

Study on the Creation Idea of "Round Sky and Square Ground" in Ming Dynasty Round-backed Armchairs

Shiruo Zhang¹ Jia'nan Duan² Ying Chen³

^{1,2,3} College of Industrial Design, Hubei Institute of Fine Arts, Wuhan, Hubei 430205, China

ABSTRACT

"Round Sky and Square Ground" is an ancient Chinese philosophical concept that not only influences human thinking, but is also reflected in architecture, furniture, painting and calligraphy. In this paper, the shape, materials, structures, crafts, decorative patterns and colors of Ming Dynasty round-backed armchairs are analyzed, and the creation idea of "Round Sky and Square Ground" contained therein is summarized. Through the analysis of the Ming Dynasty round-backed armchairs as a whole, one can understand the ingenuity of ancestors in design and continue this idea and apply it to future designs.

Keywords: "Round Sky and Square Ground", Ming Dynasty round-backed armchairs, Creation idea.

1. INTRODUCTION

The furniture of the Ming Dynasty holds a high position in the history of Chinese furniture. The round-backed armchair is one of the unique Chinese chair styles, and its six aspects of shapes, materials, structures, crafts, decorative patterns and colors all reflect the creation idea of "Round Sky and Square Ground". At the same time, the shape of Ming Dynasty round-backed armchairs can also reflect the aesthetic concept of life of Ming Dynasty people. This concept and the creation idea of "Round Sky and Square Ground" have a great influence on later generations.

2. OVERVIEW OF THE IDEA OF "ROUND SKY AND SQUARE GROUND"

The idea of "Round Sky and Square Ground" is an ancient Chinese philosophical idea, which is a manifestation of the yin-yang theory. It is generally believed that "Round Sky and Square Ground" includes two concepts, one is "Round Sky" and the other is "Square Ground". "Round Sky" represents movement, smoothness, harmony, etc., while "Square Ground" represents stillness, rigidity, stability, etc., with a balance of yin and yang, and

complementary movement and stillness. This form and structure of "Round Sky and Square Ground" are an expression of traditional Chinese culture and have the political significance of "carrying out foreign policy in Confucius way and domestic policy in legal way" and "being round outside and square inside". The phrase "Round Sky and Square Ground" not only means literally that the sky is round and the ground is square, but also discusses the "way of heaven" and the "way of earth".

3. OVERVIEW OF MING DYNASTY ROUND-BACKED ARMCHAIRS

3.1 Background of Ming Dynasty Round-backed Armchairs

Round-backed armchair originated in the Tang Dynasty, and its most notable feature is that the round back is connected to the railing, descending from high to low; in the chair, both arms of people can lean on the circle, very comfortable and pleasing. It has a rounded and elegant shape with a full body, a unique Chinese seat style. To this day, the round-backed armchair is still a typical representative of Ming Dynasty furniture.

3.2 Artistic Characteristics of Ming Dynasty Round-backed Armchairs

Ming Dynasty round-backed armchairs are simple and elegant in shape, with simple lines and fine workmanship. Aesthetically, Ming Dynasty round-backed armchairs are beautiful in shape and line, and have similarities with the art of calligraphy, as well as the painting techniques of Chinese ink painting, and the visual effect caused by their abstract beauty matches the modern concept of aesthetics. The proportions of the gradient of armrests and backrests, the bending, and the height of the seat of round-backed armchairs constitute a perfect imaginary space.

4. THE EMBODIMENT OF THE CREATION IDEA OF "ROUND SKY AND SQUARE GROUND" IN MING DYNASTY ROUND-BACKED ARMCHAIRS

The creation idea of "Round Sky and Square Ground" has had a profound impact on the design

