window is regarded as an entrance from one place to another place as well as a partition in the spaces, and an opening where the sunlight comes through. Window can be classified according to the size and scale of the building where it would be installed. Salchang were installed in the kitchen while Ddi-salchang, Yong (用) ja-salchang, Ah (阿) ja-salchang were installed for houses, sleeping quarters and inner court of royal palace and dormitory in Buddhist monastery. Ggot-salchang was installed for main building of royal palaces and temples. Window grids serve as the foundation of the window and the construction of the window grids have different meaning and also represent the class of the building. Structures of window grid are vertical, horizontal and diagonal. Basic types of window grids are based on straight lines most of the time and sometimes consist of round windows and half round windows (Joo, 2001). Patterns on the windows are simple and elegant. And the blank space and proportion found in the windows are closely connected with architectural sense of blank space and proportion.

Stairs are locations where Buddhist initiation ceremonies are performed, that is, oath ceremonies about disciplines required by those learning the teachings of Buddha regardless they are stay-home

followers or entering the priesthood, and are the space of transition. Stairway is not an architectural element that exists in all temples. Currently remaining key stairs include Keumkang Stairs in Tongdosa, Bangdeung Stairs in Kimje Keumsansa and stone stairs in Dalsung Yongyeounsa. The composition of the stairs is based on a square shaped two-story stone altar form. On top of a relatively wide altar is placed another relatively narrow altar on the center of which is located a stone bell shaped Buddha holding Buddha's jinsinsari (Hur, 2000). Patterns found in the stairs are simple, elegant and sophisticated to contemporary design senses.

### I. Decorative Patterns Displayed on the Window Grids

Decorative patterns on the window grids varied from era to era in terms of symbolism and structural forms and were laid out variously according to the lifestyle and philosophy of each class. In royal palaces, patterns of window grids are delicate, luxurious, graceful and refined pertaining to its nobility. In case of vernacular houses, patterns are austere and warm while those in temples depict delicate and sophisticated aesthetic value and decorative beauty (Joo, 2001). <Table 1> shows different types and patterns of window grids.

### 2. Decorative Patterns of the Stairs and Stair Somaetdols

Decorative patterns on the stairs and stairs somaetdol include plant patterns, animal patterns, auspicious omen patterns, natural phenomena and geometric patterns (Hur, 2000). Types of the patterns are as follows in <Table 2>.

## III. Method and Conclusion

### 1. Patternization of the Decorative Patterns on the Window Grids

In this study, design of patterns on window grids in Nakseonjae which lies on east side of Changdeokgung palace in Wa-ryoung-dong, Jongno-gu, Seoul was patternized. Nakseonjae in Changdeokgung palace, sleeping quarter of Kings and

〈Table 1〉 Types and Patterns of Window Grids

Classification	Types of Patterns
Salchang	Window with lattices set in regular intervals
Deul-chang	Window with crossing strips
Ddi-salchang	Sliding window with multiple crossing strips
Yong ja-salchang	Lattice window with Yong (用) pattern
Ah ja-salchang	Lattice window with Ah (亞) pattern
Man ja-salchang	Lattice window with Man (凡) pattern
Jeong ja-salchang	Lattice window with Jeong (井) pattern
Soot dae-salchang	Lattice window with pattern of regularly arranged calculating sticks (San-ga-ji)
Bit-salchang	Lattice window with diagonally crossing strips at 45°, 135° angle
Min sa! bit-salchang	Mixture pattern of Jeong ja-salchang and diagonal crossing strips
Gui ja-salchang	Lattice window with Gui (貴) pattern
Gui gab-salchang	Lattice window with continuous hexagon shapes like turtle shells
Gab-chang, Heuk-chang	Opaque window papered with thick paper
Sa-chang, Mangsa-chang	Window papered with silk fabric
Ggot-salchang	Lattice window with multicolor or unicolor flower pattern repeated in all directions

