The Origin of the Inlay Technique in Goryeo Ceramics: Focusing on the Existence of Proto-Inlaid Decoration

Kim Jae Yeol

Chief Curator, Ho-Am Art Museum

Originally published in

Ho-Am Misulgwan yŏn'gu nonmunjip (Journal of Ho-Am Art Museum) 2 (1997): 56–98

Translated by Suzie Kim

I. Introduction

The inlay technique is one of the truly remarkable decorative techniques for ceramics made during the Goryeo dynasty. Inlaid celadon (*sanggam chongja*) ware comprises more than half of extant Goryeo ceramics, and the inlay technique is widely praised for its contribution to the history of world ceramics. The inlaid decoration is created by applying a clay-based solution, either white or black or using both colors, into depressions in the surface of the unfired clay vessel, coating the vessel with glaze, and firing it to a high temperature. As the inlay technique requires deep understanding of the clay, immense craftsmanship, and great effort, inlaid celadon represents the most delicately rendered mode of ceramic decoration of the Goryeo dynasty.

Many scholars have tried to identify the origin and the earliest production date of Goryeo inlaid celadon ceramics. (The technique is found also on white porcelain and on black-glazed ceramics.) Relying on very limited evidence from a few remaining objects and documentations, various scholars estimated that the inlay technique was used on Goryeo celadon for the first time in the early, middle, or later twelfth century.[1] The inlay technique mentioned here refers to the typical black and white inlay technique, mostly for linear patterns.

Through recent investigations of kiln sites, however, newly excavated objects with proto-inlay techniques have been found, and the earliest usage of inlay technique has been reconsidered. Regarding this issue, Chung Yangmo insists that the inlay technique became popular in the early twelfth century, but he also mentions briefly that there were "some inlay techniques used occasionally in specific regions or on exceptional wares, and these examples were made not only in the early twelfth century but already in the eleventh or even in the tenth century....There are several examples of celadon wares from the eleventh century which have inlaid decoration."[2]

This paper aims to research the characteristics of inlaid decorations on ceramics of the early Goryeo period, before the appearance of the typical Goryeo celadon. According to my investigations so far, some of the inlay decorations in Goryeo celadon from the eleventh century are identifiable as the earlier phase of Goryeo inlay decoration, since the techniques or patterns are similar to the inlaid decorations in the typical Goryeo inlaid celadon of the twelfth century. Another type of inlay decoration exists, however, in which decorations were inlaid on a small part of the ware or were combined with other decorations executed with incising or in relief. In other words, some inlay decoration made in the eleventh century constitutes the precursor of the typical inlay decorations made in the twelfth century, but another type of inlay decoration exists that appears different in form, pattern, and technique from the typical inlaid decoration made in the twelfth century. These unusual types are in an older (*gosik*, 古式) style and were found at kiln sites established in the earlier period. It is possible that these inlaid decorations in the older style appear only exceptionally and occasionally, but they seem to be closely related to the early establishment and development of inlaid decoration in Goryeo celadon. Through a close investigation of these types of inlaid decoration, this study hopes to contribute to future research on identifying the origin of Goryeo inlay celadon.

In this paper, the term "proto-inlaid decoration" will be used instead of "early inlaid decoration" to distinguish this more original and heterogeneous type of inlaid decoration from the usual types. The term "proto" in "proto-inlaid decoration" implies "earliest stage" or "veryfew in number," like the meaning in "proto-history" or "proto-Three Kingdoms." Moreover, this new term will be useful in case more inlay decorations with this type are found in the future. In the first part of this essay, the collected

material of "proto-inlaid decoration" will be organized and introduced. Then the existence of inlaid decoration in Chinese ceramics will be introduced to investigate the characteristics of "proto-inlaid decoration." A close study of a dish-mouth bottle with faceted decoration and inlaid vine scroll motif under celadon glaze, which demonstrates the preliminary form and decorative pattern, will follow. The conclusion will examine the origin of "proto-inlaid decoration," its relationship to northern Chinese ceramics, and the production period.

II. Examples of proto-inlaid decoration

As mentioned, "proto-inlaid decorations" refers to the decorative patterns made earlier than the typical inlaid decorative patterns in Goryeo ceramics. Included in this category are wares either decorated with unique inlay techniques and patterns or those excavated from the early celadon kiln sites. Kiln site excavation reports will be organized and scrutinized in detail.

1. Kiln site excavation reports

(1) Goryeo white porcelain kiln site, Seo-ri, Yongin-gun

This kiln site was located in Jung-deok village, Seo-ri (西里), Idong-myeon (二東面), Yongin-gun (龍仁郡) in the province of Gyeonggi-do (京畿道). It is well known that this kiln produced white porcelain in Korea for the first time. Three excavations were conducted in 1984, 1987, and 1989 by the Hoam Art Museum, and this kiln has been recognized as one of the most significant and standard archeological sites in Korea, since the bowl with proto halo-shaped foot (*haemuri-gup*) was excavated here.[3] During the second and third excavations in 1987 and 1988, a total of thirteen fragments with inlaid decorations was found. Among these, ten fragments were from a Korean drum (*janggo*) and three fragments were from white porcelain with "proto-inlaid decoration."

[1] Fragments of a drum with black slip and white inlaid vinescroll motif (plate 1-1)

The fragments were excavated from the bottom part of the third layer during the investigation conducted in 1987 and 1988. They were excavated from the same layer where typical bowls with halo-shaped foot were found. Ten fragments with the same characteristics were found. As four of the ten look like parts of the head of a drum, it seems that these ten sherds were fragments of a drum. The clay body was made with fine kaolin clay and was well fired.

All of these sherds have inlaid decoration using distinctive inlay techniques. First the clay body was covered with thick blackish ocher to create a black background. Then the decorative patterns were indented into the black background, filled with white clay, and covered with transparent colorless glaze before firing. Some of the sherds have only the black background, which gives the appearance of having beencoated with black glaze. If we look at the profile of the sherd, however, we can see that the black slip is also thickly inlaid, like the white inlaid decorations.

The white decorative pattern inlaid on the black clay can be classified into two types. The first type is composed of vinescroll motifs between bands, and there are three types of vinescroll motifs. One motif follows the typical shape with winding ends, and another looks like a bundle of several circles connected with a string. The last motif is composed of small semi-circles in four edges, which look like a flower pattern.

The lines in the white inlaid motifs are wide, but their outline is not straight and clean. It seems to be hand-painted with a brush, as the width of the band is uneven and the surface of the white clay is jagged. Even though the inlay decoration is roughly made, it is significant to see a high-level inlaid technique in these fragments: the motifs are carved out of the black background and filled with white slip, and the black slip for the background was also inlaid into the clay body.

This usage of black slip and white inlaid decoration is similar to the decorations on wares with iron slip and white inlay under celadon glaze, but the technique used here is different. In this case, the iron pigment was not painted on the clay body but was inlaid. Although ceramics with white inlaid decoration on a black background were also found at the Jinsan-ri (珍山里) kiln site located in Haenam-gun (海南郡) (see below), a different technique was used there, as the white inlaid decoration was made by painting the white slip with a brush onto the iron slip background.

[2] Fragments of white porcelain with inlay (plate 1-2)

Considering the excavation place and the quality of the clay used for white porcelain, the three sherds with white inlay decoration were probably produced just before or after the bowls with halo-shaped foot were popular. The two sherds are from well-fired white porcelain with light pale-blue glaze. Both sherds were simply decorated with a black inlaid line. One sherd seems to be part of a jar, since the neck remains, and the shoulder beneath the neck is decorated with a black inlaid line. The second sherd is part of a mouth with thick walls, but it is hard to identify the form of the whole body. There is one black inlaid line right beneath the mouth. The third sherd is made of white porcelain of soft consistency. Its glaze has a greenish color and crackles, and it seems to be a sherd of a bottle. The thickly flared mouth shape remains and the body is smoothly curved, and a bird feather decoration is inlaid in black at the bottom of the sherd.

In these sherds, the patterns were cleanly carved on the surface of the clay body and filled with blackish ocher. Then it was covered with a light-green colored white porcelain glaze before getting fired. A usual inlay technique has been used, and the black inlay looks more brownish. Since the patterns were inlaid for decoration by using the black inlay technique on general type of wares, it can be assumed that the potters already had knowledge about the inlay decoration technique even at this time period.

(2) Celadon kiln site, Yangjae-ri, Hampyeong-gun, Jeollanam-do

During a field study by the Gwangju National Museum in 1987, two sherds bearing inlaid decoration under celadon glaze were found in the celadon kiln sites no. 1 and no. 5 in Jangjae-dong, Yangjae-ri (良才里), Hampyeong-gun (咸平郡), in the province of Jeollanam-do (Jeonnam, 全南). This kiln group made early celadon wares during the tenth to eleventh century.[4] Both inlaid sherds are portions of drums.

[1]① Fragment collected from kiln site no. 1 (plate 2-1)

This is a large fragment of a drum head. The clay is rough as it was mixed with sand, and a transparent glaze with a light green celadon color was applied. The inside was unglazed. The rim was

been wiped free of glaze and fired on fire-resistant clay spurs. During the firing, the weight of the body caused the rim to curve inward.

It is hard to identify the overall patterns from those on the fragment, but it seems to be a type of lotus petal decoration. The patterns were inlaid only in black. The outline and the lines inside the decorative pattern were deeply inlaid in black, whereas the round, wide area inlaid in black were not as deep as the lines, and it looks as if ocher pigment was lightly painted onto it.

[2] Fragment collected from kiln site no. 5 (plate 2-2②)

In this large fragment from the body of a drum, the glaze and clay are similar to those of the fragment excavated from kiln site no. 1. As the inlaid lines are in the shape of lotus petals, this also seems to be a flower petal decoration. The pattern inlaid in black was carved out very shallowly and the black clay was applied thinly, and the rough marks of the potter's chisel are visible. As there are dense crackles on the wide black inlay, the surface gives the appearance of using black glaze.

The excavated bowls, dishes, and wide-mouth bottles from the Yangje-ri celadon kiln sites were decorated for the most part with the classic style of lotus petal pattern. The lotus petal decorations were made either by incising deep, rough lines or by indenting vertical lines in the form of lotus petals to create a three-dimensional effect. These lotus petal designs were the early types of lotus petal decoration, popular in the tenth to eleventh century. The celadon sherds with inlaid decoration found at these kiln sites are considered important proof of the existence of early inlaid celadon.

(3) Celadon kiln site, Punggil-ri, Jangheung-gun, Jeollanam-do

This kiln site, located in Punggil-ri (豊吉里), Yongsan-myeon (龍山面), Jangheung-gun (長興郡), Jeollanam-do province, was excavated by the Gwang-ju National Museum in 1995.[5] This was one of the early kiln sites which produced bowls with halo-shaped feet. The bowls produced here do not have an incised circle. The foot rim is very narrow, only 0.7 cm wide. Two types of clay body were identified, one mixed with sand and covered with green or greenish-brown glaze, and the other made with fine clay covered with olive-green glaze.

One small fragment with inlaid decoration under celadon glaze was excavated from this kiln site. This sherd was not included in the excavation report since the size was too small, but I was able to investigate it with permission from the museum. The sherd measured less than 5 cm. across. It was made with fine clay covered with a good, shiny green celadon glaze. It had a small spot on the glaze and subtle crackles. A single thin line appeared to be inlaid in black on a certain part of the sherd, and examining the sherd profile confirmed that this black line had been inlaid. It is hard to determine the form of the object or the decorative pattern since the sherd is so small, but this a significant example of inlaid decoration found at an early celadon kiln site.