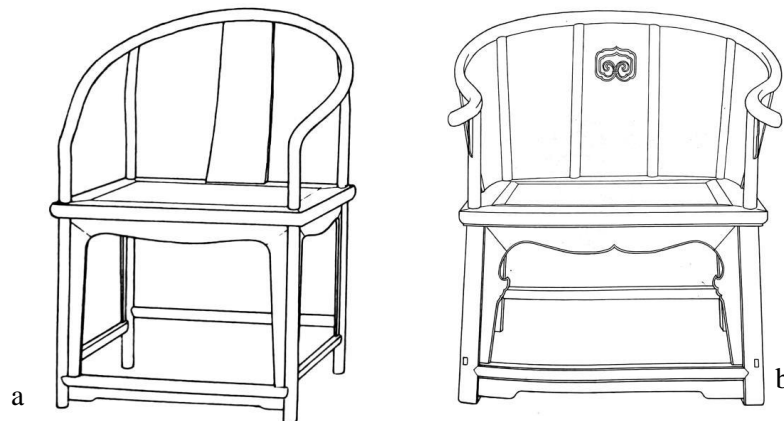


Figure 1 Representative diagram of round-backed armchairs.

4.1.2 Back Paneled Round-backed Armchair

This chair is decorated as a whole, but the decoration is not cumbersome or redundant. The white plain back of the chair is carved with a relief cloud-head pattern. The chair circle is not connected to ebo, the curved lianbang stick supports the rim and it is decorated with more coupon teeth with more curves under the chair plate. The rounded rim and square chair plate seat, the straight ebo and bent lianbang stick, the square

concept, which is fully reflected in all aspects and fields.

4.1 Shapes

4.1.1 Ming Dynasty Plain Round-backed Armchair

This chair is overall simple, with no superfluous decoration. The rim is rounded and full, the armrests don't head out but are connected with the ebo and the lianbang stick is also omitted. Its back and armrests are straight down, and when people sit on it, they can not only lean on their elbows, but also support a section of the arms under the underarms. The backrest of this chair is arc-shaped in the side view and square in the front view, which is the contrast between square and round. The bottom three sides of the round-backed armchair are made of "watangdu" coupon teeth, and there are smooth curves in the straight shape. This straight and curved combination and square and round combination make it possible for Ming Dynasty round-backed armchairs to reflect the creation idea of "Round Sky and Square Ground". [1]

(a) Ming Dynasty plain round-backed armchair (b) back paneled round-backed armchair

backrest and cloud pattern relief, the vertical chair legs and curved kettle door, etc. are the round and square, curved and straight combination. The overall round-backed armchair fully embodies the creation idea of "Round Sky and Square Ground" in shape.

Ming Dynasty round-backed armchairs use the combination of "square and round" in its shape. Viewed from above, its armrests are rounded, visually reflecting the "Round Sky". The surface of the chair is boxy in all directions, highlighting the "Square Ground". The legs of the chair are also a

boxy combination, with the circle representing perfection and the square representing stability, all reflecting the creation idea of "Round Sky and Square Ground".



Figure 2 Huanghuali wood.

Huanghuali wood is hardwood, but the whole is not heavy, and the grain is varied, like floating clouds and flowing water, giving a soft and quiet feeling. Rigidity and flexibility are in contrast. Huanghuali wood's hard material characteristics reflect the "Square Ground" concept, and its harmonizing effect on the human body shows the idea of "Round Sky". From this point of view, Ming Dynasty round-backed armchairs also reflect the creation idea of "Round Sky and Square Ground" in the choice of materials.

4.3 Structures

The structure of Ming Dynasty round-backed armchairs shows the perfect scale and ergonomic science, which all reflect the wisdom of ancient craftsmen. The back of the round-backed armchair is "S"-shaped design, in line with the structure of the human body, known as the classic "Ming Dynasty curve". This curve can be traced back to *The Book of Changes* at the earliest. There is a passage in the Postnatal Eight Trigrams Diagram: "Heaven and earth set the position of the upper and lower coordination; mountains and rivers communicate at high and low places; thunder and wind move respectively and respond by turns; water and fire do not discard each other but to support each other: The eight trigrams are so intermingled. If you want to know the past, you can follow the calculation, and if you want to know the future, you can deduce against it. It runs according

4.2 Materials

Since the middle of the Ming Dynasty, for Ming Dynasty round-backed armchairs, skilled craftsmen often used huanghuali wood, mahogany and other hardwood as their materials, of which huanghuali wood was the main material. Huanghuali wood has a yellow and gentle color, fine material, soft texture and pleasant aroma, and is favored by craftsmen in Ming and Qing Dynasties.

to qián, duì, lí, zhèn, then turns back to xùn, kǎn, gēn, kūn". Through the interpretation of this passage, the "S"-shaped curve of the back of the chair is obtained by using the idea of "Round Sky and Square Ground" and the theory of "Heaven & Earth/Yin & Yang". The ups and downs of this curve not only meet the needs of ergonomics, but also reflect the gentle beauty and auspicious meaning of yin and yang.

