A Study on the Characteristics of the Korean Color based on the Comparative Analysis of the Korea, China and Japan’s Porcelains

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Abstract—Ceramics comprise the largest proportion of Korea’s cultural heritage currently preserved (Cited from “The Beauty of Old Ceramics of Korea” written by Yoon Yong-ieee).

This research seeks to identify the colors of Korea-specific porcelain. Porcelain was a tool that was familiar to everyone as the transformation process is examined through literature. During this research, porcelain’s color comes from the difference in the porcelain materials that can be obtained only in Korea, China and Japan that have their distinctive characteristics, this research seeks to identify Korea-specific porcelain colors. These colors derive from the materials that can be obtained only in Korea, and they are affected by the ideologies that governed at the time. This research is meaningful in the sense that this identifies the colors that embrace the Korean culture and provides important data by leveraging the study of the characteristics of the Korea-specific porcelains.

Keywords—The colors of Korean pottery, The colors of China pottery, The colors of Japan pottery, The unique identity of Korea, Pottery History.

I. INTRODUCTION

Due to active cultural interchange, Korea, China and Japan manifest both cultural universality and distinctive characteristics. This tendency is evident in case of porcelains as well as they manifest both universality and distinctive characteristics.

Porcelain was a tool that was familiar to everyone as the people from different tiers used them. Thus, the researcher believes that porcelain encompasses the ancestors’ perception of life.

China with the longest history of porcelain making in East Asia plays the role of introducing porcelain to Korea and Japan. Through China, Korea manages to make advanced porcelain. Thus, many of the Korean porcelains manifest the characteristics found in the Chinese porcelains. Of course, Korea made porcelains even before China started to affect Korea.

The reason that China and Korea could become world-leading porcelain powerhouses is because of the glaze. China used the high temperature glaze instead of the low temperature glaze for the first time. As such, China and Korea manifested superb porcelain culture by producing celadon and white porcelain which are high temperature porcelains. Meanwhile, Japan lagged behind China and Korea, failing to produce advanced porcelain. However, Japan kiddnapped Korean potters during the Japanese Invasion of Korea in 1592 and the Jeongyujaeran (丁酉再亂) War, forcing them to make porcelain. By learning Korea’s porcelain techniques, Japan experienced drastic porcelain advancement. Thus, Japan’s porcelains of the time are very similar to the Korea’s porcelains.

Likewise, many similar forms and colors are manifested during the process during which porcelain making techniques are spread. However, Korea, China and Japan end up producing porcelains of distinctive characteristics in terms of form and color with time as their environments are different, as they use different materials, produce using different production methods, use porcelains for different reasons, and as their cultures are different.

This thinking derives from the belief that the porcelain’s form can be produced the same depending on production. Meanwhile, porcelain’s color comes from the difference in the porcelain materials that can be obtained from each of the nations alone. Thus, porcelain color is bound to become different naturally depending on the method in which porcelain is made with the materials that can be obtained in Korea, China and Japan. Thus, this research searched for the porcelains that manifest distinctive characteristics by each nation, and the research was conducted centered on the colors of the porcelains.

This research selected porcelains that manifest distinctive characteristics by each nation instead of the form alone, and seek to identify the colors of the porcelains with distinctive characteristics. As for the research method, porcelain’s transformation process is examined through literature. During transformation process, porcelains from Korea, China Japan
that manifest distinctive characteristics are selected. By showing the color of the selected porcelain with the PANTONE color, this research seeks to provide the materials that facilitate the Asians and Westerners to learn about the porcelain’s colors easily.

II. CERAMICS

As the word, “parent”, means both father and mother, ceramics (陶器) represent the combination of earthenware (陶土) and porcelain (瓷土). The earthenware and porcelain are not separable. The earthenware and porcelain can be classified into different categories based on soil. Mud (陶土) is used to make the earthenware while the powdered stone (瓷土) is used to make the porcelain. Also, ‘earthenware’ means the one coated or not coated with enamel. The pottery made from the powdered stone is called ‘porcelain’ whether it is coated with white enamel or blue enamel. That means only authentic porcelain is made only from the powdered stone. (Cited from 169p of “The Beauty of Old Ceramics of Korea” written by Yoon Yong-iee) [2]

In that sense, the soil used to make ceramics is very important. Ceramics made in China boast outstanding quality compared to others made elsewhere worldwide because they are made from the soil suitable for the production of ceramics and coated with the ceramic pigment enamel.