(4) Green celadon kiln site, Jinsan-ri, Haenam-gun, Jeollanam-do

The Jinsan-ri kiln group is well known for producing a great quantity of the early form of celadon known as green celadon. It was found in 1983 and designated Historic Heritage Site no. 301. More than one hundred kiln sites are closely clustered along the coast of Jinsan-ri, Sanih-myeon (山二面), Haenam-gun, Jeollanam-do province. They produced green celadon, ceramics with black pigment coating under celadon glaze, and celadon-glazed ceramics with underglaze iron painted decoration. The large number of fragments of drums with underglaze iron or white embossed decoration drew attention to this site.[6] Furthermore, these kiln sites became well known after it became clear that the 30,000 pieces of green celadon salvaged from the shipwreck off Eoduji island, Yaksan-myeon (藥山面), Wando-gun (莞島郡), Jeollanam-do, were products of these kilns.[7] In 1991, Mokpo University excavated Jinsan-ri kiln no. 17.[8] Scholars currently debate whether this kiln was active from the end of the tenth century to the early eleventh century or from the early eleventh century to the early twelfth century.[9]

Among the materials listed in the excavation report of the Jinsan-ri green celadon kiln sites, only one sherd was decorated in inlay. This sherd was collected by Cho Ki-jung from Jinsan-ri kiln site no. 60. It was decorated with layered diamond-shaped cloud patterns in black inlay (plate 3-1). Even though the fragment is small, this example of inlaid decoration made at the Jinsan-ri kiln site proves that the decoration made by covering the body with iron slip and painting white slip with a brush into the carved-out pattern (so that it looks like white inlay) had advanced to the format of black inlay

decoration.[10] I argue that this kind of decoration with iron slip and white slip inlay was the starting point for the development of inlaid celadon. These types of fragments can be defined as one of the "proto-inlaid decorations."

In fact, various types of underglaze iron painted celadon were produced in the Jinsan-ri kiln sites. In addition to the usual iron slip painted vessels, other distinctive decoration techniques include iron slip and white slip inlaid decoration.[11] These unique patterns, which differ from the typical patterns in Goryeo underglaze iron painted celadon produced at the Jinsan-ri kiln site, have been introduced briefly (see endnote 6), but I would like to examine some of them in detail, especially those I have investigated them directly with the support of the Gwangju National Museum.

[1] Sherd of a drum with iron slip and deeply carved decoration (plate 3-2)

This large fragment of adrum bodymeasures13 cm. in length. The drum was made with fine clay and thin walls, and it was elaborately fired. The color of the clay body is light gray. The outside is decorated with iron slip and deeply carved and incised pattern, whereas the inside is unglazed and has small marks, probably made by the potter's wheel. On the outer surface, a broad band has been decorated in the middle between the flower petal and leaf motives. After iron oxide slip was applied thinly to the clay body, the background of the pattern was deeply carved away. Then the area painted with iron oxide slip was incised with thin decorating tools to depict the details of the pattern. The drum was coated with thin celadon glaze. The color of the iron-slip covered part looks almost black and the deeply carved background has a faint celadon color. What calls attention is the technique used to carve out the background. The background has been carved out with an indented knife, and some traces of the knife are still visible. In typical underglaze iron painted ceramics, the patterns are usually painted directly on the clay body, so it is unusual to see that the background has been deeply carved out. This kind of technique seems to be the preliminary stage of the technique in which the background is carved out and filled with white clay.[12]

[2] Sherd with iron slip and deeply carved decoration (plate 3-3)

This small piece is 5cm long, and it was part of a drum, judging from the form of the decorative pattern. The clay body is fine, but the unglazed inner side shows that this ware was not painstakingly

made, and the walls are thick. More than half of the sherd is decorated with a wide band, and some of the flower pattern remains. Like 1 (Plate 3-②), after coating the clay body with thin iron slip, the background of the pattern was deeply carved away. Then the area painted with iron slip was incised and covered with celadon glaze. The color of the iron slip is almost black, and the carved part appears light green.

[3] Sherd with iron slip and white clay inlaid decoration (plate 3-4)

This sherd seems to be part of a drum and is 8 cm long. It was made with fine clay, and the inner side is unglazed and has some detailed marks from the potter's wheel. The walls are slightly thick. The outside is decorated with a flower and plant pattern. After the body was thinly coated with iron oxide slip, the decorative patterns were indented and painted with white slip, using a brush. It seems that the white slip was applied several times, as it is thick in some places and thin in other spots. The parts where the white slip was thickly applied look like as though the patterns were inlaid with white slip on the iron slip. After applying iron slip and white inlaid decoration, the body was coated with a thin layer of glaze, which is almost transparent after firing. The color of the iron slip is almost black, and large crackles are seen in the glaze only over the white inlaid decoration. The area painted with iron slip looks like black glaze, without any crackles.[13]

[4] Sherd with iron slip, deeply carved and white slip inlaid decoration (illustration 1, plate 3-5)

The sherd is 7cm long, and the curve of the midsection suggests that it waspart of a drum. The fine clay body was well fired. The unglazed clay has a light grayish color and the walls are rather thick. A wide band and lotus petal motifs decorate the exterior, and the interior is unglazed and rough. After the clay body was thinly coated with iron oxide slip, the background of the decorative patterns was deeply carved and filled with white slip. Thin celadon glaze coats the sherd. The white slip was so elaborately applied on the background of the pattern that it looks like white inlaid decoration. The color of the iron slip is almost brown, and the white slip has a light celadon color. It is interesting as the decorated area looks almost like reverse inlay.[14]

Among the materials mentioned above, numbers [3] (plate 3-4) and [4] (plate 3-5) in particular can be classified as iron slip inlaid decoration. The only difference from the usual iron slip

inlaid decorations is that the white slip was not inlaid but painted with a brush after iron slip had been applied to the body and the decorative patterns carved out.

The report from the National Museum of Korea paid attention to these types of decorations and described then as follows:

> For making underglaze iron painted celadon, there is a technique in which iron slip is first applied on the body after which thin lines are incised or the background is carved away. Then white slip is painted in several layers so that it gives the effect of white inlay....[15]

The excavation report of Jinsan-ri kiln site no. 17 describes a sherd of a drum as follows:

> After iron slip is applied on the body, the decoration of flower and plant motifs decoration is scraped off and filled with white slip, and the white slip is so thickly applied that it has the effect of white inlay.[16]

The iron slip inlaid decoration, made by covering the clay body with iron slip, scraping off the patterns, and filling in with white clay, is very similar to the inlay decoration on the sherd discussed earlier of a drum excavated from the Seo-ri kiln site in Yongin. Even though the sherd excavated from the Jinsan-ri kiln site used iron pigment instead of ocher to create the black background and painted the white slip with a brush several times into the indented area so that it looks like white inlay, both sherds look like as though white decorations were inlaid on the black background.

These kinds of ceramics made by painting white slip into the decorations carved out of a coating of iron slip continued to be produced even after the twelfth century and comprise a certain position of inlaid celadon, and this issue will be examined in a different paper in the future. The significance of these findings is that the inlaid decorations found at the Jinsan-ri kiln site could serve as an important exemplar that the "proto-inlaid decoration" already appears in the tenth century, according to the suggested timeline in the excavation report of Jinsan-ri kiln site no. 17. These sherds with this type of inlaid decoration, which were produced together with green celadon, can be included in the larger category of "proto-inlaid decoration," and these fragments can play a significant role in figuring out the origin and development of Goryeo inlaid celadon.

On the other hand, the same decoration technique used in these "proto-inlay technique" has been found recently in a Tang dynasty kiln site in China. It is striking that this inlay technique was not created from a local kiln in Korea but had existed already in China, and in the Tang dynasty. The Tang dynasty ceramics with carved and white slip painted decoration under black glaze excavated at the Huangbao (黃堡) kiln sites in Yaozhou district, Shaanxi province, show the same technique as those made in Korea. This fact will serve as a significant reference to identify the origin of inlaid celadon in Korea as well as the chronology of the Jinsan-ri kiln site and contribute to the research of green celadon made at the beginning of the Goryeo dynasty.

2. Dish-mouth bottle with faceted lotus petal pattern and inlaid vinescroll motif under celadon glaze (illustration 2, color plate 2)

I would like to introduce one example of earlier inlaid celadon which was documented in a recent report by the Hoam Museum. This object can be classified as an example of "proto-inlaid decoration," since it depicts the classic style of vinescroll motif inlaid on a celadon vessel of a classic shape and form.

This bottle is a dish-mouth bottle and it is also known as a "farmhand (*meo-sum*)" bottle. It has a slender neck and a wide mouth. The rim of the mouth is straight and flares a little bit at the edge, and the bottom of the mouth starts to curve slightly where it is connected to the long, thin neck. The rounded shoulder slopes down into a swelling body that tapers into a low, flared foot. The base of the splayed, tidy foot has been carved roundly, and the width of the rim is narrow but careful.

Starting from the shoulder, the body surface was faceted with a wide carving tool in the shape of lotus petals. A thin curved line was incised at the top of each petal to depict the lotus petal shape all around the body. I will call this kind of lotus petal decoration "faceted lotus petal pattern" in this paper and discuss it in detail below. The shoulder with thin, curvy lines was decorated with three non-continuous units of black inlay vinescroll motifs.

The glaze is pale green with some spots and has tiny crackles. The foot rim was wiped free of glaze and fired on heaps of sand, but the sand almost disappeared. At the base inside the footrim, the

glaze probably did not melt well and remained, white, but most of the glaze wore off, revealing the reddish brown clay body.

The most significant part of this bottle is the inlay decoration. Most of the typical dish-mouth bottles made in the early Goryeo period have faceted lotus petal patterns and incised vine scroll motifs on the shoulder, but I have never seen dish-mouth bottles with this kind of inlaid decoration. The inlaid decoration is simple but well executed, and the indented area is very shallow. The color of the black inlay is brownish. Further investigations of this bottle will follow in the later part of this paper.

3. Other materials

[1] Ewer with faceting and black inlaid vinescroll motif under celadon glaze, collection unknown (illustration 3, plate 4-1)

This object from a private collection was presented at an auction held in Seoul in November, 1941, but its current location is unknown.[17] The black and white photograph in the auction catalogue (no. 28) is not sharp enough, but the overall form of the ewer is still identifiable. The body of ewer is in the shape of a dish-mouth bottle, and the mouth is polygonal in shape. The handle is U-shaped, and the lid is decorated with lotus petal patterns. The bottom part of the body is decorated with the faceted lotus petal motif, like the dish-mouth bottle housed at the Hoam Museum. Simple black vinescroll patterns are inlaid in the shoulder of the ewer.

It is hard to identify the clay, glaze, and firing method of this ewer from the photograph. As it shows the old, classic style of lotus petal decoration, however, it seems to have been made between the tenth and the eleventh century. The vinescroll motif decorating the shoulder is similar to the motif on the aforementioned dish-mouth bottle from the Hoam Museum in terms of the pattern's location, technique, and form. The existence of this ewer is significant as it shows the possibility that the black inlay method was used in many objects, including ewers.

[2] Cup with thunderbolt inlaid decoration under celadon glaze (plate 4-2)

There are many cups made in the Goryeo dynasty which bear incised or inlaid thunderbolt motifs nearby the mouth. Extant objects and sherds collected from kiln site excavations show the early

characteristics of glaze, form, and foot. Even though this cup cannot be categorized as an example of "proto-inlaid decoration," I will examine its characteristics for reference.

The upper part of the body flares and has a wide mouth, whereas the lower part is narrow and rests on a small foot. This kind of cup is usually simply decorated with a small vinescroll motif below the mouth in black or white inlay. The foot is noteworthy. The base is cut horizontally and wiped free of glaze before firing on sand or fire-resistant clay. Generally, small objects such as bowls with inlay decorations or cups were made by cutting the foot round and thick and glazing the whole body including the foot rim, and they were fired on silica sand from the twelfth century onward.

The technique of cutting the base horizontally and wiping it free of glaze was used for celadon bowls from the Yaozhou (耀州) kilns in China. The bases of Yaozhou bowls usually were cut to reveal the bare reddish brown clay body. It can be assumed that the Goryeo celadon bowls made before the twelfth century were influenced by this technique.[18]

III. Inlay technique in Chinese ceramics

It is hard to deny that Chinese ceramics deeply affected the development of Korean ceramics. Goryeo ceramics made from the tenth to the eleventh century were affected by the wares produced from several Chinese kilns. Although the origin and development of Goryeo ceramics were influenced by Chinese ceramics, the potters' indigenous taste of local colors and shape, such as the famous kingfisher-colored celadon, were authentic and original. Although the influence of Chinese ceramics on Goryeo ceramics can be seen especially from the tenth to the eleventh century, I think it is important to point out how the potters carefully adopted some of the Chinese ceramic styles and tried to transform and localize them to a unique Goryeo style. Through defining the characteristics of Goryeo celadon that represent the power of a distinctive Korean culture, we will understand the fundamental character of our culture. The selective adoption of foreign culture and creative transformation into our culture is well presented in the development of Goryeo ceramics in the tenth and eleventh century, and these ceramics can be used to identify the special characteristics of the national culture in Korea.