Ming Dynasty round-backed armchairs adopt mortise and tenon structure in wood joint. Mortise and tenon joint with wood, being firm and beautiful. Different parts adopt different forms of mortise and tenon. The cogged scarf joint ("Figure 3") and the box wedging ("Figure 4") are the two types of mortise and tenon joints generally used in round-backed armchairs.

4.3.1 Cogged Scarf Joint

In the rim, due to the nature of the wood, it is impossible to make a solid circle with a single piece of wood, so more than three or five curved wood of different curvatures are used for joint, and such a practice is generally known as three joints or five joints.

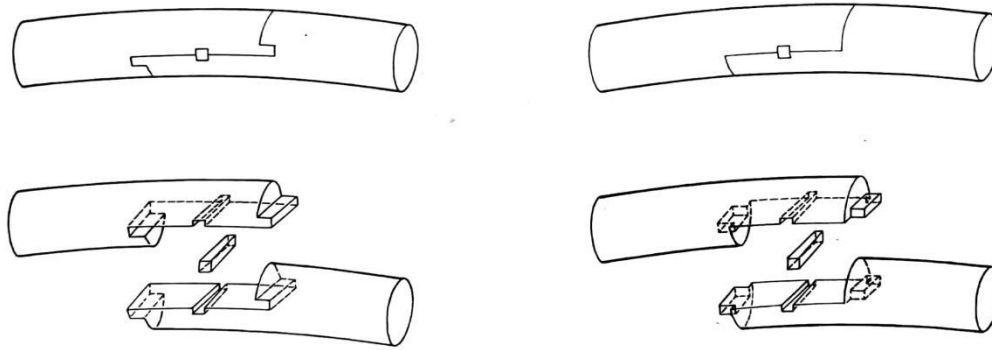


Figure 3 The basic structure of cogged scarf joint.

According to the structure of the human arm and body, the fixed position of the entire rim wedge is elaborate. The backrest of the chair follows the principle of "being flat in the back, short in the middle, and long in the front". When people sit on the chair, their hands, elbows and arms can be fully supported, which should be a very relaxed and comfortable posture.

4.3.2 Box Wedging

Box wedging is more common in backrest chairs. In the hand-hanging round-backed armchair, the armrests don't come out of the head but are connected to the ebok by this special mortise and tenon connection.

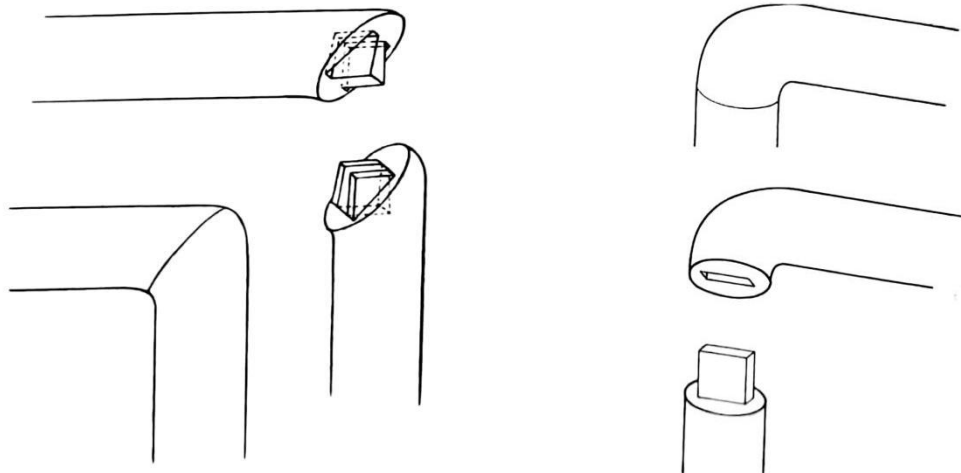


Figure 4 Basic structure of box wedging and wayandai tenon.