However, some regard the glassware as ceramics. The study on the ceramics, which was conducted by Won Yong-guk, a ceramicist, divided the ceramics into three categories, i.e., the porcelain made from the powdered stone (China clay, 瓷土) and coated with enamel and baked at a high temperature, the earthenware (土器) made from mud (argil, 陶土) and dried at a low temperature or in the shade, and the glassware. However, this research considers that the glassware is different from the ceramics because the production of the two involves different raw materials, molding processes and chemical structures.

First, ceramics are made through the mixture of kaolinite, feldspar, quartz, etc., the main materials, which are then baked in a kiln, while the glass is produced through the melting of raw materials such as sand, soda, lime, etc., at a high temperature. In other words, ceramics undergo the molding process first, while the glass goes through the melting process which is preceded by the melting process.

Second, ceramics have the crystal structure as the mixed inorganic materials are thermally processed at high temperature and crystallized. By contrast, the glass has the non-crystal structure because the inorganic materials, melted at high temperature, are solidified without being crystallized, and as a result, the glass can be considered to be a material in the frozen state from the standpoint of physics. However, earthenware, porcelain, and glass, which were made from soil using the fire, were considered to fall under the same group at the time when no scientific theory was available.

Ceramics found a wide-range of applications, including the container coating, brick, doll, accessories, etc., as well as bowl. Such an extensive application of ceramics may be attributed to the easy availability of raw materials, easy process and relatively high durability.

III. COMPARISON OF THE PORCELAINS FROM KOREA, CHINA AND JAPAN

The extensive knowledge of ceramics may imply an in-depth knowledge of Korean culture, considering that the ceramics comprise the largest proportion of the Korean cultural heritage currently preserved (Quoted from page 11 of “The Beauty of Old Ceramics of Korea” written by Yoon Yong-iee, which states that the ceramics account for the largest portion of the Korean cultural heritage currently preserved. This view can be also found in p 13 stating that there are no sculptures that can be traced back to the Period of the Three States. In addition, most sculptures are related to Buddhism, and therefore are not sufficient to provide an insight into the whole history and culture of Korea. By contrast, ceramics are found at any living place where the Koreans have lived from prehistoric ages. Thus, this researcher intends to identify the special situation of Korea by comparing the ceramics made in Korea, China, and Japan.) [3]

China manifests diverse forms and colors since it is the nation that produced porcelain for the first time. Korea that got influenced by China manifests many of the characteristics of the Chinese porcelains. However, porcelains assume distinctive characteristics in terms of color depending on each nation’s materials and production method. This can be manifested in the Goryeoceladon’s celadon green color. Celadon green was found in China as well, but it was difficult to come up with a clear color like the Goryeoceladon’s celadon green color. Thus, it is known that China that produced celadon for the first time preferred Korea’s Goryeo celadon. However, Goryeoceladon’s celadon porcelain too declined along with the Confucian ideology of the Joseon Dynasty (朝鮮時代), and white porcelain is produced mostly.

White porcelain was difficult to be used by the general public since it was made by a few government entities (官窯) (porcelain production site for the production of the porcelains needed at government institutions). Thus, Grayish-blue-powdered celadon (粉青沙器) was made by painting white clay on the celadon. Grayish-blue-powdered celadon (粉青沙器) means ‘celadon decorated with white powder.’ At the time, as white porcelain came from Goryeo (高麗時代) to the Joseon Dynasty (朝鮮時代), the tendency was to prefer the white porcelain more so than celadon. Grayish-blue-powdered celadon (粉青沙器) is the porcelain that had painted white clay on the celadon in order to make the existing celadon look like white porcelain.
Grayish-blue-powdered celadon (粉靑沙器) disappears when white porcelain became widespread, but Grayish-blue-powdered celadon (粉靑沙器) embraces Korea’s humbleness and natural look, which is the beauty of Korea.