Through a close investigation of Chinese sources, and on the assumption that Korean potters accepted advanced Chinese ceramic techniques during the early development of Korean ceramics, I discovered that the inlay technique existed also in Chinese ceramics from the Tang dynasty, even though few in number. Inlay techniques are found on the wares made at the Huangbao kilns in the Tang dynasty and the Yaozhou kilns in the Northern Song dynasty, both located in northern China.

1. Bottle with carved and white-slip painted decoration under black glaze, excavated from the Huangbao kiln site, Tang dynasty (illustrations 4–5, color plate 3, plate 5)

The Huangbao kiln site is located in southwestern Yao (耀縣) county, Tonchuan city (銅川市), Shaanxi (□西省) province, and as it was included in the Yaozhou area from the Tang and Five Dynasties onward, it is usually included in the "Yaozhou kiln." Many objects from the Tang, Five Dynasties, Northern Song, Jin, and Yuan dynasties were found from this kiln site. The objects from the Tang and the Five Dynasties are called Huangbao ware, and the objects produced in the Northern Song dynasty and thereafter are called Yaozhou ware. An excavation was initiated in 1958, and the most significant excavations in large scale were conducted in 1973 and in 1984–1991.[19]

Wares recovered from the kiln site include three-color glazed pottery, celadon, white porcelain, yellow porcelain, ceramics with black glaze, ceramics with carved and white slip painted decoration under black glaze, ceramics with variegated glaze, ceramics with white decoration under green glaze, and ceramics black decoration on the unglazed body. Among these, ceramics with white decoration under green glaze and with black decoration on an unglazed body used white embossed decoration or the underglaze iron painted technique, which was used in the early period of Goryeo ceramics. The appearance of ceramics with carved and white slip painted decoration over black glaze is especially significant, since the so-called proto-inlay technique has been used.

The excavation report describes the ceramics with carved and white-slip painted decoration over black glaze as follows:

> The carving (*gakhwa*, 刻花) technique is used on the surface of the glazed ceramic body. A knife with a sharp end is used to carve deep lines into the body, and thick white slip is painted into the incised lines with a brush. Since the white slip is very thick, it stays firm during firing.

As a result, the patterns stand out clearly due to the contrast of black and white. The patterns used for the ceramics with carved and white-slip painted decoration over black glaze are relatively simple, and motifs such as lotus petals, vinescrolls, flowers and plants with many branches, and branches are common. The most popular pattern is the flower and plants with many branches, which usually decorates the most significant area of the body....

The ceramics with carved and white-slip decoration under black glaze excavated from the Huangbao kiln site include tableware, tea ware, wine vessels, and lamp stands. Generally, the glaze is thickly applied, and the color of the glaze is extremely dark, and shimmers. On this black glaze, the decorative pattern is carved and filled with white slip. The decorative patterns stand out due to the strong contrast of black and white. This kind of decoration technique was a courageous attempt by the potters to advance from monotonous black glazed wares and open and enrich the field of decorative patterns on wares with black blaze.[20]

The inlay technique can be described as follows: After the decoration is incised with a sharp knife on the surface of a metal, wood, or clay vessel, the incised motifs are filled. In case of ceramics with carved and white-slip painted decoration over black blaze, the patterns are carved out with a chisel and the white slip is painted into the indented area with a brush. Even though this technique is slightly different from the usual inlay technique, since the white slip is painted with a brush and not inlaid, it can be definitely classified as a kind of inlay technique. The patterns are either white embossed, underglaze iron-painted, or carved and filled with white slip. The decorative patterns are mostly vinescrolls, flowers with spray, and leaflets, which are similar with underglaze iron painted or white-slip inlaid patterns in Goryeo ceramics (plate 6).

The Huangbao kiln was part of what became known as theYaozhou kilns in the Northern Song dynasty, and this kiln represented the northern celadon ware with its ingenious glaze color and decorative motifs. It also affected the other northern celadon kilns, such as the Linru (臨汝窯) kiln. At the beginning, the Yaozhou kiln copied the decorative style of the Yuezhou (越州窯) kiln, located in southeasternChina, and decorated the bowls with faceted lotus petals or incised simple flower and spray motifs. In the eleventh century, however, the techniques at the

Yaozhou kiln advanced and diverged; as a result, new stamped designs appeared, and incised decoration became more sophisticated and innovative.[21]

The bowls produced at the Yaozhou kiln in the eleventh century have certain characteristics: The mouth flares slightly and the interior is decorated with complicated stamped vinescroll motifs in relief. The foot was glazed first and then sharply cut, revealing the unglazed clay body. These features are very similar to Goryeo ceramics made in the eleventh century.

In studies on the history of Goryeo ceramics, scholars admit that the Yaozhou kilns affected the development of Goryeo ceramics in the eleventh century. There is a possibility, therefore, that the decoration techniques such as inlay, underglaze iron painting, and slip painting, which were used at the Huangbao kiln in the Tang dynasty, affected Goryeo ceramics even earlier. It is hard to determine the relationship between the Yaozhou kilns and Goryeo ceramics since no reports on the Yaozhou kilns in the Five Dynasties and Northern Song dynasty have been published, but I believe that we need to pay attention to this relationship.

2. The inlay technique of the Cizhou kiln

The largest folk kiln complex in the Song dynasty, the Cizhou (**磁州**) kilns formed a network in Hebei (河北省), Henan (河南省), and Shaanxi provinces. The main Cizhou kiln site is located at Guantaizhen (觀臺鎮), Cizian (磁縣), Hebei province. It has a complicated history since it adopted the traditions of both northern and southern folk kilns, such as the Changsha (長沙) kiln in the Tang dynasty, but it seems to have been active from the Northern Song period to the Yuan dynasty.

Twelve types of ceramics were produced at the Cizhou kilns. In addition to plain white-glazed or black-glazed wares, they included fine-line carving decoration with white glaze (白釉劃花), scraped-off decoration with white glaze (白釉剔花), green splashes on white glaze (白釉綠斑), brown splashes on white glaze (白釉褐斑), white glaze with underglaze black painting (白釉釉下黑彩), white glaze with underglaze brown painting (白釉釉下褐彩), white glaze with underglaze black fine-line carving (黑釉釉下黑彩劃花), white glaze with underglaze brown painted fine-line carving (白釉釉下褐彩劃花), green

glaze with underglaze black painting (綠釉釉下黑彩), white glaze with red and green enamel painting (白釉紅綠彩), and three-color lead glaze (低溫鉛釉三彩).[22]

The Cizhou kiln garnered critical attention among Korean scholars due to its relationship with Goryeo underglaze iron painted wares and the incised decoration in *buncheong* wares. In a recent publication on the Cizhou kiln published in Japan, the author called attention to these connections and mentioned the inlaid decoration of the Cizhou kiln several times.[23]

About a long-neck bottle with incised and white slip inlaid floral scroll pattern, the author explains: "After incising the lines of the pattern into the clay body, the clay body is covered with white slip and the patterns are carved out to express inlaid decoration....(plate 7-1)." Concerning a pillow with white slip and incised floral scroll pattern, which seems to have been made at the end of the tenth century or the beginning of the eleventh century, the author says: "The top of the pillow is decorated with *ruyi* head (如意頭, named after the head of the *ruyi* scepter) pattern and peonies, and the background of the peony motif has been carved out and inlaid with white slip" (plate 7-2).

Regarding inlaid decoration, the author explains:

> There are several pieces decorated by scraping off the white slip from the background and inlaying the motif with iron pigment. The long-neck bottle housed in the Cleveland Museum of Art (plate 7-1) is made as follows, however: the patterns are incised into the body; the whole body is covered with white clay; only some parts of the motifs are scrapped off. As a result, the lines remain white and the background appears grey. The bottle is glazed with transparent glaze. This distinctive technique can be termed "white clay inlay." The inlay techniques used in Goryeo celadon cannot be found in the Cizhou kiln, however. Among the wares with white slip incised decorations, there are some black inlays, which are probably not black inlay but the blackish color of the iron-bearing clay body (book, plate 3). Some of these wares were covered with red-brown clay before white clay was applied. Because these folk kilns aimed for mass production, it probably was difficult to develop complex techniques such as inlaid decoration."[24]

Some examples of inlay decoration were produced in the Cizhou kiln at the end of the tenth century and the beginning of the eleventh century. Cloud or vinescroll motifs were inlaid with thin lines, and the inlay technique was elegant and refined. It is also significant that simple vinescroll motifs or lotus petal patterns were executed at the Cizhou kiln of this era using the advanced incising or scraping off technique.

IV. Research on a dish-mouth bottle with faceted and inlaid vinescroll motif under celadon glaze

The dish-mouth bottle with inlaid vinescroll motif from the collection of the Hoam Museum has a classic shape and old-style lotus petal decoration, and its characteristics have been recognized as the most favorable type in the Goryeo dynasty around the eleventh century. Because no detailed research has been conducted yet on the dish-mouth shape and the classic style lotus petal decoration, I would like to examine them along with the inlaid vinescroll motif, which is the most significant element in this object.

1. Characteristics of the form

(1) Characteristics of the dish-mouth bottle

The dish-mouth bottle with its wide mouth and slender neck is well known. Antique shops used to call it "farmhand" (*meosum* or *damsari*) bottle. As we can notice from its nickname, these dish-mouth bottles were well preserved yet not well known to the public, since the quality was much lower than that of kingfisher-colored celadon in shape, glaze, and motifs. Because many of these bottles were produced, it could be possible that they were made as grave goods for common people.

The shape of the bottle came originally from a Chinese object of the Han dynasty, called *zhǒng* (鍾, wine bottle). The bottle had a dish mouth, slender neck, round body, and high legs or no legs at all. It copied the style of ancient bronze vessel decorated with bands, devil masks, or round handles. Such bottles were covered with brown, green, or gray glaze. The legs disappeared after the Eastern Jin dynasty, in the fourth century. During the Southern and Northern dynasty, this bottle kept the features of dish mouth, slender neck, and no legs, but ewers with chicken heads and handles became

fashionable. In the Sui and Tang dynasties, bottles with two handles like a Greek became stylish. As these bottles button decorations on the handles, they show characteristics of metal wares.

It is rare to find dish-mouth bottles in the celadon of the Yuezhou kilns, but some bottles produced at the Huangbao kilnlook similar to the early Goryeo dish-mouth bottle. From the end of the Tang dynasty, a short, splayed foot was added to the dish-mouth bottles produced at the Huangbao kiln. In the Five Dynasties period, the Yaozhou kiln began to produce dish-mouth bottles, and white porcelains from the Ding (定) kiln were made in the shape of dish-mouth bottles with large inflated body and exaggerated dish mouth. In the tenth and early eleventh century, dish-mouth bottles were also made at the Cizhou kiln, but the dish mouth was in the shape of a large funnel. The dish-mouth bottle shape disappears from Chinese ceramics after the eleventh century. (plate 8)

In Korea, the dish-mouth bottle shape appear on long-neck earthenware jars made in the Three Kingdoms period. In the Unified Silla period, the dish-mouth shape is seen on long neck earthenware bottles decorated with stamped floral patterns and flat bottles. Among United Silla period earthenwares the long neck bottle with stamped floral decorations excavated from the pond of Anabji (雁鴨池) (plate 9-①) and the long neck bottle excavated from Cheonbu-dong (天府洞), Ulleung-do island, have a dish mouth, long neck, and splayed foot, similar to the typical dish-mouth bottle with celadon glaze. Dish-mouth bottles were excavated from Gurim-ri (鳩林里), Yeongam (靈巖), but they were squared flat bottles with no foot. From the earthenware kiln sites in Jinjuk-ri (眞竹里), Boryeong (保寧), many dish-mouth bottles were excavated, but their bodies were typically squared, flat, and had no foot rim. Some had a dish mouth, long neck, and foot, but the body was in a low, oval shape, different from the dish-mouth bottle with celadon glaze.[25]

Alongside the typical dish-mouth bottles in the earlier Goryeo period, there are some bottles with angled shoulders, inflated round body, and high, wide foot, which copy the shape of bronze wares of the same period. Other bottles have a dish mouth but short neck, a round body, and no foot, but these shapes will not be discussed in this paper. (plate 9-2, 3)

Characteristics of dish-mouth bottles with long neck and elongated round body can vary. Differences in the shape of the dish mouth and the shoulder (either round or straight) are minor. On the basis of manufacturing technique, there are two different types: one in which the neck is shaped separately, then added to the body, and one in which the neck and the body are made together. These two types will be discussed later in this paper.