〈Table 2〉 Types of Patterns of Temple Architectures

Classification	Types of Patterns
Plant Patterns	Mandarava Flowers, Lotus Flowers, Foliage
Animal Patterns	Mask of Devil
Auspicious Omen Patterns	福 (Fortune), 壽 (Longevity), 寧 (Peace), 康 (Health)
Natural Phenomena	Sun, Moon, Star, God
Geometric Patterns	Straight Lines, Three Wheels
Others	Taeguek

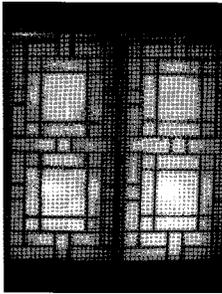
Queens built in Chosun period, is a building with 6 front compartments, 2 side compartments and one story Pal-jak-giwha roof with wing-shaped finish. Nakseonjae's unique mosaic decorations showing irregular lines, Hwagye (flower beds) made of stacked big stones, chimneys, flower trees and oddly shape stones harmonize with one another and make a scenic landscape.

〈Fig. 1〉 is Jeong (井) -ja salchang window and 〈Fig. 3〉 and 〈Fig. 4〉 show Ah (亞) -ja salchang. The 〈Fig. 2〉 is combination of Jeong-ja salchang and Ah-ja salchang.

Geometric elements founds in lattice windows of Naeseonjae in Chandeokgung palace as In 〈Fig. 1-4〉 were the motives of the design and were reconstructed and patternized using Photoshop and Illustrator program of Adobe INC.

The result of reconstruction is demonstrated In 〈Fig. 5〉 and 〈Fig. 6〉. Following 〈Fig. 7〉 and 〈Fig. 8〉 show the result of application to fabric design;

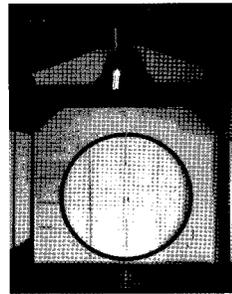
Those designs could be used in clothing, fashion accessories like neck-ties and scarves as well as in curtain and wallpaper for interior decoration.



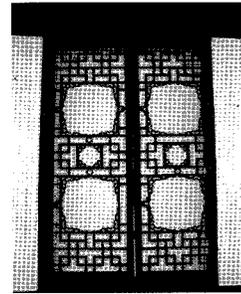
<Fig. 1> Window in Nakseonjae, Changdeok-gung Palace.



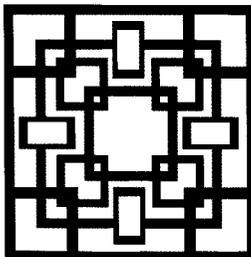
<Fig. 2> Window in Nakseonjae, Changdeok-gung Palace.



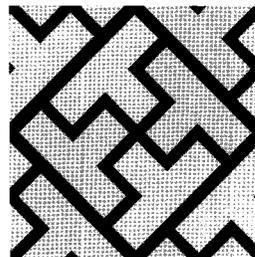
<Fig. 3> Window in Nakseonjae, Changdeok-gung Palace.



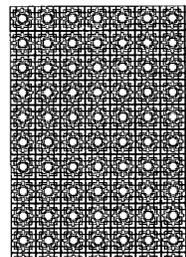
<Fig. 4> Window in Nakseonjae, Changdeok-gung Palace.



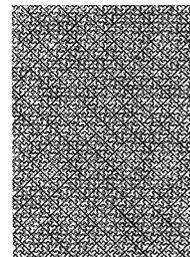
<Fig. 5> Patternization 1.



<Fig. 6> Patternization 2.



<Fig. 7> Textile Design of Pattern 1.



<Fig. 8> Textile Design of Pattern 2.