Japan invaded Korea during the Joseon Dynasty (朝鮮時代). These are the Japanese Invasion of Korea in 1592 and the Jeonggyujearan (丁酉再亂). At the time, Japan kidnapped Korean potters to lay down the framework for the Japanese porcelain as we know today. Prior to the kidnapping, Japan’s porcelain production was lacking. However, by learning the porcelain making techniques of the Korean potters who were kidnapped, Japan’s porcelain industry grows drastically. Thus, Japan today is considered a porcelain powerhouse, and it does not lag behind China, considered the leading nation when it comes to porcelain production. The popularity of Japan’s Arita reached new heights when the trade stopped in the mid 17th century amid social disturbances arising from the civil war. As the Jingdezhen (景德鎮) Famous porcelain producer,) was restored back to its original state in the 18th century, the export to Europe resumed. However, the export was limited to the cheap blue and white porcelain jars because international consumers preferred Japanese products that outperformed the competing Korean products in terms of design, etc. (2006. Choi Hye-rim. The Table & Food Coordinate of Korea. The History of Development from ceramics-earthenware to Porcelain)[5]

Meanwhile, Korea enters a colonial period after another Japanese invasion following the Japanese Invasion of Korea in 1592. (2010. Hong Sang-soon. Seohaemunjip. The Ceramics Alive, p84. Japanese Invasion of Korea in 1592 and the Second Invasion (1597–1598) Called the "Second War of Jeonggyujearan(丁酉再亂)". Indeed, Korean ceramists, who were forcibly brought to Japan during the Second Invasion, played a significant role in taking the Japan’s ceramics to an advanced level.)

Japan stops porcelain production as a means of destroying the Korean culture. Accordingly, Korea’s porcelain production declines to the point that it is no longer available after the Japanese colonial rule. However, at least pottery is produced continually without having the production ceased. Among the potteries, earthenware was used in the similar form from the Goguryeoperiod(高麗時代). Onggi(甕器) was used regardless of the social status, and it has distinctive characteristics that can be witnessed in Korea. Onggi(甕器) is known as the container that breathes. Likewise, earthenware(Omgi) offers superb air permeability and it is a container that is essential for Korea where fermented food is advanced. This Onggi(甕器) manifests different color and look depending on region. However, containers are used to store fermented food regardless of the nation.

Japan is a nation with advanced tea culture. This type of tea culture led to the production of the superb Dawan (tea bowl, 茶碗) by leveraging the porcelain technique of the Korean potters who were kidnapped during the Japanese Invasion of Korea in 1592 and the Jeonggyujearan(丁酉再亂). They were made using diverse methods, but the Korea’s porcelain production techniques were the basis of the production method. Grayish-blue-powdered celadon (粉靑沙器) production method which was used in Korea during the first half of the Joseon Dynasty (朝鮮時代) which entailed painting white clay to make a porcelain look like a white porcelain was used in the Japan’s Dawan(tea bowl, 茶碗) as well. Representative cases include MishimaDawan(tea bowl, 茶碗), KohikiDawan(tea bowl, 茶碗) and HackemeDawan(tea bowl, 茶碗).

It is presumed that the Korea’s porcelain could have been as advanced as the Japan’s Dawan(tea bowl, 茶碗) today if Japan had not stopped the production of porcelain in Korea during the colonial rule era.

History of China’s porcelains is long. China has superb porcelain making techniques to the point that it produced celadon for the first time in the world. Although China produced pottery as well, its pottery industry declined as the porcelain production became widespread after the Tang(唐) Dynasty. China’s porcelains are different from those from Korea and Japan in the sense that diverse colors are used. Although this technique of using diverse colors was also emulated by Korea and Japan, the colors were different because each nation used different materials. Thus, elegant colors were used mostly by China alone.

During the China’s Yuan (元) Dynasty, these characteristics can be perceived with five colors. Five colors, blue, brown, red, white and black, were used to paint patterns on porcelains, which contributed greatly to the reputation that the Chinese porcelains gained in the world. This is made evident by how China produces porcelain in mass and exports them to the overseas.

Korea, China and Japan manifest distinctive characteristics. And porcelain’s forms and color are made diverse depending on these distinct porcelain characteristics. What this research paper covers is the porcelain’s color following Korea, China and Japan’s distinctive characteristics. As for the reason, while porcelain’s form can be produced similarly due to the production method, color cannot be replicated since the materials used at different nations are different. Thus, this research targets color instead of porcelain’s form. Likewise, this research shows the PANTONE color that is used universally in the world, to publicize the color of porcelain to people, and to present the color of the porcelain that offers Korea’s distinctive characteristics and that are used to express the West and the East.