Most dish-mouth bottles were undecorated, but some are decorated with faceted lotus petal design. The dish-mouth bottles can be classified as those with no decoration and those with faceted lotus petal design, the so-called pleated skirt (*chima*) bottles. Other than that, many had major decorations consisting of underglaze iron-brown plant and flower patterns. Incising was not used for the major motifs but for minor decorations only, such as short vinescroll motifs or flower and plant patterns on the shoulder. It is hard to find decorations in relief. (plate 9-4~6)

Dish-mouth bottles were found in large quantities in Goryeo celadon kiln sites. In Gangjin, kiln sites from which fragments of dish-mouth vessels were excavated were Youngun-ri (龍雲里) kiln sites no. 9, 22, 28, 43, 50, 53, 63, Gyeyul-ri (桂栗 里) kiln sites no. 36 and 55, and Samheung-ri (三興里) kiln site no. 3.[26] From Youngun-ri kiln site no. 53 was found a sherd with faceted lotus petal decoration, and sherds with classic style lotus petal decoration have been found from Youngun-ri kiln sites no. 29 and 50. On all the dish-mouth bottles excavated from Youngun-ri kiln site no. 9, the neck and body were combined after shaping separately.[27] Other than the Gangjin (康津), fragments of dish-mouth bottles with the classic style of faceted lotus petal decoration were found also at Odong-ri (梧桐里), Yeomsan-myeon (鹽山面), Younggwang-gun (靈光郡), Jeollanam-do province.[28]

Dish-mouth bottles were mass-produced at the Jinsan-ri green celadon kiln site and the Gyeongseo-dong (景西洞) kiln site in Incheon (仁川) city. Two types of bottles were produced at the Gyeongseo-dong kiln site: one type in which the neck and shoulder profile formed a soft S shape, and another in which the angular join of shoulder and neck is distinctly visible.[29] Dish-mouth bottles from the Jinsan-ri kiln site have various shapes, but most are decorated with faceted lotus petal patterns, and the neck and shoulder are smoothly connected.[30]

Although dish-mouth bottles were produced in great amounts, it is difficult to determine the place of production. Dish-mouth bottles found in Goryeo tombs, for instance, were excavated together with pillows with iron slip painting and embossed white decoration and Chinese coinage bearing the era name Yuanfeng tong-bao (元豊通寶, 1078–1084).[31] Recently, from the excavation of a Goryeo tomb in Deobu-gol, Ilsan-dong (一山洞), Goyang (高陽) city, Gyeonggi-do province, a green celadon bottle missing the dish-mouth part was excavated together with a dish with peony pattern in relief under celadon glaze.[32] At the excavation of Goryeo tombs located in Danweol-dong, Chungju (忠州) city, Chungbuk (忠北) province, several dish-mouth bottles decorated with underglaze iron-painted plant designs were found together with a cup with thunderbolt decoration under celadon glaze, a cupstand, a dish with peony design in relief, a dish with incised parrot design, a melon-shaped ewer, a bottle (*maebyeong*) with underglaze iron painted plant design, and an earthenware bottle from the stone outer coffin tombs (*seokgwakmyo*) and pit tombs (*togwangmyo*).[33] In the excavation of the Goryeo tombs in Jwahang-ri (佐恒里), Wonsam-myeon (遠三面), Yongin-gun, Gyeonggi-do province, typical dish-mouth bottles with green celadon glaze and lots of brown speckles in the glaze were excavated.[34] Tomb no. 8 yielded bottles with green celadon glaze in classic style, a flower-shaped dish of good quality with stamped lotus flower design in relief, which looks like celadon from Gangjin, and a white porcelain dish. The white porcelain wares seemed to have been made at the nearby Seo-ri kiln site in Yongin-gun, in the upper layer, and this helps to estimate the chronology of dish-mouth bottles.

(2) Shape and production period of dish-mouth bottles

Since the dish-mouth bottle has an angled dish mouth and a band pattern between the neck and the body, it must have copied metalware forms, as did Chinese ceramic wares of this type. It is hard to say that this shape appeared primarily through copying Goryeo bronze wares, however, since not many similar metal shapes are known. It is evident that the dish-mouth bottles with a pipe-shaped body mounted on a tall base appeared for the first time by copying Goryeo bronze ware.

These dish-mouth bottles were produced in quantity at green celadon kiln sites such as Gyeongseo-dong or Jinsan-ri. Wares classified as green celadon include tot only typical green celadon

with lots of speckles in the brownish glaze, but also those with thin, crackled dark greenish-brown glaze made with sandy clay and fired in oxidation. The occasional bottles made with good quality clay and light, pale blue or celadon glaze are probably products of Gangjin, but it is hard to determine whether these types of good quality celadon were also made at the Jinsan-ri kiln.

Most dish-mouth bottles are green celadon, but the shape and manufacturing methods of green celadon were influenced by earthenware. Therefore, some scholars argue that the dish-mouth bottles made at the Gangjin kiln copied Chinese manufacturing techniques in making the neck and body separately and combining them, whereas the dish-mouth bottles with green celadon glaze from the Jinsan-ri kiln site followed the traditional way of making earthenware by manufacturing the neck and the body together in a smooth S shape.[35] In Gyeongseo-dong, however, these two types of manufacturing co-exist. Since dish-mouth bottles from the Tang dynasty did not follow the manufacturing method of joining neck and body, there is not enough evidence to explain the difference of manufacturing methods in dish-mouth bottles. Some argue that the difference is due to the time difference, but this argument is not persuasive.

It is obvious that bottles, tubs, and vases with green celadon glaze resembled earthenware with regard to form or manufacturing method, and these also differ from celadon made at the Gangjin kiln under the influence of the Yuezhou kiln. Dish-mouth bottles made at Gangjin were affected by the manufacturing methods of earthenware.[36] It is quite possible that the dish-mouth bottles with celadon glaze made in the earlier Goryeo period cherished the tradition of dish-mouth earthenware of the Unified Silla period, although though there is a problem in that the dish-mouth bottle types with stamped design excavated from the pond of Anabji were not found in earthenware from the Unified Silla period.

To identify the origin of the dish-mouth bottle with celadon glaze, research data on the dish-mouth bottles from the Huangbao kiln, Tang dynasty, will be introduced (illustration 6, plate 8-4). There are six types of dish-mouth bottles with celadon glaze, but all have dish mouth, long neck, ovoid body, and splayed foot rim. The shoulders are either round or straight, but reports give no information on whether the neck and body were made separately and combined after. Some have a melon-shaped

body. The typical decoration techniques of carved and white-slip painted under black glaze at the Huangbao kiln were also used at the Jinsan-ri kiln site, so the Chinese dish-mouth bottles will be explored further.

Next I will consider the production period of this dish-mouth bottle. In the case of the Gangjin kiln site, dish-mouths or dish-mouth bottles are excavated mainly from the Yongun-ri area and not from the Gyeyul-ri area. Fragments of dish-mouths were found at Yongun-ri kiln site no. 63, which is well known as producer of the most classical styles in the Gangjin region. Although it is hard to identify the whole vessel form from the sherds, they seem to be products of the second period of Gangjin celadon (when the bowl with halo-shaped foot was produced). In the case of Jinsan-ri, where many dish-mouth bottles with green celadon were produced, there are many scholarly debates regarding the production period. Compared to the excavations at Ganjin kiln site and the Mireuk (彌勒寺) temple site, however, it seems that dish-mouth bottles were produced at least by the end of the tenth century. Production probably continued until the end of the eleventh century, judging fromexcavated examples from the third period of Gangjin and the Maewol-ri tomb.

2. Characteristics of decoration

The decorations on dish-mouth bottles are the faceted lotus petal decoration and the inlaid vinescroll motif. Like the form itself, these two decorations demonstrate the old style. This section will look at these motifs more closely.

(1) Faceted lotus decoration

The faceted lotus petal decoration on the dish-mouth bottles with inlaid vinescroll motif are recognized as unique old style lotus petal motifs. After vertical cuts were made on the body at an angle from top to bottom with a wide potter's knife, other vertical cuts were made repeatedly, leaving at the end narrow outlines of the lotus petal shape. The ooutlines look like a pleated skirt, and the motif was accented with thin lines to describe the lotus petal shape. The width of each lotus petal varies, and the thin lines were sometimes incised on top of each faceted lotus petal. Some types had several pleats

inside one lotus petal. Even though the dish mouth is the most representative character of this bottle, it is sometimes called "pleated skirt bottle."

This kind of lotus petal decoration is sometimes called "incised lotus petal decoration," "faceted lotus petal decoration in relief," "roundly carved lotus petal pattern," or "lotus petal pattern in half relief." Personally, even though the patterns are faceted and the outline of the lotus petal is in relief, I would classify it as a faceted pattern in relief. Further, as the body has been faceted through wide vertical cuts, I term the technique "faceting (*myeonyanggak*, 面陽刻)."

Lotus petal decoration was used frequently on Goryeo ceramics. In the early period, the lotus petal patterns were used as the main decoration motifs, but from the time of kingfisher-colored celadon (*bisaek cheongja*) made in the early twelfth century, the decoration was used as the main decoration in dishes only and on other vessel forms as minor decorations only. From the mid eleventh century, most old style lotus petal patterns used as a main decoration were faceted. In the case of incised lotus petal decorations, the line was wide and deep, and the motif is simple but attractive.

The origin of this faceted lotus petal decoration must have been influenced by Chinese ceramics. The lotus petal decoration was used on Chinese ceramics during the Wei, Jin and Southern and Northern dynasties. The lotus petal decoration is related to Buddhism and was used frequently since Buddhism flourished at this time. Classic early Yue celadon was decorated with incised lotus petal motifs. Interestingly, some lotus petal decorations are so deeply carved that they look like pleats, and incised vinescroll motifs were combined with the lotus petal decorations. (plate 10-1)

The lotus petal motif was not used during the Tang dynasty, but then it was used widely from the Five Dynasties period until the Northern Song dynasty, from the tenth to the eleventh century. In the bowl with lotus petal motif pattern from the Yuezhou kiln, the outline of the pattern was incised, and two to three wide lines were carved inside the lotus petals, in a manner similar to the faceted lotus petal motif in relief from the Goryeo period. Other than this, there are some motifs which used simple but attractive incised lines. There are also lotus petals in two layers of carved relief. (plate 10-2~4) The lotus petal patterns in relief were used frequently on white porcelain bowls, jars, ewer, and water bottles from the Ding kiln in the tenth and eleventh century. Most use two layers of lotus petals in

relief. On some jars and ewers, both the shoulder and the body were decorated with this motif. On the elongated oval body of the water bottle with the incised character *guan* (official, 官), elongated vertical lotus petal patterns in relief decorate the body, in a style similar to the Goryeo skirt bottles. It is also interesting that the vinescroll motifs, whether incised or in relief, are added to the lotus petal patterns as minor decorations. (plate 10-5, 6)

Porcelain jars with celadon glaze from the Jingdezhen (景德鎭) kiln, bowls with celadon glaze from the Yaozhou kiln, and dish-mouth bottles from the Longquan (龍泉) kiln also used the lotus petal motif as the main decorative pattern. A variety of sophisticated carved lotus petal motifs in relief appears in Chinese ceramics in the tenth and eleventh century. Each lotus petal has been divided vertically into two halves and recarved so that the midline of the petal stands out. These types appear also on kingfisher-colored celadon bowls fired with quartz supports in the Goryeo period.

