

The Exploring of Benjarong for Application in Furniture Design^{*}



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Abstract

Benjarong is a high-class handicraft in Thailand. In the past, it was used in the royal court by high-ranking people with unique shapes, patterns and colors. Nowadays, there are improvements to match the era, to reach people of all genders and ages including foreigners in order to get to know Benjarong through new designs such as home furniture, gifts, souvenirs, jewelry, etc., to continue the identity of Thai arts and crafts.

Thai furniture has a more important role after King Rama V announced the abolition of slavery. So, the crouching system is reduced. Characteristics (of Thai furniture that is unique) can be seen from the shape of the bent wooden legs called 'Kou legs' and carved patterns similar to the lion's legs called 'Singha legs' such as stools, beds, cabinets, etc.

The Golden Ratio is derived from a mathematical theory. It is a calculation to find the most balanced and beautiful proportions. It is a formula invented by Leonardo Fibonacci, an Italian mathematician who tried to use numbers to describe the beauty of nature.

This article raises two issues of study Benjarong and Thai furniture regarding composition, proportion and shape in order to determine the outcome of suitable and similar proportions by using the Golden Ratio theory to compare the beauty proportion of two things by experimenting with designing various dimensions in creating relationships with each other and finding the result of the most perfect piece of work, it is able to ingeniously and harmoniously reflect Benjarong and Thai furniture.

This study provides a new perspective on contemporary furniture design. By maintaining the identity of Benjarong and Thai furniture, the outcome from studies and experiments shows that creating new furniture by art beauty theory of both proportions can reflect the identity of Benjarong and Thai furniture, which will be a new dimension of creative design. This can be useful and is a continuation of Thai arts and crafts in the future.

Keywords: Benjarong; Thai Furniture; Golden Ratio

Introduction

Benjarong is a high artwork handicraft that has been accumulated for a long time from generation to generation. Benjarong developed quickly into the international market. The

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value in the product itself contains gold and high art that can be found in any country in the world comparable. The purpose of production today is different from the production in the past. In those ancient times, it was produced for use in the upper class, but in the present Thai Benjarong, it is popular with both Thai and foreigners, whether they are used to decorate the house or use it as a gift, souvenir, etc. (Boonyarat Benjarong, 2020).

Nowadays, the era has changed, causing the popularity of Benjarong to decrease and not be known to the next generation. Therefore, applying the form of furniture or product in the house that matches the current era is the preservation and reflects the wisdom mixed with the contemporary until it becomes a new body of knowledge for the next generation.

Applying the Golden Ratio Theory to calculate the beauty of the Benjarong and the proportion of Thai furniture in order to find the link between each other of the elements of art, will be used to develop the design and also for applying and creating the shape of modern furniture that fits with the present day by experimenting and simulating a variety of designs to find the most complete summary of the work that can reflect the symbols of Benjarong and Thai furniture.

The author has a preference and interest in the beauty of Benjarong. Benjarong wares were used by the noble people in the past and continue to the present day but it's no longer that popular with the next generation. This issue inspired the author with a variety of design expertise, to make ideas and to apply them to furniture development. Choosing to design a tea table has a connection with the past when Benjarong wares were put on the table and by doing so, it's an effort to give proper respect to tradition.

Article

In this article, the scope of the study is Benjarong, Thai furniture, Golden Ratio and experimental application in design focusing on shape, form and proportion as follows:

1. Benjarong

Benjarong is a fine Thai handicraft that has been around for a long time from the Sukhothai period to the Rattanakosin period. Benjarong is a glazed pottery ware painted by the enamel method. The part called Benjarong is a pattern written on the work produced with 5 colors, usually black, white, yellow, red and green.

The history of Benjarong started with making various ceramics. In the beginning, there were trade contacts with Chinese cities that we had heard of called "Chinese junk" There are various bowls imported to trade with us. Later in the Sukhothai period, it was a chinaware machine porcelain. The glazed water machine is broken. Later, in the era of King Rama 2, it was considered a very boom era, with the order of Benjarong from China by sending Thai technicians to learn and train in China. Previously, it was a pattern design from Thailand and then sent to the Chinese to write, for example, Thep Phanom pattern that would have eyes that are called Thep Phanom Pung Pui. In the early period, the face and pattern would be

Chinese style up in order. (Kwan, 2021). Benjarong and Lai Namthong wares have different shapes but keep Thai-style various shapes such as bowls, plates, jars, plates, spoons, kettles, tea sets, etc. The shapes are decorative according to user characteristics.

