

Appreciating the Characteristics and Influences of
Joseon Korea's Furniture Design

Gabrielle Morris

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Abstract

In today's increasingly globalized world, a solid understanding and appreciation of cultures outside our own is a crucial asset for scholars of many fields, including designers. This study aims to introduce the reader to the furniture design traditions of Korea, as well as examine possible explanations for why this country's design has so far been studied less often in the West compared to other East Asian countries. This research focuses on furniture design from the time of the Joseon dynasty, which lasted from roughly 1392 CE to 1910 CE. Furniture from this era is heavily customized to the culture of its time yet enjoys a growing popularity in recent decades. Its main influences are shown in its adaptations to a daily life built on a floor-sitting culture and Neo-Confucian ideas alongside local preferences and attitudes. While these characteristics make Joseon furniture design unique, they also contribute to the difficulty of studying these traditional pieces, many of which have either been lost to time or resist categorization along the same definitions as other furniture design studies. Other contributing factors to the lack of study of Joseon furniture design are more political, including Korea's history of interaction with other countries. Despite these obstacles, traditional Korean furniture design is highly relevant in the modern age and deserves attention from students and designers for the lessons it can provide.

Introduction

In any creative field, one often studies the work of those who came before to gain inspiration and appreciation for where the field came from. I too experienced this phase during my product design education at the University of Minnesota through the History and Future of Product Design course in the spring semester of 2018. Through this course, I gained exposure to a vast array of furniture and graphic design styles stemming back to the eighteenth century, from Rococo and Art Deco to mid-century and Bauhaus. While I enjoyed my time in this course, I

perceived one major downside: its range. Being a course dedicated to modern Western design, nearly every piece I was exposed to during the course was either European or American in origin. While concepts like chinoiserie were mentioned and explored, the original Chinese and Japanese pieces that inspired them were never given the same attention, and most other sectors of the world were unmentioned. A huge majority of the world was missing.

A key aspect of product design is the ability to empathize with others. As several classes throughout the University of Minnesota's Product Design curriculum emphasize, to be a good designer requires putting aside one's personal perspective to understand the needs and viewpoint of another individual. Another major aspect of my undergraduate education, Korean language studies, also teaches a similar lesson. The goal and the reward of studying languages and cultures outside our own is an increased understanding and appreciation of other people across the world. By gaining a global perspective, we learn that our experience of the world is not the only one. What I found in my History of Product Design textbook was a lack of such global perspectives. For me, as I was actively taking a class where I was exposed to South Korea on a daily basis, I had begun to notice the seeming lack of attention it and other countries received in not just this, but several courses. An example of a prior run-in with a similar problem was the glaring lack of education I received about the Korean War, either in high school or in a university course on post-World War II America. I believe that this prior awareness helped prime me to recognize this pattern when I encountered it again in my product design course. While the course and book I studied at that time never claimed to portray the whole of global design, noticing the pattern of emphasis on Western subjects in general during my education inspired me to start learning more about design in other cultures I had not yet explored. Because I took several years of courses related to the subject while minoring in Korean language, I was compelled to investigate Korean

design, in particular Korean furniture design, and learn what makes it stand out from other design cultures.

While this direction initially stemmed from personal interest, I quickly found that the lack of resources on the subject in my Western academic sphere extended beyond the original textbook that inspired the project. My research focuses on the Joseon dynasty in Korea, which lasted from 1392 to 1910 CE, because most of the English-language resources available to me focused exclusively on this period. This era appears to be the most heavily researched because it is the most recent dynasty, making it easiest, but by no means simple or common, to find surviving primary resources from that time. Even so, I found the quantity of available information on Korean furniture and design in Western academia lacking in comparison to that for other countries. For example, in a History of Design book I obtained from the University of Minnesota libraries which covers a broad range of cultures, I found that in the sections dedicated to East Asia, chapters on China received 43.8% of the total pages, chapters on Japan received 39.7% of the total pages, and chapters on Korea received just 16.5% of the pages (Kirkham and Weber). As exemplified by a section in that same book, “Korea maintained a rich and sophisticated creative and cultural heritage quite distinct from those of its neighbors, yet of all the East Asian artistic, design, and craft traditions, those of Korea have received the least attention in the West until very recently” (Talbot, “1400-1600” 18). It is possible to conjecture that Korean-language sources have devoted more time and resources to the study of traditional Korean design and been able to fill these information gaps more thoroughly, thus offering further insights into the characteristics, themes, and influences behind Joseon design. However, any such insights in the English-language field of study are currently difficult to come by. Hopefully such sources continue to increase with time, allowing for deeper discussions of the subject and

perhaps even rendering some of the claims within this research outdated. For now, however, it is this very discrepancy that inspired me to devote my time to understanding not just what traditional Korean furniture design looks like, but why it has received less study than that of its comparable counterparts. The evidence I found through this research indicates that the relative lack of information stems from some of the same characteristics that make Korean furniture unique.