The lotus petal decoration was used frequently on roof tiles in Korea during the Three Kingdom and the Unified Silla periods, but not on earthenware until the end of the Unified Silla period. This pattern does not appear on celadon or porcelain with the halo-shaped foot but appears suddenly in the Goryeo period. It is obvious that this new pattern appeared in the Yuezhou and Ding kilns in China and was copied on Goryeo ceramics.

These classic styles of faceted lotus petal pattern were used on bowls and jars excavated from Yongun-ri kilns nos. 9, 50, and 53 in Gangjin, where many dish-mouth bottles were also excavated. This pattern was also found in Yongun-ri kilns nos. 12, 26, 27, 29, 33, 36, 37, 43, and 45, from which most celadon from the second period of Gangjin was excavated. The classical style with simple incised lotus petal motifs was found in Yongun-ri no. 62 and Gyeyul-ri nos. 8, 18, 19, 20, 37, 43, 45, and 49, which produced celadon during the third period of Gangjin. This shows that the faceted petal lotus motif in relief was made earlier than the simplified incised lotus petal motif.

The classic style of faceted lotus petal pattern decorated bowls and dishes excavated from the Yangje-ri celadon kiln site in Hampyeong, where sherds of the classic styles of inlay were found. At the Odong-ri celadon kiln site in Yeonggwang, as well, this pattern was used not only on skirt bottles but also on bowls, dishes, and lids of boxes.

Many celadon objects were decorated with faceted lotus petal designs. This motif is frequently seen on covered boxes as well as ewers in the style of Five Dynasties and early Northern Song dynasty. The ewers have faceted lotus petal decoration and underglaze iron, incised, or inlaid vinescroll motifs on the shoulder. One of the Buddhust sarira containers excavated from the three-story stone pagoda at Dongwha (桐華寺) temple in Seungju (昇州) was a covered box decorated with faceted lotus petal design. The chronicle of this box indicates that it was made at the end of Unified Silla or early Goryeo, so it is helpful for estimating when this pattern was used.[37] The covered box with celadon glaze excavated from the five-story stone pagoda at Seongpung (昇平寺) temple in Yeongam-gun, made in the year 1009, is also helpful for estimating the chronology of the faceted lotus petal motif in relief.[38]

Next, the process of generating and the production period of the faceted lotus petal decoration will be examined. As stated earlier, the lotus petal design was used frequently in the tenth and eleventh century at the Yuezhou and Ding kilns. In Korea, this pattern does not appear on earthenware of the Unified Silla period, but it does appear on early Goryeo celadon. Thus it seems that the lotus petal motifs on Goryeo ceramics were copied from Chinese wares. The indented classic style of lotus petal decoration seen on bowls was also found on celadon made at the Yuezhou kiln in the Five Dynasties and early Northern Song periods. It is quite possible that this pattern was influenced by the Yuezhou kiln. The lotus petal decoration made by incising vertical cuts from the top to the bottom of the body of dish-mouth and skirt bottles was seen on wares from the Ding kiln, although the lotus pattern decorations from the Ding kiln differ from the Goryeo patterns, as the Goryeo ones were faceted in a more elaborate way.

The technique of faceting by making vertical cuts inside the lotus petals to make pleats was different from the faceted lotus petal patterns from China. It seems to be a technique used on earthenware with striped patterns or clay appliqué striped decoration, made in the late Unified Silla period. The striped pattern or clay appliqué striped decoration appeared on many glazed earthenware vessels in the ninth to late tenth century. The vertical incised or relief decoration looks like pleats, and the pleats may be either dense or wide. The form of the pattern is similar the skirt celadon wares, and demonstrates similar decorative effects.[39] The lotus petal motif was definitely affected by Chinese

wares, but the expressive method was transformed to a distinctive decorative technique by fusing with the style of earthenware decoration at the end of the Unified Silla dynasty.

The production period of this classical style of faceted lotus petal decoration seems to be from the tenth to the mid-eleventh century, since the lotus petal design were popular from the Five Dynasties to the early Northern Song dynasty in China, and similar patterns were excavated from the green celadon kiln sites in Jinsan-ri and Gangjin kiln sites from the second period.

(2) Inlaid vinescroll motif

The most noticeable feature of this dish-mouth bottle is the inlaid vinescroll motif on the shoulder. This vinescroll motif was inlaid in black, and it differs from other vinescroll motifs commonly used on Goryeo celadon in being placed as three non-continuous units with the same distance between the motifs. Two of them have double inlaid lines and the end of the vinescroll has been slightly rolled inwards. As the outer line of the vinescroll is jagged, it looks like a thunderbolt vinescroll motif. The third motif shows the general vinescroll motif with an S shaped stem and with short, thick branches.

This used of non-continuous units of vinescroll motif as minor decoration is not found on kingfisher-colored celadon or inlaid celadon, so this seems to be a classical style of vinescroll motif in the tenth or eleventh century.

Dish-mouth bottles or ewers are decorated with several variations of this kind of non-continuous unit of vinescroll motif. Dish-mouth bottles with celadon glaze have a plain body without any decoration other than three incised non-continuous units of vinescroll motifs on the shoulder. Skirt bottles with faceted lotus petal decoration also have short lengths of incised simple vinescroll motif on the shoulder. Other skirt bottles have incised complex vinescroll motif under celadon glaze, while still others havevinescroll motifs painted with iron pigment. Among ewers with the preliminary style of faceted lotus petal decoration, some in the shape of those from the Five Dynasties have simplified underglaze iron vinescroll motifs, which look like tadpoles. There are also ewers in earlier style with

polygon-shaped lida and non-continuous units of vinscrolls incised on the shoulder and lid, and ewers with inlaid vinescroll motifs on the shoulder. (plate 11)

Thus, similar types of vinescroll motifs in short lengths were incised, painted in underglaze iron, or inlaid on the shoulder of similar objects from the same period> This means that the techniques of incised, underglaze iron painting, and inlay were used in a similar time frame in the early Goryeo period. Moreover, these non-continuous vinescroll units were combined with the faceted lotus petal pattern.

In China, the vinescroll motif was used as decoration on ceramics of the Yuezhou kiln in the Southern Dynasties period from the fifth to sixth century. The incised vinescroll motif was used as minor decoration to accompany the main lotus petal decoration, and the shape of the vinescroll was more elongated and horizontal. Normally Tang dynasty ceramics were not decorated, but the vinescroll motif and flower and plant pattern were painted with white or iron slip on wares from the Huangbao kiln. These decorative patterns were popular from the Five Dynasties period, and various decorations appeared in the celadon and porcelain from the Yuezhou and Ding kilns.

The incised vinescroll motif on celadon from the Yuezhou kiln is of special interest. On celadon made at the Yuezhou kiln during the Five Dynasties and early Northern Song periods, the vinescroll motif was used as a minor decorative motif in boxes or ewers, and typically it was incised with thin lines and as short, non-continuous units. The motif usually had rolled heads and a short tail at the end, and these non-continuous motif units were placed in a row with even spacing in between, which is similar to Goryeo vinescroll motifs.[40] (plate 12-1~3)

Both the classic and preliminary style of faceted lotus petal pattern and the classic style of vinescroll motif in the early Goryeo period were generated through the influence of decorative patterns on ceramics from the Five Dynasties to Northern Song period, especially celadon from the Yuezhou kiln and porcelain from the Ding kiln. (illustration 7, plate 12-4) These motifs can be assumed to have reached Korea no later than the eleventh century, judging fromthe form, the classic style of faceted lotus petal decoration, and the relationship with China.

V. The origin of proto-inlaid decoration and its production period

To this point, I have examined various aspects of "proto-inlaid decoration" through close consideration of early evidence for Goryeo inlaid celadon. Examples presenting the classical form, decorative patterns, and characteristics of the kilns were introduced and analyzed. As there is not much evidence for "proto-inlaid decoration," it is hard to reach a conclusion about its first appearance, interrelationship, and chronology. Because scholars still debate the date of the first production of Korean ceramics and the characteristics of early Goryeo ceramics , my argument might cause confusion in the scholarly field. In this paper, therefore, I will examine only briefly the chronology and production period and will focus on identifying the general characteristics of "proto-inlaid decoration." Green celadon and underglaze iron ceramics, which have many different characteristics from the celadon made at Gangjin, will be examined as they have a close relationship with the kilns in northern China.

1. The origin of proto-inlaid decoration and its relationship with northern Chinese ware

The "proto-inlaid" decoration can be classified into decoration techniques with black slip and white slip inlaid, inlay with iron slip and white slip, faceted black inlay, and inlaid black lines. Among these, the black slip and white slip inlay technique used at the Seo-ri kiln site in Yongin and the iron slip and white slip inlay technique used at the Jinsan-ri kiln site in Haenam are closely related, as they both used white inlay on black background. The faceted black inlay, which is made by cutting a thin, wide plane and inlaying it with thin ocher, was similar to the technique used in the celadon kiln sites in Yangje-ri, Hampyeong. The wares with inlaid lines used only black inlay. Those from the Yangje-ri kiln used black inlaid lines together with faceted inlay technique. At the Yangje-ri kiln, most objects made in the earlier period were decorated with only one single thin line around the body. Among the classical celadon wares with faceted lotus petal decorations, there are a few bearing non-continuous units of vinescroll motifs inlaid with black,

Regarding the relationship among the "proto-inlaid decoration" patterns, it seems that those decorating the background with ocher or iron slip appeared first. Even though the techniques used to create the black background and the white decoration were different, they have almost the same effect and are closely related. Both techniques were used on wares excavated from the halo-shaped foot layer in the Seo-ri kiln site as well as on green celadon from the Jinsan-ri kiln site, indicating that these two techniques were used earlier than the other "proto-inlaid decorations." It seems that these two types of decoration were the first forms of inlaid decoration in the history of Korean ceramics. Among these two techniques, however, it seems that the iron slip and white slip inlaid decoration appeared earlier than the black slip and white slip inlaid decoration, because the wares excavated from the Seo-ri kiln site used the typical inlay technique for both the background and the white inlay, and white porcelain with black inlaid lines existed in the same layer. Ceramics with black glaze were produced already in China as well as in Korea. In Korea, ceramics with black glaze were made at the time when bowls ceramics with the early halo-shaped foot in Chinese style were made at early kilns. I suggest that covering the clay body with iron slip, which creates the appearance of black glaze, and painting white slip in the carved-out patterns (to show the effect of inlay), seems to have been used earlier than the black slip and white slip inlaid decoration.

What was used next was probably the shallow faceted black inlay or the simplified inlaid line decoration, which were made in the earlier celadon kiln sites such as Yangje-ri. After the black inlaid line decoration appeared and became popular, inlaid decoration such as the classic style of vinescroll motif appeared, and these classic and preliminary styles advanced into the earlier inlaid decorations, and then advanced further to the typical black and white inlay decoration.

The appearance of iron slip and white slip inlaid decoration will be examined by exploring the situation of Chinese ceramics. As already discussed, these inlaid decorations were mostly found on drums. The ceramic drum appeared in China from the Tang dynasty, and it is called waist drum (*yaogu,* 腰鼓). This waist drum was made with "white porcelain (花瓷, also called ceramics with white glaze)"—white porcelain or porcelain with white glaze decorated with white speckles under black or

brown glaze.[41] This type of drum came into Korea through China in the Tang dynasty, so it is possible that the decoration technique used for the Chinese drums influenced Goryeo wares.

Considering the close relationship with China, the Tang dynasty ceramic with carved and white slip painted decoration under black glaze from the Huangbao kiln has a significant meaning. At the Huangbao kiln, black glaze appears in the early Tang dynasty; the unglazed and black and white painted wares appear from the mid-Tang dynasty; and the wares with carved and white slip painted decoration under black glaze appear in the late Tang dynasty. It is unknown if these types were also made in the Five Dynasties and Song dynasty, since there are no written reports. The white inlaid decoration, made through carving the black background and paint the white slip into the indented part, is similar to the technique for iron slip and white slip inlay used in Jinsan-ri. Even though the timeline seems problematic, this similarity cannot be passed over. The Tang dynasty drum made with white porcelain and the new Chinese technique of white slip decoration under black glaze seem closely related to the iron slip inlay decoration from the Jinsan-ri kiln site in Korea.