"Benjarong" means "five colors" and can be used from 3 colors to 8 colors; the main colors are red, yellow, white, black, green or blue and other colors are purple, dark brown, etc. (Foundation for the Conservation of Ancient Ruins in the Old Palace) The Royal Thai Navy Headquarters (2013) said that "Lai Nam Thong" is classified as the same type of wares as benjarong wares, but with the addition of gold between benjarong. The gold cutting line has been used since the reign of King Rama I, but was very popular during the reign of King Rama 2 and end at King Rama 5

Benjarong wares are handcrafted by Chinese and Thai craftsmen. It ended during the reign of King Rama V when the department of the Borwon Wichaichan Palace set up a kiln in the front palace Wang Na and made colored wares by ordering white wares from abroad by writing the pattern, painting colors and all processes to burning here. (Kongpia, 2022).

Diagram from the study of Benjarong.

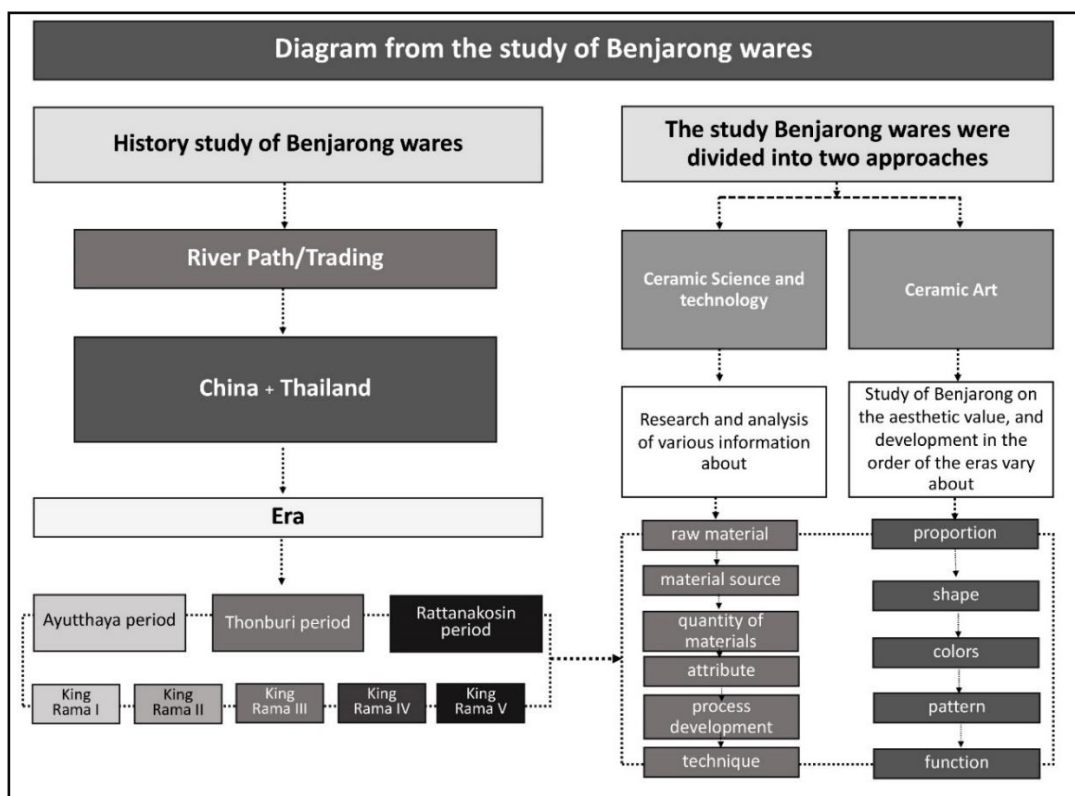


Figure 1: Diagram from the study of Benjarong wares.

Source: (Prayoonhong, 2022)

Art Ayutthaya, 23rd century have cut lemon shape, Kan-Khod pattern, color-coded, Kan-Khod-patterned, Flower stalk pattern in red, green, and white. The outer edge of the mouth is painted on the green line; the floral pattern is painted on the yellow line; the inner

lip line is painted when freshly molded and the grille is painted in the yellow and red line on the matt bowl in green glaze. Hongwiwat (2011).