**2. Patternization of the Decorative Patterns on the Stairs and Stair Somaetdols**

In this study, patterns on the stairs in Buddhist temples among Korean antique architectures were applied to designs. Decorative patterns displayed on the stairs and stair somaetdol in Tongdosa in Yangsan (built in 1644, mid-Chosun period) and two stone stairs remaining in the Hweamsa relics (built during King Chungsuk's rule, Koryo dynasty) were used for design and patternization.

<Fig. 9> is Geumgang stairs in Tongdo-sa and <Fig. 10> and <Fig. 11> is stairs of Hweam-sa relics that show Taegeuk (yin and yang symbol) pattern. <Fig. 12-14> are stair somaetdol and stylobate of main building in Tongdo-sa showing lotus flower patterns. Those geometric elements found in stairs and stylobate of temples were designed into the pattern using Tex-pro program of CNI Inc. <Fig. 15> and <Fig. 16> are the examples of the design.

Those designs could be used in clothing, fa-

shion accessories like neck-ties and scarves as well as in curtain and wallpaper for interior decoration.

<Fig. 17> and <Fig. 18> shows actual adaptation of the design pattern into fashion items.

**IV. Conclusion**

In this study, geometric patterns of window grids, a decorative element in architecture, and stair and stair somaetdol, a architectural element in Buddhist temples, were reconstructed and reinterpreted into modern design using Photoshop and Illustrator program of Adobe INC AND Tex-pro program of Youngwoo CNI INC.

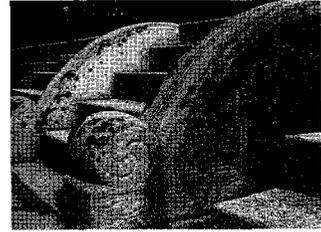
Reinterpretation of unique and antique architecture and cultural assets is a worldwide phenomenon. Decorative patterns displayed in Buddhist temple architectures that are antique Korean architectures have excellent geometric aesthetic value and the development potential of patternizing these



<Fig. 9> Keumkang Stairs in Tongdosa.



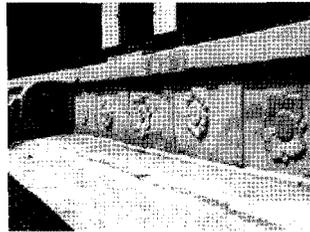
<Fig. 10> Stairs in Hweamsa Relics.



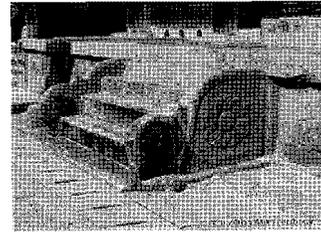
<Fig. 11> Stairs in Hweamsa Relics.



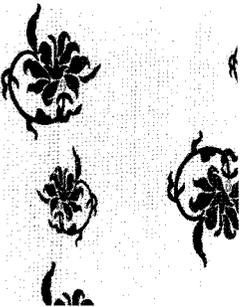
<Fig. 12> East Stairs of Main Temple in Tongdosa.



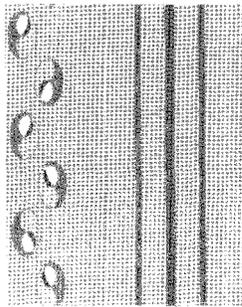
<Fig. 13> South Stairs of Main Temple in Tongdosa.



<Fig. 14> Stylobate of Main Temple in Tongdosa.



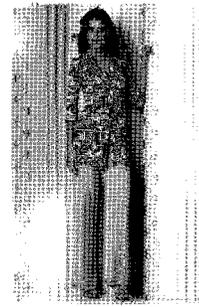
<Fig. 15> Patternization 3.



<Fig. 16> Patternization 4.



<Fig. 17> Textile Design of Pattern 3.



<Fig. 18> Textile Design of Pattern 4.

elements into modern designs is high. Therefore, it is thought to be possible to develop high value-added fabric and to develop various fashion items including apparel and interior decoration based on modern reinterpretation of patterns of window grid and decorative elements of stairs and stair somaetol that are part of our antique architectures.

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