The relationship between Goryeo ceramics and the Yaozhou kiln needs to be considered seriously. Even though my topic seems unrelated to the Yaozhou kiln, it is well known that the celadon made at the Yaozhou kiln significantly affected Goryeo ceramics in the eleventh to twelfth century. As the Yaozhou kiln during the Tang and Five Dynasties periods has not been examined yet, the influence of the Yaozhou kiln on Goryeo ware has not been explored in detail. Korean ceramics with underglaze iron decoration are said to have been influenced by the Xicun (西村) kiln in Ghangzhou (廣州), southern China. The Xicun kiln, however, was a branch kiln of the Yaozhou kiln. It was a minor kiln mostly producing wares for export, and it is worthwhile to reconsider the wares made at the Yaozhou kiln during the Tang and Five Dynasties. If the Yaozhou kiln influenced Goryeo ceramics in the eleventh century, there is a possibility that earlier wares were also influenced by this representative kiln of northern China. That is to say, not only the Yuezhou kiln in the south but also northern ceramics, such as porcelain from the Xing (邢) kiln and celadon from the Yaozhou kiln greatly affected the early period of Goryeo ceramics. In the case of the Seo-ri kiln, white porcelain was produced right after the celadon ware with earlier form of halo-shaped foot was made. As celadon was made in southern China and

porcelain in the north, logically the white porcelain of the Goryeo period was made through copying wares from northern Chinese kilns after celadon wares appeared. It is reasonable to think that not only white porcelain but also northern celadon influenced early Goryeo ceramics.[42]

The relationship to northern Chinese wares can be examined by using the concept of "major kiln" and "minor kiln."[43] Aside from the Gangjin celadon kilns, which were obviously influenced by the Yuezhou kiln, other regions—especially the Jinsan-ri kilns—may have produced celadon wares influenced by northern Chinese wares while absorbing the tradition of Korean earthenware. There are still problems when kiln structure and stacking tools are considered, but the production of green celadon wares does not relate solely to the problem of quality. In the case of the Jinsan-ri kiln, it is hard to understand that this large kiln site area produced green celadon for the popular market under the influence of the Gangjin kiln, if we consider the Goryeo ceramics made in the eleventh century. According to my investigations so far, materials from the Yaozhou kiln and the Linru kiln (see endnote 18) have a close relationship with Goryeo green celadon. Chinese celadon made at Yaozhou and Linru is dark green or brownish; the clay body is gray-white or grayish blue due to reduction firing; and kiln stacking used an inclined drum-shaped clay support (*dojimi*). These characters are similar to Goryeo green celadon. First, though, the accepted notion that the northern wares were made through oxidized firing needs to be corrected. In the case of the Huangbao kiln, it is reported that both crossdraft kilns and semi-downdraft kilns were used, even though the construction of the kilns were different, and wood was used for firing. It is understandable that the early celadon wares made at the Yaozhou kiln were confused with Yue ware. Because of the close relationship between celadon from the Yaozhou kiln and Korean ceramics, I believe that the relationship with northern ceramics should be investigated closely with regard to the appearance of white porcelain in Korea, rather than determining the production period and quality problems of green celadon according to the situation of the minor kilns.

It is hard to reach to a convincing conclusion since collaborative research on green celadon, including that from the Jinsan-ri kiln sites, has not yet been conducted, but the appearance of green celadon should be examined carefully: the history of early Korean ceramics starts by determining whether an excavated ware belongs to the Yuezhou kiln type or non-Yuezhou kiln type (such as green

celadon or underglaze iron ceramics). In my opinion, green celadon appeared first by following the tradition of earthenware and northern Chinese wares in the Tang and Five Dynasty periods. Then celadon, ceramics with underglaze iron, and ceramics with black glaze, which look similar to green celadon, were produced. Later, at a certain point, through the influence of the major kilns, the kilns producing green celadon came to be considered minor kilns, although their traditional technique continued.

The relationship between northern Chinese wares and Goryeo wares can be confirmed through investigation of the appearance of underglaze iron ceramics. As mentioned before, underglaze iron ceramics were produced in large quantities at the Jinsan-ri kiln. When examining the problems in Goryeo underglaze iron ceramics, it should be recalled that most of the decorations were painted, and the patterns were mostly vinescrolls or flowers and plants. Decorating ceramics by painting the patterns or motifs with a brush was used frequently on white porcelain with celadon glaze after the Yuan dynasty. Before that, in the Tang dynasty, the Huangbao kiln and the Changsha (長沙) kiln in Hunan (湖南) province are the most representative. In the Song dynasty, the Cizhou kilns in the north are famous, and underglaze iron decoration appeared at Cizhou kilns from the twelfth century. In the Goryeo period, however, iron pigments painted with brush or embossed decorations were used earlier than that and were developed in a different way from the Chinese wares.[44] Rather than concluding that underglaze iron decoration in the Goryeo period was influenced by Song ceramics, it would be reasonable to say that it was affected by the Tang ceramics. The Cizhou kilns are not directly related with Goryeo underglaze iron ceramics since the decorative patterns used there center on paintings of birds or flowers or poem inscriptions, but the decorative patterns used in Huangbao kiln in the Tang dynasty are vinescroll motifs or flower and plants motifs. The underglaze iron painted or embossed vinescroll or plant and flower motifs closely resemble Goryeo designs, and the decorative and unique flower petal design from China also appears in Goryeo underglaze iron decoration. The underglaze iron decoration from the Huangbao kiln and the Goryeo underglaze iron ceramics are closely related in terms of technique and pattern.

Within this context, I insist that the Korean ceramics from the early period were affected by northern Chinese wares, especially from the Huangbao kiln (the precursor of the Yaozhou kiln), the representative kiln in the north during the Tang dynasty. The Huangbao kiln became known as Yaozhou in the later period. From the eleventh century, the Yaozhou kiln began to serve as a kiln producing ceramics for tribute, and it influenced the development of Goryeo ceramics from the time of King Shenzong (神宗) to that of King Huizong (徽宗, 1078–1106). The Yaozhou kiln should be treated as being as significant as the Yuezhou kiln when examining the early history of Goryeo ceramics.

Because of the close relationship between northern Chinese celadon and Goryeo celadon, the iron slip and white slip inlaid decoration excavated from the Jinsan-ri kiln site probably appeared as the result of influence from the Huangbao kiln. It is hard to determine approximately when this decorative technique appeared, because there are no written reports about the Five Dynasties and Northern Song dynasty wares. If the ceramics with carved and white slip painted decoration under black glaze were made continuously even after the Tang dynasty, then the chronology can be estimated by considering green celadon or early celadons.

I conclude that the appearance of iron slip and white slip inlaid decoration, which is one of the "proto-inlaid decoration," was influenced by the Huangbao kiln (during the Tang or the Five Dynasty period), the representative kiln in northern China at that time.

2. The production period of proto-inlaid decoration

The iron slip and white slip inlaid decoration first appeared in Korea between the end of the Tang dynasty and the Five Dynasties period (late ninth century to tenth century). At Jinsan-ri kiln site no. 17, a sherd with similar decoration technique used for "proto-inlaid decoration" has been excavated, and the production period can be estimated to be from the late tenth century to the early eleventh century. It is unclear if Jinsan-ri kiln site no. 17 was the earliest among the kilns, and further materials are needed to determine the period of initial appearance. In the case of the Seo-ri kiln site in Yongin, however, a similar iron slip and white slip painted decoration appears on porcelain bowls with halo-

shaped foot, so I would claim that the "proto-inlaid decoration" appeared for the first time as early as the late ninth century, or at least in the tenth century.

To summarize the origin of "proto-inlaid decoration," the earliest form was the iron slip and white slip painted decoration, which appeared in the late ninth to tenth century under the influence of the Huangbao kiln in northern China. This style of inlaid decoration affected the establishment of faceted black inlay and black inlaid line decoration made at the Seo-ri kiln in Yongin. The iron slip and white slip painted decoration developed as the iron slip and white inlaid decoration and decorated typical inlaid celadon during the twelfth and thirteenth century.

"Proto-inlaid decoration" appeared during the tenth and eleventh century as a classic style of inlaid decoration. As seen in the earlier celadon kiln sites located in Yangje-ri, advanced techniques appeared. Without creating a black background with iron or ocher pigment, the wide area of the body was inlaid entirely in black or decorated with black line inlay. These celadon kiln sites also produced celadons with classic style lotus petal motifs, and classic non-continuous units of vinescrolls in black inlaid lines also appeared on those celadon wares. The existence of black inlaid vinescroll motif on dish-mouth bottles or ewers shows that the inlay technique was used around the same time as the incised decorations appear on the same shapes of ceramics. As vessels with inlaid decoration are few in number and possibly were made at minor kilns, it can be assumed that ceramics with inlaid decoration were made first at minor kilns. Then, as the manufacturing process became complicated and the quality of ceramics made at the minor kilns lessened, this mode of decoration was not produced in large numbers thereafter. This was the case at the Cizhou kilns. For Chinese popular kilns such as Cizhou, the inlaid decoration technique was not efficient to use, so it was employed on small numbers of vessels from the late tenth century until the early eleventh century and abandoned thereafter.

In Goryeo ceramics, however, "proto-inlaid decoration" continued until sometime in the eleventh century. These decorations appear not in the main kilns such as Gangjin but in the minor kilns, which produced low-quality green celadon wares. It seems to be true that "proto-inlaid decoration" appeared first at minor kilns. During the early Goryeo period kilns were scattered along

the southwestern coast, but from the reign of King Munjong (文宗, r. 1046–1082) in the mid eleventh century, they were gathered in Gangjin and Buan. Through the early fourteenth century, most Goryeo ceramics were made at Gangjin and Buan kilns. In accordance with the centralization of administrative power from the reign of Munjong onward, ceramics production came under government control and was restricted to certain areas. The Gangjin and Buan kilns served as government kilns from the twelfth century.

The appearance of typical inlaid celadon should be understood within the context of the history of Goryeo ceramics. Minor kilns such as Jinsan-ri existed until the eleventh century, but they were amalgamated into the Gangjin kilns, and the techniques were also combined. Techniques from all regions and from China were combined at the Gangjin kilns, making possible the advance of those kilns. The inlay technique must have been introduced to the Gangjin kilns in this way. Through the introduction of inlay technique from the minor kilns, inlaid decoration appeared at the Gangjin kilns at the end of the eleventh century. The initial types were inlaid decorations in single units, as seen in cups bearing thunderbolt designs, and the technique advanced to the typical black and white inlaid decoration in the twelfth century. The early inlaid decorations on Gangjin celadon in the late eleventh to early twelfth century developed from "proto-inlaid decoration."

While early inlaid decoration developed into typical black and white inlay decoration, some materials demonstrate the intermediate influence of "proto-inlaid decoration." (plate 13) On a bottle from Gangjin, a thunderbolt design is inlaid in black around the lower portion, and the body is decorated with incised white slip decoration resembling lotus flowers. The foot and base were glazed entirely and fired on sandy clay supports. For the incised white slip decoration, thick, double outlines were incised and filled with white clay. Close examination of the painted surface shows that the surface was scraped only shallowly, not deeply, so the thinly applied white clay looks rough. The white embossed technique and the iron slip and white slip painted technique are similar, since the white clay was painted with a brush. This technique was not seen on general inlaid decorations. Most "proto-inlaid decoration" lines were inlaid in black, and most early inlay decorations are black as well, but this sherd (plate 13) combines a black inlaid thunderbolt design and incised white slip decoration, which is

not embossed or inlaid. This sherd seems to belong to the transitional period from "proto-inlaid decoration" to the usual black and white inlay, and it shows the influence of the earlier technique.

Production of "proto-inlaid decoration" seems to continue through the mid eleventh century, judging from evidence of the faceted lotus petal pattern, the classic style of short vinescroll motif in black inlay, the production period of the classical dish-mouth bottle, and the period of establishment of early inlaid decoration at major kilns.