Figure 2: Benjarong bowl with Kan Khot pattern.

Source: (Hongwiwat, 2011)

Art Ayutthaya, **1750-1767** Benjarong bowl with glossy lid, black porcelain painted with Thep-Phanom pattern in red glass box, alternating Norasingha decoration with red halo pattern, surrounded by red Kanok pattern with white lines, Khon eye border, lid and floral writings from the bottle and regularly on the green and red lines, the top cover has resembles with the lotus bud.



Figure 3: Benjarong bowl with Thepphanom-Norasingthong pattern.

Source: (Hongwiwat, 2011)

The reign of King Rama 5 (1868-1910) was the last era of Benjarong and Lai Namthong. It was a popular era for European wares. Chinese and Japanese wares in this period are painted and burned in Bangkok, such as the kiln of the Bowon Wichai Chan Nai Phon Palace Department. In the reign of King Rama V, porcelain was very popular, and many contests were held. It is the last era of Benjarong wares and Lai Namthong.



Figure 4: Namthong ware the reign of King Rama V Salak Jor Por Ror.

Source: (Buwan, 2014)

Calling the proportions of the Benjarong by analogy with human proportions, golden water betel jasper, emblem pattern of the King's monogram, Chor Por Song Klod, round bottom, round body, sloping shoulders, round mouth, ancient military hat-shaped cap, it is written in enamel and gold with a pattern of the King's logo on the tile floor, starting from the bottom of the missing gold, writing with the pattern of the yellow and green spiral claw guard. The jar is painted with the King's logo throughout the leaf navel area. There is a statue of a lion's head embossed on all four sides, a 2 cm tall sloping neck, sloping shoulders, claws in green and yellow flames and once again covering the mouth of the jar with gold.

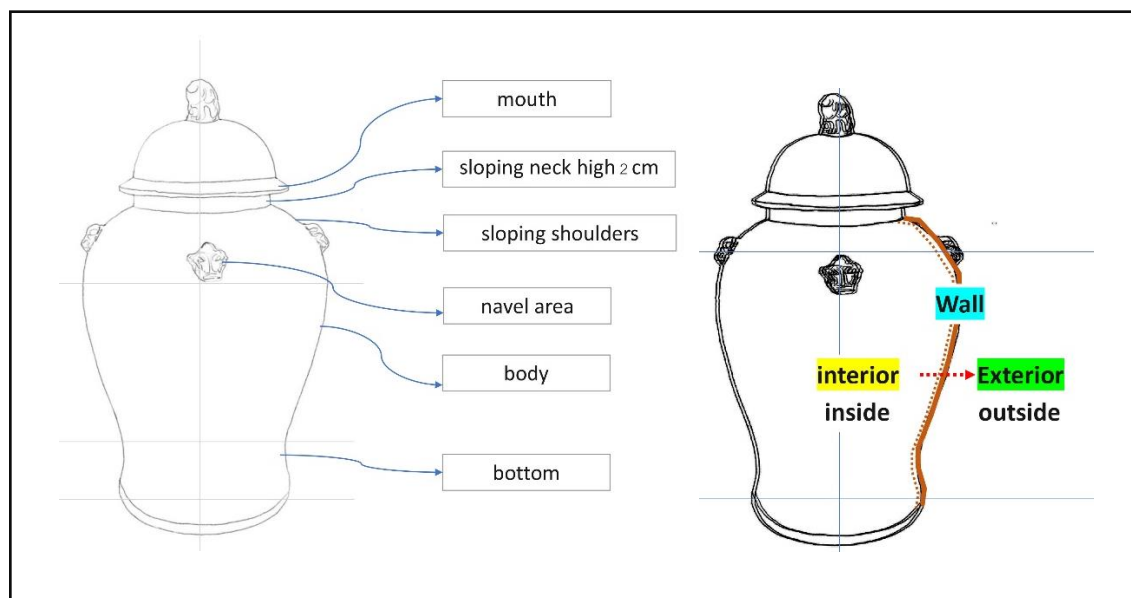


Figure 5: Calling the proportions of the Benjarong by analogy with human proportions and analyze inside-outside. Source: (Prayoonhong 2022)

The cap of an ancient soldier's hat is clipped around the mouth. The gold cap is written with the pattern of the claw guards, green and yellow twisted pins. The cap is attached to the

same list of the King's name as well. The top spot is a gold-plated lion, looking very beautiful. (Buwan, 2014)

2. Thai Furniture

Thai traditions in the past involved crouching or sitting and therefore did not know the use of furniture. Evidence can be found in the evolution of Thai furniture around the reign of King Narai from the murals.