It is possible to showcase the differentiated Korea while comparing the cultural similarities of Korea by leveraging the
information on Korea’s colors of the porcelains with distinctive characteristics obtained by this research.

A. Korea’s Onggi (甕器)

Some may be unfamiliar with the word, ‘earthen vessel’. Onggi (甕器), which is commonly called ‘earthenware (土器)’, has not attracted much attention in our routine lives, but forms an integral part of the nation’s valuable cultural heritage reflecting our ancestors’ lives and culture that spans a period of 10-thousand-years. We can find the earthen vessels in every nook and cranny even in the 21st century. Onggi (甕器), which is familiar to us, comes under the category of earthen vessel. In that way, earthen vessel has been made constantly to date since the first earthenware was made. That is a citation from the “The Beauty of Old Ceramics of Korea” written by Yoon Yong-ieee. Onggi (甕器) can be said to represent an excellent cultural heritage of Korea, which provides an insight into the culture of Korea and the standards of beauty in Korea.

Even though the shapes of Onggi (甕器) have changed dramatically since the historic ages, Onggi (甕器) was constantly made in the form of earthen vessel - similar to Onggi - even in Goryo Dynasty Periods (高麗時代) and Joseon Dynasty Periods (朝鮮時代) which are well-known for celadon, Buncheongceladon, and white porcelain, and has been used along with porcelain (Cited from page 26 of “The Beauty of Old Ceramics of Korea” written by Yoon Yong-ieee.) [6], stating that “there is a misunderstanding that the earthen vessel had been made only until a certain period since the prehistoric ages and thereafter was finally replaced with celadon, Grayish-blue-powdered celadon (粉靑沙器) and white porcelain. However, earthen vessel has been part of life for Korean people for a long time, and was constantly made even in Goryo (高麗時代) Dynasty Periods and Joseon (朝鮮時代) Dynasty Periods which are well-known for celadon,

Although there is no record that shows that earthenware was used during the Goguryeo period (高句麗時期), it can be presumed that earthenware was used even during the Goguryeo period (高句麗時期) since the container of the Goguryeo period (高句麗時期) discovered at the Achasanseong (阿且山城) in 1998 was similar to the earthenware (Onggi) used today. Moreover, it is possible to find the earthenware (Onggi) that we see today in the record of the palace of the Joseon Dynasty (朝鮮時代) during the 16th Century. Given this, it is possible to presume that the Korea’s Onggi (甕器) was a container that anyone could use regardless of the social status.

Earthenware that is readily available in Korea is not readily seen in China and Japan. Pottery industry declined in China during the Tang (唐) Dynasty since use of porcelain became widespread, and pottery production stopped. Japan also does not carry Korean style earthenware. However, there are tea containers that were made using the earthenware technique used by the Korean potters kidnapped during the Japanese Invasion of Korea in 1592 and the Jeongyujaeran (丁酉再亂) can be found. However, this is different from the Korean style Onggi (甕器) whereas merely production method is the same.

Onggi (甕器) advanced in Korea due to the air permeability, which is Onggi (甕器)-specific characteristic because Korean cuisine with advanced fermented food is bound to be stored by using pottery such as Onggi (甕器) with superb air permeability.

From this respect, Onggi (甕器) manifests distinctive characteristics that are devoid of Japan and China. There is a difference in the color and form depending on the regions’ environmental characteristics because of the characteristics of the regions’ soil, production method and usage.

Characteristics of the diverse Onggi (甕器) and method for using Onggi (甕器) that are different by each of the Korea’s regions show the distinctive characteristics of the Korea-specific Onggi (甕器) that is not available in China and Japan effectively. Thus, this research seeks to present the color that is manifested in the Korean Onggi (甕器) with the color that manifests Korea’s porcelain’s distinctive characteristics.