To summarize, iron slip and white slip inlaid decoration appeared as early as the late ninth century or as late as the tenth century at minor kilns, through the influence of northern Chinese ceramics. At the same time, the black slip and white slip inlaid decoration and the black inlaid linear decoration appear as transformed decorative techniques. The faceted black inlay and black inlaid line decoration reappear at the early celadon kiln sites. The "proto-inlaid decoration" used at minor kilns was adopted later at major kilns such as Gangjin, during the mid-eleventh century. At the major kilns, the technique was transformed into early inlaid decoration and advanced into the typical black and white inlay decoration of the twelfth century.

VI. Conclusion

This paper examines the origin of inlaid decoration in the Goryeo period, but this study also aimed to demonstrate the existence of "proto-inlaid decoration." It is still very difficult to discover the relationship between the unique form of earlier inlaid decoration and typical inlaid celadon, since excavated objects with earlier inlaid decoration are very few. I wrote this paper with the hope that a systematic study of Goryeo inlaid celadon can be conducted on the basis of these existing objects, despite their scarcity. The close relationship to the Yaozhou kiln, including the Huangbao kiln in the Tang dynasty, has been examined with regard to the appearance of green celadon in Goryeo.

Scholars admit that the significant formation of Goryeo celadon in the twelfth century was based on diverse experiments and solutions during the tenth and eleventh century, but no detailed studies of the earlier period were conducted until now, and few theories exist. I believe the tenth and eleventh century was the period that contributed to the establishment of Korean ceramic culture and

its worldwide fame. Through development of the earthenware model and introduction and transformation of various Chinese wares, Korean potters were able to perfect their understanding of manufacturing techniques, and their efforts created exceptional Goryeo ceramics of high quality.

Therefore, the various small developments of the tenth and eleventh century should not be overlooked. Even though my argument is largely conjectural due to lack of material, this paper has its significance as an attempt to explore the existence of "proto-inlaid decoration."

It is widely acknowledged that the influence of Chinese ceramics played a pivotal role in transforming the Korean earthenware culture into a ceramic culture. We must follow research results on the history of Chinese ceramics. Rigorous understanding of the development of Chinese ceramics from the late Tang dynasty into the Northern Song dynasty, from the ninth to eleventh century, unquestionably will contribute to research on the development of Korean ceramics during the same period.

In this paper, I tried to relate Chinese materials to the existence of "proto-inlaid decoration" in Goryeo, but I admit that my argument might be untenable. My hypothesis is that Yuezhou was not the only Chinese kiln to influence the emergence of Korean ceramics, and that northern Chinese ceramics could have played a role as well. The significance of this study lies in collecting surviving data and materials related to the origin of "proto-inlaid decoration." Please understand this study as data collection; I hope that it will encourage further research in the near future.

[1] Until now, the origin of the inlaid decoration has been determined through identifying when the inlay technique appeared more frequently. Nomori Ken and Chung Yangmo insist that the inlaid decoration was generated at the beginning of the twelfth century, whereas Kang Kyung-sook thinks this happened in the mid-twelfth century. Yun Yong-i argues that the inlaid decoration was generated at the end of the twelfth century. Nomori Ken, *Kōrai tōji no kenkyū* [Research on Goryeo Ceramics], Kyoto: Seikansha, 1944, pp. 25–26; Chung Yangmo, "Cheongja sanggam balsaeng ui chukmeonjeok jeongu [The Origin of Inlay technique in Celadon]," in *Hanguk ui Dojagi* [Korean Ceramics], Seoul: Munye chulpansa, 1991, p. 243; Kang Kyung-Sook, *Hanguk dojasa* [History of Korean Ceramics], Seoul: Iljisa, 1989, p. 193; Yun Yong-I, "Goryeo doja ui byeonchon [The Transition of Goryeo Ceramics]," *Gansong Munwha* 31, 1986: 73–93. For recent research on the origin of the inlay, see Bang Byungsun, *Goryeo sanggam cheongja ui balseng e tarun sanggam munui ui gochal* [Research on the Inlay Patterns according to the origin of the Goryeo Inlay Celadon], M.A. thesis, Dongguk University, Seoul, 1991.

[2] Chung Yangmo, "Cheongja sanggam balsaeng ui chukmeonjeok jeongu [The Origin of Inlay technique in Celadon]," p. 71, plate 9-11.

[3] Hoam Museum, *Yongin seo-ri goryeo baekja yo* [Goryeo Porcelain Kilns Located in Seo-ri, Yongin], 1987; Kim Jae-Yeol, "Goryeo baekja ui balseng gwa pyeonnyeon (Appearance and Chronology of Goryeo White Porcelain)," *Misusahak yeongu (Korean Journal of Art History)* 177, 1988: 5–7; Kim Jae-Yeol, "Yongin chogi baekja yoji balguljosa bogo [Excavation Report of the Early Porcelain Kiln Site Located in Yongin]," in *Hanguk jagi balsenge gwanhan jaemunjae* [Queries on the Origin of Korean Ceramics], Hangukgogomisul yeonguso, 1990, pp. 45–53.

[4] Gwangju National Museum, *Jeonnam jibang doyoji josa bogo (II)* [Research Report of Kiln Sites in Jeonnam Region II], 1988.

[5] Gwangju National Museum, *Jeonnam jibang doyoji josa bogo (IV)* [Research Report of Kiln Sites in Jeonnam Region IV], 1988.

[6] Kim Deuk-Pung, *Jeonnam haenam-gun sanih-myeon jinsan-ri cheongjayoji josabogo* [Research Report of Celadon Kiln Sites located in Jinsan-ri, Sanih-myeon, Haenam-gun, Jeonnam Province], 1-5, *Bakmulgwan sinmun* [Museum Newspaper] (National Museum of Korea) nos. 144-148, 1983; Cho Ki-Jung, *Nokcheongja sogo* [Research on Green Celadon], Mudeung doyo, toseok doja munhwa yeonguso, 1987; National Museum of Korea and Icheon Jikhal-si [Icheon City], *Incheon kyeongseo-dong cheongja doyoji* [Celadon Kiln Site in kyeongseo-dong, Incheon], 1990.

[7] Munhwaje gualliguk (Cultural Heritage Administration of Korea), *Wando haejeoyumul* [Wando Salvaged Treasures], 1985.

[8] Mokpo University Museum, *Haenam Jinsan-ri Nokcheongja yoji* [Green Celadon Kiln Sites in Jinsan-ri, Haenam], 1992.

[9] Regarding the chronology of the Jinsan-ri kiln site, Mokpo University Museum, *Haenam Jinsan-ri Nokcheongja yoji* [Green Celadon Kiln Sites in Jinsan-ri, Haenam] compares it with the celadon from Gangjin and estimates the origin as the end of tenth century to the first half of the eleventh century, whereas Kim Deuk-Pung, *Jeonnam haenam-gun sanih-myeon jinsan-ri cheongjayoji josabogo* [Research Report of Celadon Kiln Sites located in Jinsan-ri, Sanih-myeon, Haenam-gun, Jeonnam Province], 1-5 estimates the date as the eleventh or early twelfth century. Munhwaje gualliguk (Cultural Heritage Administration of Korea), *Wando haejeoyumul* [Wando Salvaged Treasures] states that the salvaged ceramics from Wando were produced at the Jinsan-ri kiln site during the reign of King Munjong (文宗, r. 1047-1082). However, according to the investigation report of the Mireuk temple site excavation, bowls with celadon glaze and halo-shaped foot are excavated with the sherds from green celadon, which means that the green celadon had appeared already before the eleventh century. Choi Maeng-Sik, "Tongil silla jul muneui mit deottimuneui togibyeong e gwanhan sogo [Research on Earthenware Bottles with Striped Pattern and Clay Appliqué Striped Decoration in the Unified Silla Kingdom]," in *Munhwaje* [National Treasures], Munhwaje yeonguso, 1991; Munhwaje yeonguso (National Treasure Research Institute), *Mireuksa yujeok balgul josa bogoseo* [Excavation Report for the Mireuk Temple Site], 1989.

[10] Cho Ki-Jung, *Nokcheongja sogo* [Research on Green Celadon], pp. 30, 94.

[11] Cho Ki-Jung summarized and interpreted the excavated underglaze iron-painted celadons according to their decoration patterns: (1) deeply carved decoration, with pattern made by putting a thin coating of iron oxide slip t the clay body and carving away the background of the decoration; (2) iron slip and deeply carved with incised white slip; (3) inlaid decoration with iron slip and deeply carved decoration with white clay inlay. Like the deeply carved decoration, the carved-away background is either painted with white slip or, to emphasize the underglaze iron decoration, painted with a thicker white inlay create intense black and white contrast; (4) iron slip and white clay inlaid decoration: after applying a thin coating of iron oxide slip, lines or planes are incised; the white slip is painted several times into the incised lines or planes; (5)
flower pattern with iron and white slip: a brush dipped into iron or white slip is used to mark dots or to paint to create subsidiary patterns. Cho Ki-Jung, *Nokcheongja sogo* [Research on Green Celadon], pp. 31–32. The Hanja

character *bun* (扮) in "make-up (扮裝)" has been used with a broader meaning, and additional information can be found in ibid., p. 89, n. 76.

[12] In ibid., p. 92, color plate 6-6, it is called celadon with iron slip and deeply carved decoration under green glaze.

[13] In ibid., p. 93, color plate 6-7, it is called celadon with iron slip and white inlaid decoration under green glaze.

[14] In ibid., p. 93, color plate 6-7, it is called celadon with green glaze covered with iron slip and deeply carved, incised, and white inlaid decoration.

[15] National Museum of Korea and Icheon Jikhal-si [Icheon City], *Incheon kyeongseo-dong cheongja doyoji* [Celadon Kiln Site in kyeongseo-dong, Incheon], p. 135.

[16] Mokpo University Museum, *Haenam Jinsan-ri Nokcheongja yoji* [Green Celadon Kiln Sites in Jinsan-ri, Haenam], pp. 45–46.

[17] Kyeongsong Misul Gurak-bu [Kyeongsong Antique Art Society], *Seonaepum seohwa goryeo ijo doja* [Goryeo and Yi Dynasty Ceramics], November, 1941.

[18] I recently had a chance to investigate objects excavated from the Linru (臨汝) kiln in 1996 by the archeology department, Beijing University. The Linru kiln is one of the northern celadon kiln sites, and it appeared under the influence of the Yaozhou kiln. This kiln produced celadon for the middle class in the mid Northern Song period. The forms, decorative patterns, and glaze colors were similar to those of the Yaozhou kiln. Notably, glazes were usually dark green or brownish-green, but the color of the clay body is grayish blue, which means the wares were not oxidized but reduced during firing. The foot is made similarly to the Yaozhou kiln: the whole body including the foot is glazed; the foot rim is cut horizontally and the unglazed body revealed; the vessel is fired on a thick sandy support. Funnel-shaped saggars were used frequently for firing, but it was interesting to see also many inclined clay pads, a kind of stacking tool. The inclined clay pads resemble those from the green celadon kiln sites in the Goryeo dynasty, but the thicker part has been carved out to make the surface look like teeth, which is different from the Korean clay pads.

[19] Shanxi Sheng kaogu yanjiusuo [Archeological Institute of Shaanxi Province], *Tang dai huangbao yaozhi* [Huangbao kiln site in the Tang Dynasty] 上下, Beijing: Wenwu chubanshe, 1992.

[20] Shanxi Sheng kaogu yanjiusuo [Archeological Institute of Shaanxi Province], *Tang dai huangbao yaozhi* [Huangbao kiln site in the Tang Dynasty], 上, pp. 267–272.

[21] Feng Xianming et. al., *Zhongguo taoci shi* [History of Chinese Ceramics], Beijing: Wenwu chubanshe, 1982, pp. 251–255.

[22] Ibid., pp. 238–247.

[23] Hasebe Gakuji, *Jishūyō* [The Cizhou kiln], Chūgoku no tōji [Chinese Ceramics] 7, Tokyo: Heibonsha, 1996.