Furniture has evolved over time. In Thailand, it is difficult to find evidence of evolution in furniture. Enough to see the outline, it is approximate since the reign of King Narai the Great (1656) onwards because the murals, stone carvings, or stucco images that are seen together are stories about religion and Buddha history. But in those works of art, the artist will insert images of society, behavior, living as well as traditions, such as the shape of Thai architecture. These traditions reflect real life, noting that activities are performed on the ground level, such as sitting, sleeping and eating. All sit on the floor. (Chanthaban, 2013)

The Ayutthaya period began to adopt the system of government and culture of Hindu culture. The King was seen as a god and society began having different classes. The furniture therefore only existed in higher class, as can be seen in the remains of the late Ayutthaya period. This is the prime reason why there are only few and not many.

During the reign of King Rama V, there was a change in the abolition of slavery, the prostrating system gradually disappeared and gained western culture, causing furniture to play a role in Thai society from the reign of King Chulalongkorn onwards. That is to say, since 1873, he began to reform the country extensively, including reforming Thai society. There were three changes in Thai society.

The first one was the freeing of slave children, which led to the abolition of slavery. The second one was the status change of commoners to ordinary citizens and the third one was the noble status change which was often inherited by blood. The king favored the use of knowledge and skills according to the Western style. In addition, he also favored the cancellation of the tradition of crouching in an audience. It is a standing bow and sitting in a chair instead. Therefore, living status and living behavior began to change. but gradually starting from the top - The King and downwards.

Thai furniture appears in the reign of King Narai the Great according to La Loubert and Archbishop Tachard. There are records that indicate classification of the furniture in those days as follows: reed mats for sleeping, sitting, etc., for general use. Bamboo litters are often located in the basement of the house, solid chests, Japanese chests, chests with drawers, cabinets, room partitions, etc. It can be said that Thai furniture has a unique identity, which can be seen from the bentwood legs and carved patterns similar to the legs of a lion, called "Kha Sing".



Figure 6: "Tang" lacquered and gilded in the Rattanakosin period was influenced by China.
 Source: (Chitamorn, 1982)

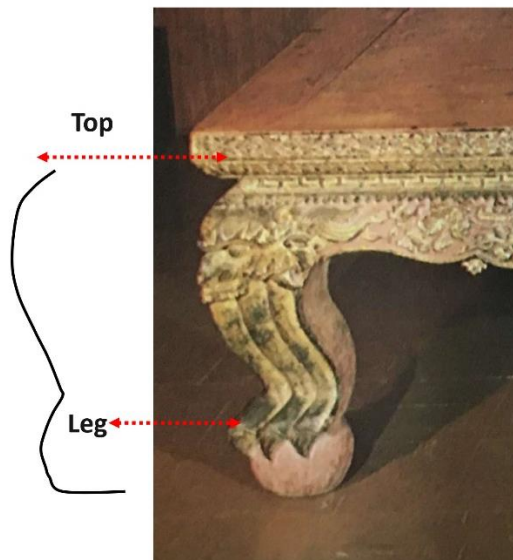


Figure 7: Calling the proportions of the Tang's legs as legs of lion. It's called "Kha Sing".
 Source: (Prayoonhong 2022)

3. The Golden Ratio

The Golden Ratio is a mathematical theory used to calculate the most beautiful ratio, invented by Leonardo Fibonacci, an Italian mathematician who invented this theory to measure the beauty of things on earth through numbers and proportional calculations. The golden ratio is 1: 1.618. The golden ratio comes in many forms, including straight lines, squares and triangles. It can appear in everyday life both in nature, such as flowers, animals, artwork, architecture and human faces.