Ming Dynasty round-backed armchairs are mostly made of round wood. The two types of mortise and tenon structures on the chairs are square inlaid structures cut in the round material. This structure of being square when it meets circle and being round outside and square inside is also a reflection of the creation idea of "Round Sky and Square Ground".

4.4 Crafts

Most of round-backed armchairs use the light plain method, with only a simple set of decoration or hollowing in relief in the center of the back.

Ming Dynasty round-backed armchairs are rarely lacquered, and after sanding, wax rubbing and other processes, they present the magnificent grain and soft color of the wood. The natural texture, color and grain are clearer and smoother.

Ming Dynasty round-backed armchairs conform to the size of ergonomics. Made of hardwood, round-backed armchairs perfectly conform to the soft curves of the human body and are carved by decorative processes with hollowing on the solid wood. Ming Dynasty round-backed armchairs only use the original grain and color of the wood, perfectly reflecting the idea of "Round Sky and

"Square Ground" and "the Tao Way Follows Nature". [2]

4.5 Decorative Patterns

The flowers in Ming Dynasty round-backed armchairs are mainly lotus, peony and curly grass



Figure 5 Decorative patterns and coupon teeth on the back of the round-backed armchair.

In terms of decoration, Ming Dynasty round-backed armchairs focus on patterns. There are also some more complex and very few carvings, with mostly simple decoration to show the overall effect of the seat. In the overall simple and elegant appearance of the shape, it is interspersed with the right amount of decorative patterns. The straight structure and back are contrasted by soft and curved lines, with straight lines meaning "Square Ground", while curves representing "Round Sky". The square and straight overall structure is decorated with curved patterns and hollowed out designs on solid materials. This complementary design of yin and yang fully embodies the creation idea of "Round Sky and Square Ground". [3]

4.6 Colors

The color of Ming Dynasty furniture is basically pure wood color, making full use of the special characteristics of the wood's own hue and texture, forming its own unique aesthetic interest and unique style. Ming Dynasty round-backed armchairs are mostly made of top quality log, which is usually not lacquered, giving full play to its natural texture and color, reflecting the beauty of natural materials, being in line with China's "learning from nature" aesthetic taste.

Colors in Ming Dynasty round-backed armchairs basically represent the basic pattern of the material used, that is, the wood grain. ("Figure 7") In Ming Dynasty round-backed armchairs, hardwood is basically used as a production material, and the pattern of such wood has a unique texture.

pattern, while the animals are mainly dragon, dragon and phoenix. And the decorative parts are mostly straight lines, with curved lines to decorate the straight legs and back. The straight and curved combination, and the complementary yin and yang fully show the creation idea of "Round Sky and Square Ground".

These textures, some like mountains, some like water, with soft and beautiful grain. The hard material characteristics of the wood reflect the concept of "Square Ground", and its unique soft wood grain shows the idea of "Round Sky". From this point of view, Ming Dynasty round-backed armchairs also reflect the creation idea of "Round Sky and Square Ground" in the choice of materials.