Fig. 1 Onggi. Joseon Dynasty (朝鮮時代) The Beauty of Old Ceramics of Korea. Yong-ieee Yoon. Dolbaegae. 2007 p158 [6]

Colors that are manifested in Korea’s Onggi (甕器) are PANTONE 19-1118, PANTONE 19-1250, PANTONE
19-1623, PANTONE 19-3903, PANTONE 19-1012, PANTONE732, PANTONE476 and others. This is a color with low luminosity and chroma with red and black colors on top of the brown color and this is the color that can be seen only in the Korea’s earthenware.

B. China’s Five Colors (五彩)

Seodosaeng(徐挑生), Vice-President of Jingdezhen Museum in China, said in an interview, “The earthenware made from mud has low durability and therefore is not useful. Long time ago, earthenware was cheap and used as a household item, but disappeared as the porcelain became easily available to ordinary people after the Tang (唐) Dynasty Period. We can find the porcelains have been excavated which were buried together with the dead in the tomb of ordinary people during the Tang (唐) Dynasty Period and thereafter”, when he was asked whether the ordinary people might usually have kept using the earthenware even if the porcelain production reached a highly sophisticated level. As it can be found in Ceramic Pottery Alive (p. 91, Seohaemunjip. 2010, Hong Sang-soon) [9], ordinary people commonly used the porcelain in Tang (唐) Dynasty Period that witnessed the advancement of porcelain, and resultantly, the production and use of earthenware went downhill.

China is certainly the nation among Korea, China and Japan with the most advanced porcelain techniques. Likewise, its porcelain making history is long and its techniques are very advanced. Above all, Chinese porcelain colors are elegant. This can be made evident in the porcelains’ five colors.

As porcelains advanced during the Tang (唐) Dynasty, general public used porcelains, while pottery industry declined. Thus, Chinese potteries are not as advanced as those in Korea and Japan. However, China’s superb five colors are used to present elegance that is not readily seen in Korea and Japan.

The colors that are manifested through China’s five colors are blue, brown, red, white and black. In addition, there are diverse set of colors besides the elegant colors. In addition to the five colors, there is the golden color as well. Moreover, five colors are used for the porcelains’ patterns while the entire porcelains can be painted with five colors. The colors that are often seen in the China’s five colors are PANTONE 19-4053, PANTONE 14-0836, PANTONE 17-1558, PANTONE 12-0000, PANTONE 14-0957, PANTONE19-4203, PANTONE 16-0836 and PANTONE19-1015.

Fig. 2 China’s Five colors(五彩). Yong-wook Lee. Chinese ceramic history.Mijinsa. 1993. p343 [7]

Fig. 3 China’s Five colors(五彩). Yong-wook Lee. Chinese ceramic history.Mijinsa. 1993. p357 [8]
C. Japan’s Dawan (茶碗)

As stated in Ceramic Pottery Alive (p. 91, Seohaemunjip. 2010, Hong Sang-soon), Japan was unable to make the porcelain even until the 16th century when the Japanese army invaded Joseon (Cited from “Later, Korean ceramists, such as Lee Sam-pyeong, who were forcibly brought to Japan, played a significant part in quickly taking the quality Japan’s ceramics to such a level comparable to that of porcelains made in Europe.”) The tea ceremony culture of Japan, influenced by SenRikyu (千利休) who is called the divine of tea ceremony, pursued aesthetic simplicity and simple natural beauty (Cited from Ceramics Pottery Alive (p. 101, Seohaemunjip. 2010, Hong Sang-soon, “Japan, influenced by SenRikyu (千利休) who is called the divine of tea ceremony, pursued aesthetic simplicity and simple natural beauty”)[10].

Japan started relatively late compared among Korea, China and Japan, but it is now a leading porcelain making nation that is comparable to China because it acquired Korea’s advanced techniques by kidnapping Korean potters during the Japanese Invasion of Korea in 1592 and the Jeongyujaeran (丁酉再亂).

Prior to the Japanese Invasion of Korea in 1592, Japan lagged behind China and Korea. However, while Japan was retreating after losing the Japanese Invasion of Korea in 1592 and the Jeongyujaeran (丁酉再亂), it kidnapped the Korean potters to have them make porcelains in Japan. And Japan learned Korea’s porcelain’s techniques. As such, Japan’s porcelain techniques advanced.

Mishima (三島) Dawan (茶碗), Kohiki (粉吹) Dawan (茶碗), Hackeme (刷毛目) Dawan (茶碗) and others can be cited when it comes to the reflection of the Korea porcelains in the Japanese porcelains since they are painted with white clay using Korea’s Grayish-blue-powdered celadon (粉青沙器) production method.