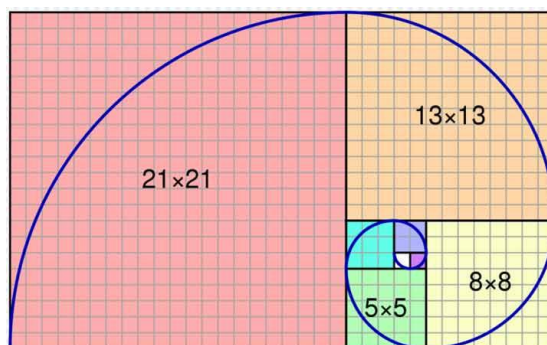


Figure 8: Golden Ratio Magical numbers manifested in nature.

Source: (Mag, 2016)

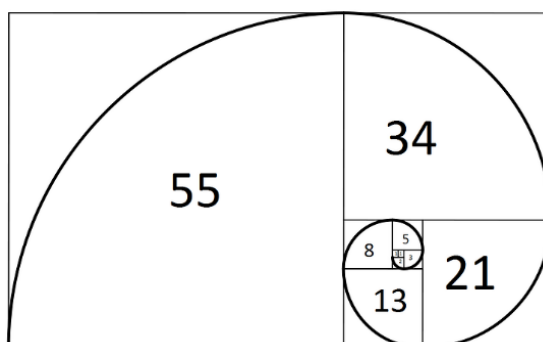


Figure 9: Value of the golden ratio (number Phi) knowing the side length of a square.

Source: (Jouis, 2021)

4. Experiment

In this paper, the author defines the scope of the study by studying the shape and proportion of Benjarong and legs of Thai furniture in order to compare the proportions by using the theory of the golden ratio, including to find discoveries that will be used in developing a modern furniture style but by reflecting the image of the shape and proportion of the Benjarong for experiment.

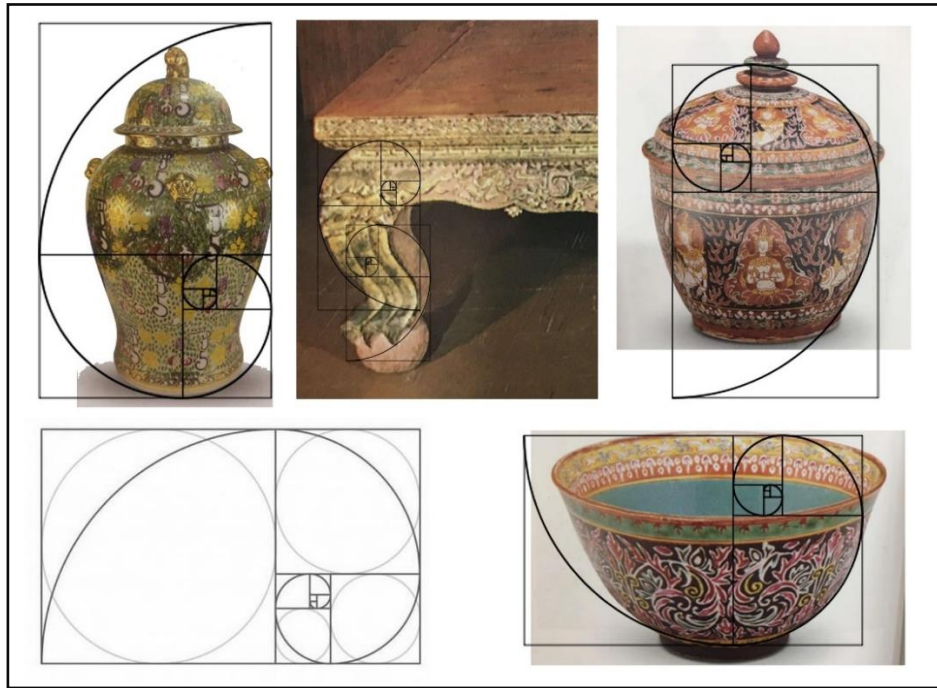


Figure 10: A Comparison of the Golden Ratio Theory with Benjarong and Thai furniture.

Source: (Prayoonhong 2022)

A Comparison of the Golden Ratio Theory with Benjarong and Thai furniture and the connection in comparison of proportions and shapes.