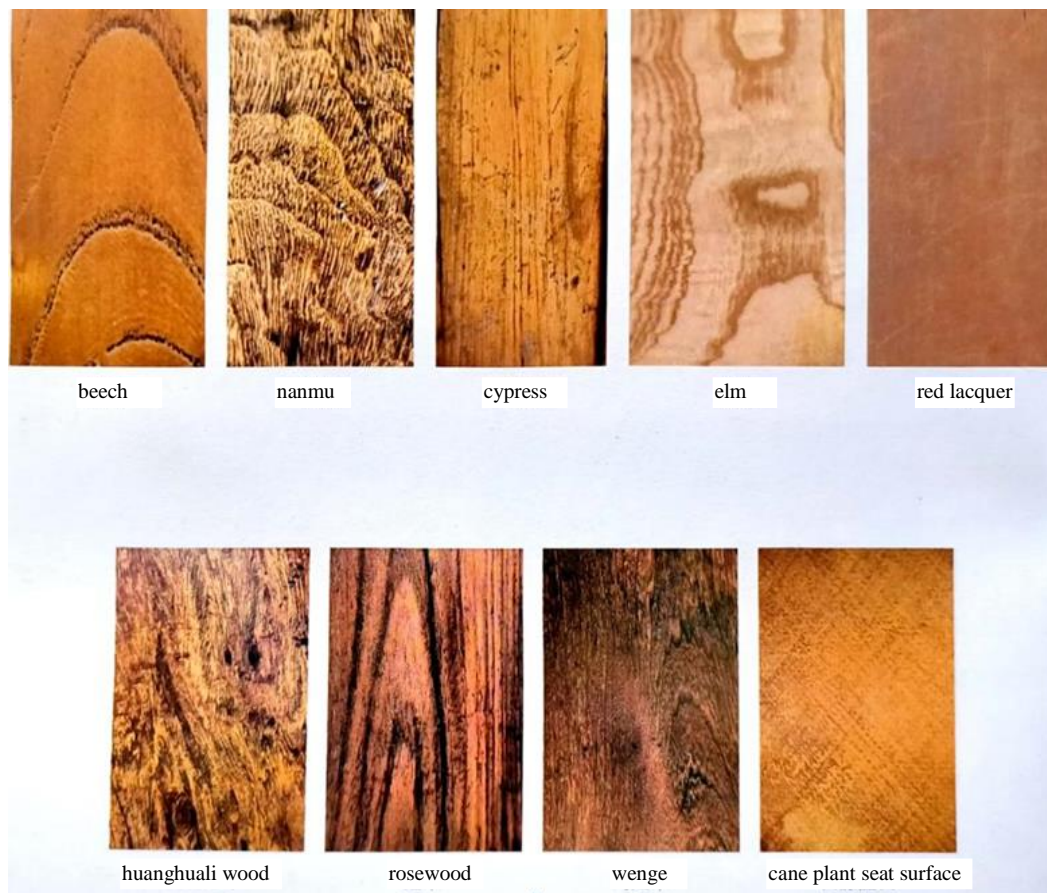


Figure 6 The grain of the wood used.

5. CONCLUSION

This paper deeply analyzes the embodiment of the creation idea of "Round Sky and Square Ground" in six different aspects of Ming Dynasty round-backed armchairs: the shape, materials, structures, crafts, decorative patterns and colors.

The fascinating thing about Ming-style furniture is the cultural breath that emerges from it. In the Ming Dynasty, furniture was designed by professional craftsmen and literati. The craftsmen focused on the craft and structure of the design, while the literati put their own ideas and pursuits of life into the design. The Ming Dynasty people had their own unique opinions and aesthetic orientation on art, and they mostly marked the level by "elegance" and "vulgarity". Most of the design works of the Ming Dynasty people showed an elegant aesthetic orientation of transcendence and not bowing to the world. They were eager to seek a place for their own peace in the unstable state of the universe. This attitude toward life and the aesthetics of living is also a reflection of the idea of "Round Sky and Square Ground".

The creation idea of "Round Sky and Square Ground" has been continued from ancient times to the present, and there is no lack of embodiment of this idea in modern design, such as the design of the Bird's Nest and the Water Cube of the Beijing Olympic Games. The Bird's Nest represents "Round Sky" while the Water Cube represents "Square Ground", echoing and complementing each other. This is a perfect embodiment of the ancient Chinese philosophy of "Round Sky and Square Ground" in modern design. [4]

REFERENCES

- [1] Wang Shixiang. Studies on Ming-style furniture [M]. Beijing: SDX Joint Publishing Company, 2008. (in Chinese)
- [2] Li Peng. The connotation of Ming-style furniture —taking Ming-style chairs as an example [J]. Peony, 2017(15):87-89. (in Chinese)
- [3] Ge Hui. Study on Cultural & Creative Design Based on the Extraction of Decorative Elements of Ming-style Furniture [J].

Furniture & Interior Design, 2022,29(07):30-36. doi:10.16771/j.cn43-1247/ts.2022.07.006.
(in Chinese)

- [4] Wang Yusheng. Round Sky and Square Ground: the Bird's Nest and the Water Cube [J]. Science & Technology Review, 2008(16):98. (in Chinese)