Toyotomi Hideyoshi (豊臣秀吉) and SenRikyu (千利休) advanced the Japanese porcelain techniques, advanced with Korean techniques along with Japan’s tea preparation culture. Thus, Japan’s Dawan (茶碗) becomes very advanced compared to any other nations.

The colors that are often seen in Japan’s Dawan (茶碗) are PANTONE 16-1331, PANTONE 12-0806, PANTONE 17-1137, PANTONE 15-1214, PANTONE 11-0907, PANTONE 11-0507 and PANTONE 466.
Thus, colors of the porcelains that manifest distinctive long time. Their perception of color can be witnessed as well. Ancestors since they are used even now after getting used for a long time. Porcelain’s colors provide a glimpse into the life of the ancestors.

Course, China produced diverse superb porcelains such as celadon and white porcelain. However, China selected five colors since they were universally used in Korea and Japan as well.

Porcelain’s colors are differentiated by the materials that can be obtained only in their respective nations. Thus, colors are similarly depending on how they are produced. Meanwhile, porcelain’s form as well, porcelain’s forms can be made differently depending on each nation’s distinctive characteristics and on those porcelains’ colors.

Study of the Korea, China and Japan’s porcelains, studied Onggi(甕器) in case of Korea, five colors(五彩) in case of China and Dawan(茶碗) in Japan to examine these colors. Of course, China produced diverse superb porcelains such as celadon and white porcelain. However, China selected five colors since they were universally used in Korea and Japan as well.

Porcelains that manifest Korea, China and Japan’s distinctive characteristics provide a glimpse into the life of the ancestors since they are used even now after getting used for a long time. Their perception of color can be witnessed as well. Thus, colors of the porcelains that manifest distinctive characteristics by each nation are compared to study the characteristics of the porcelains that are manifested in each of the nations. China five colors, blue, brown, red, white and black, manifests PANTONE 19-4053, PANTONE 14-0836, PANTONE 17-1558, PANTONE 12-0000, PANTONE 14-0957, PANTONE 19-4203, PANTONE 16-0836, color, which are elegant colors. This is a color with low luminosity and chroma with red and black colors on top of the brown color and this is the color that can be seen only in the Korea’s Onggi(甕器). Colors such as PANTONE 19-1118, PANTONE19-1250, PANTONE 19-1623, PANTONE 19-3903, PANTONE 19-1012, PANTONE732 and PANTONE476 are manifested. Japan’s Dawan(茶碗) manifests mostly PANTONE 16-1331, PANTONE 12-0806, PANTONE 17-1137, PANTONE 15-1214 and PANTONE 11-0907 colors.

Brown color with low luminosity and chroma with red and black colors that are manifested only in the Korea’s Onggi(甕器). is the distinctive characteristic that is seen only in Korea’s porcelain. It is difficult to find Korea-specific distinctive characteristics due to the similar culture among Korea, China and Japan. However, this research is meaningful in the sense that it presented color that is Korea’s distinctive characteristic to present the data for using the color that is considered Korea-specific. And I think that this paper will be useful for the culture policy of Korea.

IV. CONCLUSION

Although there are distinctive characteristics in terms of the porcelain’s form as well, porcelain’s forms can be made similarly depending on how they are produced. Meanwhile, porcelain’s colors are differentiated by the materials that can be obtained only in their respective nations. Thus, colors are differentiated naturally with the materials that can be obtained in Korea, China and Japan. For this reason, this research focused on searching for the porcelains that manifest each nation’s distinctive characteristics and on those porcelains’ colors.

Study of the Korea, China and Japan’s porcelains, studied Onggi(甕器), in case of Korea, five colors(五彩) in case of China and Dawan(茶碗) in Japan to examine these colors. Of course, China produced diverse superb porcelains such as celadon and white porcelain. However, China selected five colors since they were universally used in Korea and Japan as well.

Colors such as PANTONE 19-1118, PANTONE 19-1250, PANTONE 19-1623, PANTONE 19-3903, PANTONE 19-1012, PANTONE 17-1137, PANTONE 15-1214, PANTONE 11-0907 colors.


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