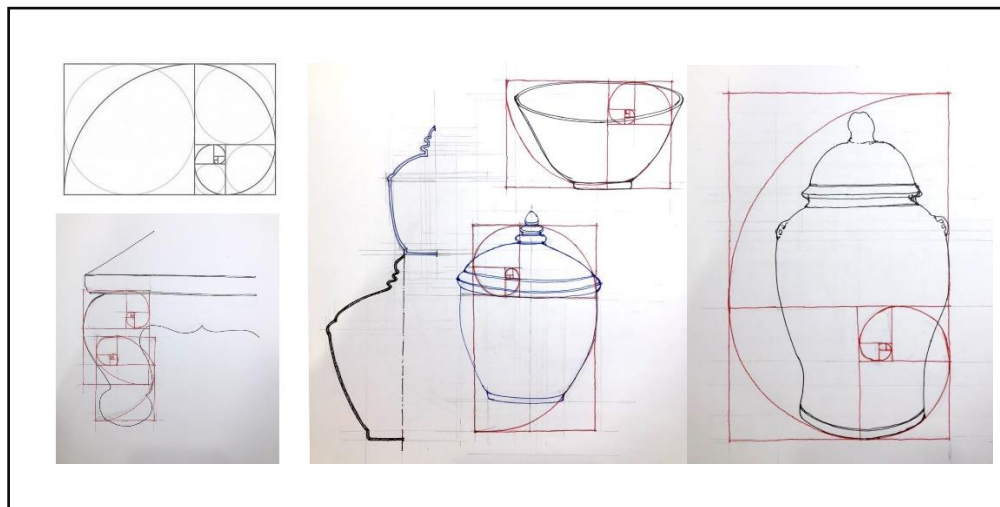


Figure 11: Diagram for comparing proportions and shapes.

Source: (Prayoonhong 2022)

Diagram for relationships with lines, shapes, forms, inside and outside.

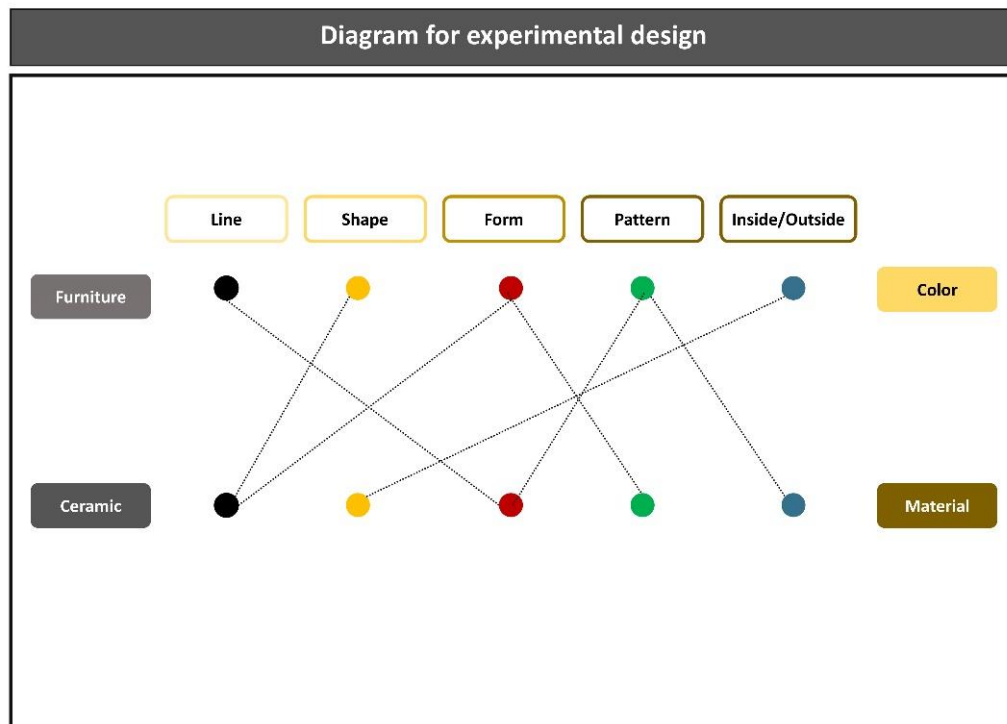


Figure 12: Diagram for comparing proportions and shapes.

Source: (Prayoonhong 2022)

An experiment for comparing the proportions and shapes of Benjarong and Thai furniture legs. The outcome of the experiment design. In this picture, a design experiment (that connects relationships) can be seen between Benjarong and Thai furniture legs in the form of internal and external link.