[24] Feng Xianming et. al., *Zhonngguo taoci shi* [History of Chinese Ceramics], p. 98.

[25] Ewha Womans University Museum, *Yeongam jinsan-ri togiyoji balguljosa* [Excavation from the Earthenware Kiln Site at Jinsan-ri, Yeongam], 1998, p. 98; Han Yujin, *Tongilsilla ui gyeongjil dogi* [A Study on the earthen ware in the post period of the Unified Shilla], M.A. thesis, Ewha Womans University, Seoul, 1993.

[26] Haegang Ceramics Museum and Dangjin-gun, *Dangjin cheonga yoji* [Dangjin Celadon Kiln Site], 1992.

[27] In most dish-mouth bottles made at Youngun-ri kiln site no. 9, the neck and body were formed separately and combined, but dish-mouth bottles made at the green celadon kiln sites in Jinsan-ri and Jyoungso-dong are connected smoothly in an 'S' shape. This difference was the basis for anargument that the bottles from the Youngun-ri kiln site were made earlier. It can be assumed that dish-mouth bottle with green celadon glaze were produced in the mid or later eleventh century. Yun Yong-i, in Munhwaje gualliguk (Cultural Heritage Administration of Korea), *Wando haejeoyumul* [Wando Salvaged Treasures], 1985, p. 68, n. 7.

[28] Gwangju National Museum, *Jeonnam jibang doyoji josa bogo (II)* [Research Report of Kiln Sites in Jeonnam Region II], pp. 85–88.

[29] National Museum of Korea and Icheon Jikhal-si [Icheon City], *Incheon kyeongseo-dong cheongja doyoji* [Celadon Kiln Site in kyeongseo-dong, Incheon], p. 42.

[30] Cho Ki-Jung, *Nokcheongja sogo* [Research on Green Celadon], p. 82.

[31] Nomori Ken, *Kōrai tōji no kenkyū* [Research on Goryeo Ceramics], p. 12.

[32] Hanyang University and Gyeonggi-do Province, *Goyang jungsan-jigu munhwa yujeok* [Cultural Heritage at Jungsan-jigu, Goyang], 1993, p. 278.

[33] Chungju Museum, *Chungju danwol-dong Goryeomyo balguljosa bogoseo* [Excavation Report of the Goryeo tombs in Danwol-dong, Chungju], 1992.

[34] Myongji University Museum, *Yongin Jwahang-ri Goryeo gobungun balguljosa bogoseo* [Excavation Report of Goryeo tomb groups in Jwahang-ri, Yongin], 1994.

[35] Cho Ki-Jung, *Nokcheongja sogo* [Research on Green Celadon], p. 82, n. 56.

[36] Dish-mouth bottles from Ganjin Yongun-ri kiln no. 9 or Goheung Undae-ri were glazed with celadon or black glaze, and the foot was attached, which is the method by which earthenware was made. Not only the shape but also the technique of earthenware was inherited. Choi Kun, 'Tongil silla sidae gyeongjil dogi ui jeontong gyeseung

gwa jungguk dojamunhwa ui suyeong e gwanhayeo [The Traditional Heritance of Earthenware in Unified Silla period and the Acceptance of the Chinese Ceramic Culture],' in Hanguk Gogomisul Yeonguso, *Hanguk jagibalseng e gwanhan jemunjae* [Reconsideration of the Generation of Korean Ceramics], 1990, p. 26.

[37] National Museum of Korea, *Bulsari Jangeom* [Buddhist Reliquaries], 1991, plate 43.

[38] Ibid., plate 45.

[39] According to the excavation of the Mireuk temple, the chronology of the striped pattern or clay appliqué striped decoration is from the later ninth century to the late tenth century. Choi Maeng-Sik, "Tongil silla jul muneui mit deottimuneui togibyeong e gwanhan sogo [Research on Earthenware Bottles with Striped Pattern and Clay Appliqué Striped Decoration in the Unified Silla Kingdom].

[40] Osaka Shiritsu Tōyo-Tōji Bijutsukan (Museum of Oriental Ceramics, Osaka), *Esshūyo-no seiji* [Celadon from the Yuezhou kiln] II, 1994.

[41] Feng Xianming et. al., *Zhonngguo taoci shi* [History of Chinese Ceramics], pp. 212–213.

[42] I have recently investigated the situation of the Yuezhou kiln during the Tang and Five Dynasties periods by exploring the Shanglinhu (上林湖) kiln site, Yuyao xian (余姚縣), Zhejiang province, and the former kiln site in Shangyuxian (上虞縣). The strata contained many fragments with celadon glaze, but I did not find any underglaze-iron or white porcelain sherds, which means that underglaze iron wares and white porcelain were not made here in great quantities, even though some exceptions may exist. Therefore it is difficult to argue that the white porcelain or underglaze-iron ceramics were related to the Yuezhou kiln.

[43] I am using the term "major kiln" and "minor kiln" to distinguish between top-quality celadon made at Gangjin or Buan kilns and middle- or low-quality celadon made by copying them. I designate the kilns which made top-quality wares as "major kilns" and those which made middle- or low-quality wares as "minor kilns." Choi Kun, "Cheolhwa cheongja ui teukjing gwa jeongae [The Characteristics and Development of Underglaze iron Celadon]," in Horim Museum, *Horim bakmulgwan sojangpum seonjib, Cheongja* [Selected Collection of Horim Museum, Celadon], III, 1996, p. 124.

[44] Ibid. The author reexamines the existence of underglaze iron celadon, and finds some object made as early as the tenth century.

Captions

1. Flattened image of plate no. 3-5

2. Drawing of dish-mouth bottle with faceted and inlaid vinescroll motif

3. Vinescroll motif on ewer with faceted and black inlaid vinescroll motif

4. Various shapes of ceramics with carved and white slip painted decoration under black glaze from the Huangbao kiln site

5. Various patterns of ceramics with carved and white slip painted decoration under black glaze from the Huangbao kiln site

6. Several types of dish-mouth bottles with celadon glaze from the Huangbao kiln site

7. Vinescroll motif from the Ding kiln, plate 12-4

Plates

Color plate 2. Dish-mouth bottle with faceted lotus petal pattern and inlaid vinescroll motif under celadon glaze, Goryeo dynasty, eleventh century, height 28 cm, Hoam Museum

Color plate 3. Bottle with carved and white slip painted decoration under black glaze, excavated from the Huangbao kiln site

Plate 1. Fragments with inlaid decoration, excavated from the Seo-ri kiln site, Yongin: (1) sherds with black slip and white inlaid decoration; (2) sherds of white porcelain with black inlay

Plate 2. Sherds with inlaid decoration excavated from the Yangje-ri and Punggil-ri kilns: (1) sherd excavated from Yangje-ri kiln site no. 1; (2) sherd excavated from Yangje-ri kiln site no. 5; (3) sherd excavated from Punggil-ri kiln site

Plate 3. Sherds excavated from the Jinsan-ri kiln: (1) sherd with black inlaid decoration; (2) sherd of a drum body with iron slip and deeply carved decoration; (3) sherd with iron slip and deeply carved decoration; (4) sherd with iron slip and white clay inlaid decoration; (5) sherd with iron slip and deeply carved and white slip inlaid decoration

Plate 4. Research materials for “proto-inlaid decoration” and the early stage of inlaid decoration: (1) ewer with faceted and black inlaid vinescroll motif under celadon glaze; (2) cup with thunderbolt inlaid decoration under celadon glaze

Plate 5. Sherds with carved and white slip painted decoration under black glaze, excavated from the Huangbao kiln site

Plate 6. Sherds with white slip decoration under variegated glaze and black slip decoration without glaze: (1-4) sherds with white slip; (5-6) sherds with variegated glaze; (7) sherds with black slip decoration, without glaze

Plate 7. Inlaid decoration from the Cizhou kilns: (1) long-neck bottle with vinescroll motif and white scraped decoration, late tenth–early eleventh century, height 41.2 cm, Cleveland Museum of Art; (2) pillow with vinescroll motif and white scraped decoration, late tenth–early eleventh century, length 21.5 cm, The Art Institute of Chicago

Plate 8. Several types of Chinese dish-mouth bottles: (1) bottle with green lead glaze, first century B.C.E–first century C.E., height 37.9 cm, Osaka City Museum of Fine Arts;

(2) chicken head ewer with celadon glaze; (3) ewer with two handles and polychrome lead glaze, Tang Dynasty, eighth century, height 47.4cm, Tokyo National Museum; (4) dish-mouth bottle with celadon glaze, Tang dynasty, excavated from the Huangbao kiln; (5) bottle with incised peony decoration, tenth–eleventh century, height 30.5cm, Tokyo National Museum; (6) long-neck bottle with peony vinescroll motif and white scraped decoration, late tenth century, height 42.8cm, Museum of Fine Arts, Boston

Plate 9. Several types of dish-mouth earthenware and celadon: (1) earthenware bottle with long neck, late Unified Silla period, height 14.1cm, excavated from Anab-ji, Gyeongju National Museum; (2) dish-mouth bottle with stamped floral decoration under celadon glaze, tenth century, height 24.3cm, Horim Museum; (3) dish-mouth bottle with stamped floral decoration under celadon glaze, late eleventh century, height 23.7cm, Horim Museum; (4) dish-mouth bottle with stamped floral decoration under celadon glaze, late eleventh century, height 27.1 cm, Horim Museum; (5) dish-mouth bottle with faceted lotus petal pattern and incised vinescroll motif under celadon glaze, eleventh century, height 20 cm, Hoam Museum; (6) dish-mouth bottle with faceted lotus petal pattern under celadon glaze, eleventh century, height 27.0 cm, private collection

Plate 10. Several types of lotus petal motif in Chinese ceramics: (1) covered jar with lotus petal motif under celadon glaze, Southern Qi dynasty, late fifth century, height 35.5 cm, National Museum of Chinese History; (2) bowl with carved lotus petal motif under celadon glaze, tenth–eleventh century, diameter 15.0 cm, Osaka City Oriental Ceramics Museum; (3) bowl with carved lotus petal motif under celadon glaze, eleventh century, diameter 13.2 cm, Tokyo National Museum; (4) bowl with carved lotus petal motif under celadon glaze, Northern Song dynasty, diameter 13.5 cm, Suzhou City Museum; (5) ewer with lotus petal motif under colorless glaze, late tenth century, height 60.5 cm, excavated from pagoda in Dingxian; (6) ewer with lotus petal motif and incised character *guan* (官, official) under colorless glaze, early Northern Song dynasty, height 31.0 cm, Dingxian Museum

Plate 11. Several types of classic style (古式) vinescroll motifs: (1) dDish-mouth bottle with incised vinescroll motif under celadon glaze, eleventh century, height 23.1 cm, Hoam Museum;
(2) dish-mouth bottle with faceted lotus petal pattern and incised vinescroll motif under celadon glaze, eleventh century, height 26.0 cm, private collection; (3) dish-mouth bottle with faceted lotus petal pattern and incised vinescroll motif under celadon glaze, first half eleventh century, height 25.5 cm, Horim Museum; (4) ewer with faceted lotus petal pattern and incised vinescroll motif under celadon glaze, eleventh century, height 24.6 cm, private collection; (5) ewer with faceted lotus petal motif and iron painted vinescroll motif under celadon glaze, first half eleventh century, height 22.8 cm, Horim Museum

Plate 12. Several types of vinescroll motifs on Chinese ceramics: (1) Yue ware covered box with carved lotus flower decoration under celadon glaze, tenth–eleventh century, diameter 12.6 cm; (2) Yue ware covered box with incised chrysanthemum and bee decoration under celadon glaze, Northern Song dynasty, diameter 14.8 cm, Haining City Museum; (3) Yue ware ewer with fine-line carved design of pheonix under celadon glaze, eleventh century, height 18.5 cm, Osaka City Museum of Fine Arts; (4) small jar, white porcelain with lotus petal motif in relief and incised vinescroll motif, Northern Song dynasty, height 9.3 cm, Tokyo National Museum

Plate 13. Sherd of a bottle (*maebyong*) with inlaid thunderbolt pattern and incised pattern filled with thick white slip under celadon glaze