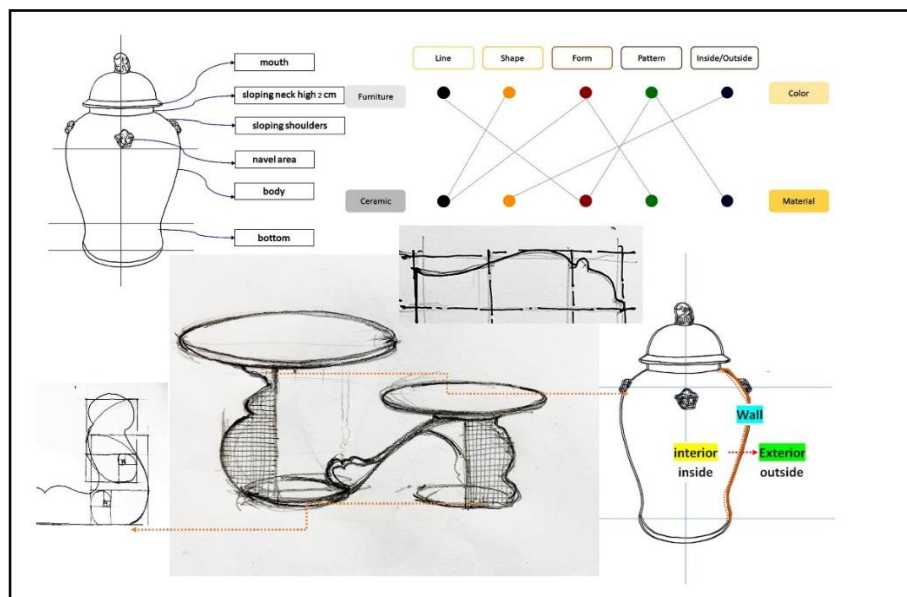


Figure 13: An experiment for design new furniture.

Source: (Prayoonhong 2022)

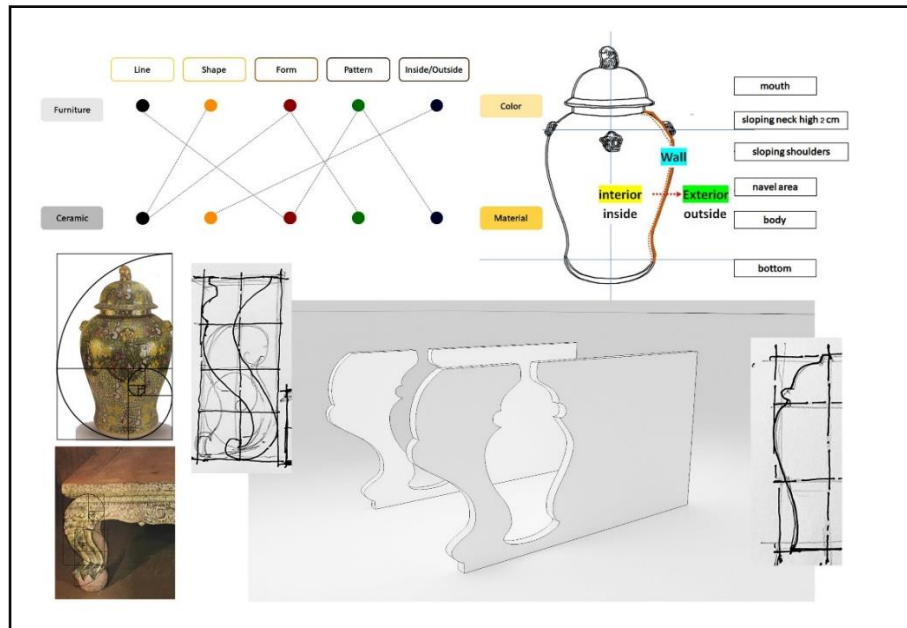


Figure 14: An experiment for design new furniture.

Source: (Prayoonhong 2022)

From the experimental design that connects the relationship between Benjarong and Thai furniture legs in this form, we can see the connection covering most of the lines, shapes reflected in many dimensions based on the proportional geometry of ratio theory.

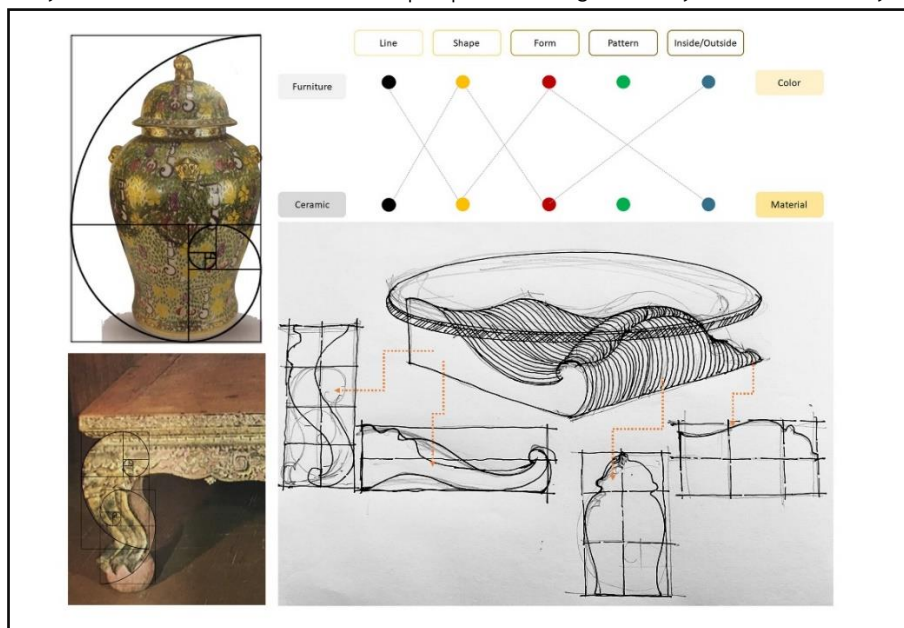


Figure 15: An experiment for design new furniture.

Source: (Prayoonhong 2022)

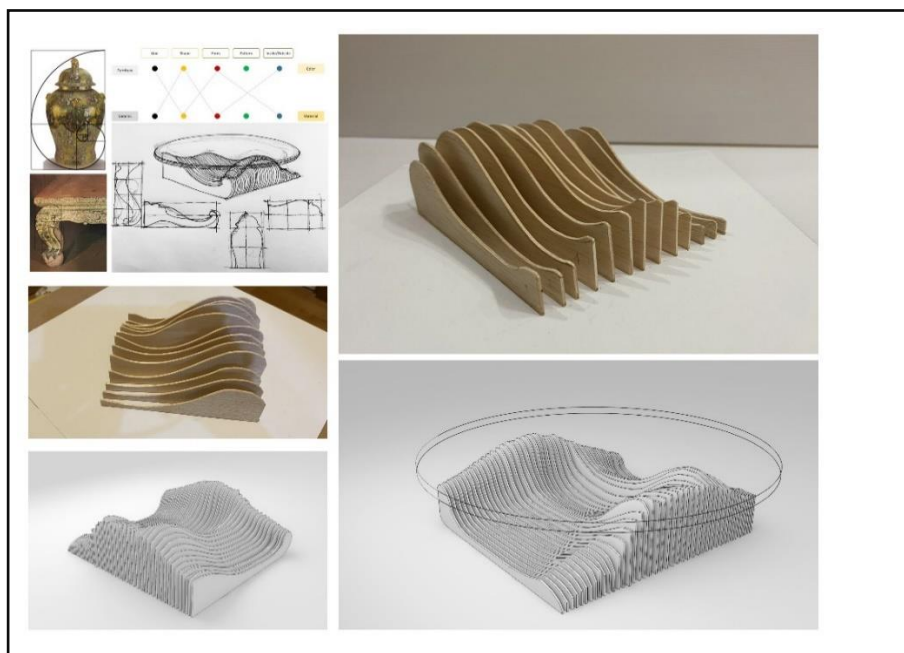


Figure 16: An experiment for design new furniture.

Source: (Prayoonhong 2022)

Conclusion

In terms to arts and crafts, Benjarong is a Thai cultural heritage that shows the uniqueness of wisdom and fine arts, which are rich in the value of Thai craftsmanship in the past, both the design of shapes, patterns, and colors, reflecting the identity by connecting a variety of dimensions. It is one of the ways in which the new generation can access and recognize their artistic and cultural identity. Furniture connected through the theory of proportion and color is a new dimension of artistic creation to prove the uniqueness of Thai Benjarong handicrafts through different designs but still inheriting the uniqueness of Thai arts and crafts.

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