Overview of Traditional Korean Furnishings

The first step to studying the furniture design of another culture is to understand the basic components of their furniture system. If the culture of study uses the same basic furniture forms as that of the student, they can rely on prior exposure, but when studying Korean furniture from the base of a Western design student, one encounters many unfamiliar furniture forms. This section seeks to provide a primer on what Korean design looked like based on its basic furniture forms and the characteristics most often associated with Korean design by scholars of the subject, starting with an understanding of the traditional Korean house that furniture was designed for.

The Korean House

The traditional Korean house is called *hanok* and usually consists of two wings—one wing, called *sarangchae*, for the male residents of the house, and another wing, called *anchae*, for the female residents (Deprez, 25). In both sections, the inner rooms sit on a raised floor with air chambers underneath that allow the circulation of hot air from a fire or stove to heat the rooms in winter. This system is called *ondol* and facilitated the floor-sitting culture prevalent in Korea for most of its history (Wright and Pai 116). This inner room is separated from the outside by a wide

porch called a *daechung*, where residents of the house spent much of their time in the summer (“Inkas - Hanok.”). Larger pieces of furniture are placed around the outside walls of the room, while smaller pieces like desks and tables are moved into and out of this space as needed (Kerr, “1750-1900” 319). The core features of the main room of the men’s wing of the house, called *sarangbang*, as found in the houses of the noble class, called *yangban*, are described below:

“Typical furnishings in the *sarangbang*, the main room in the *sarangchae*, were writing desks (*soan*) and ink stands (*yeonsang*, fig. 7.17). Ink was essential for writing, calligraphy, and painting-among the most highly regarded activities of the *yangban*-and *yeonsang* were often the finest item of furniture in the *sarangbang*. The male head of household sat on a padded floor mat with a *soan* and *yeonsang* set in front of him. Unlike the shelves and storage cabinets placed around the periphery of the room, the desk and ink stand needed to be low and easy to move. When guests sat on the floor opposite the host, the *soan* and *yeonsang* that separated them were among the most visually conspicuous furnishings in the room. These objects were carefully chosen to express the owner’s refinement, discrimination, knowledge, and family traditions” (Talbot, “1600-1750” 162).

The core features of the women’s wing of the house, called *anbang*, differed significantly, as discussed here:

“The *anbang* itself, primarily for the master of the house and his wife, contrasts with the men’s quarters in its more elaborate use of color and decoration. On the warmest part of the floor in the inner women’s room near the kitchen-a space called the *arae-mok* in Korean-was placed a thick and colorful mat on which the woman of the house would sit and do her work or rest during the day. In front of this mat was a sewing box and a pot

for a charcoal fire. On the opposite side of the room were chests for storage of clothes; a chest primarily for traditional white socks (*pōsōn*); a mirror box; low storage chests for stationery and incidentals (*mungap*); and one or a pair of wedding boxes (*ham*). Behind the sitting and working area usually could be found a painted (or embroidered) screen.”

(Wright and Pai 120)

As shown in the excerpts above, the visual styles between the sarangbang and the anbang varied drastically. In general, “The furniture in the men’s area was relatively simple, being mostly of wood adorned only by metal handles and hinges” (Wright and Pai 119). On the other hand, furnishings in the women’s quarters were often elaborately decorated with bright lacquers, mother-of-pearl or ox horn inlays, and even paint (Kerr, “1750-1900” 319). While there is some variation in the furnishings present in the two gendered rooms, there are several pieces that are commonly used in both spaces.

Chests and Storage

The most common storage furniture used in Korean hanok all belong to the category of ‘chests’, though there are significant variations on what types of chests could be present and what they were each used for. The most common chest was the *bandaji*, shown in figure 1, (Wright and Pai 125).



Figure 1. Bandaji chest. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture: Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 26.

As seen in the figure above, the bandaji's unique feature is the placement of its door. Located on the front face, the door swung down from the top of the chest, with the hinge located roughly in the middle of the piece. These chests could be used for books or manuscripts, but were mostly used for clothing (Wright and Pai 125). Variations on the basic bandaji included the Jeju or

Gyeonggi bandaji, in which the door does not extend across the whole front face of the chest, and the Jeonju bandaji which was made of two stacked compartments (Wright and Pai 126). The bottom compartment had a downward-opening bandaji-style door, but the top compartment had smaller double doors that opened out to the sides (Wright and Pai 126).

The top portion of the Jeonju bandaji is reminiscent of the doors common on most other Korean multi-level chests, called either *chang* or *nong*. Chang are usually multi-level structures with double doors in the middle of each section, with a decorative stand at the bottom and sometimes a line of drawers at the top, as shown in figure 2 (Wright and Pai 127).

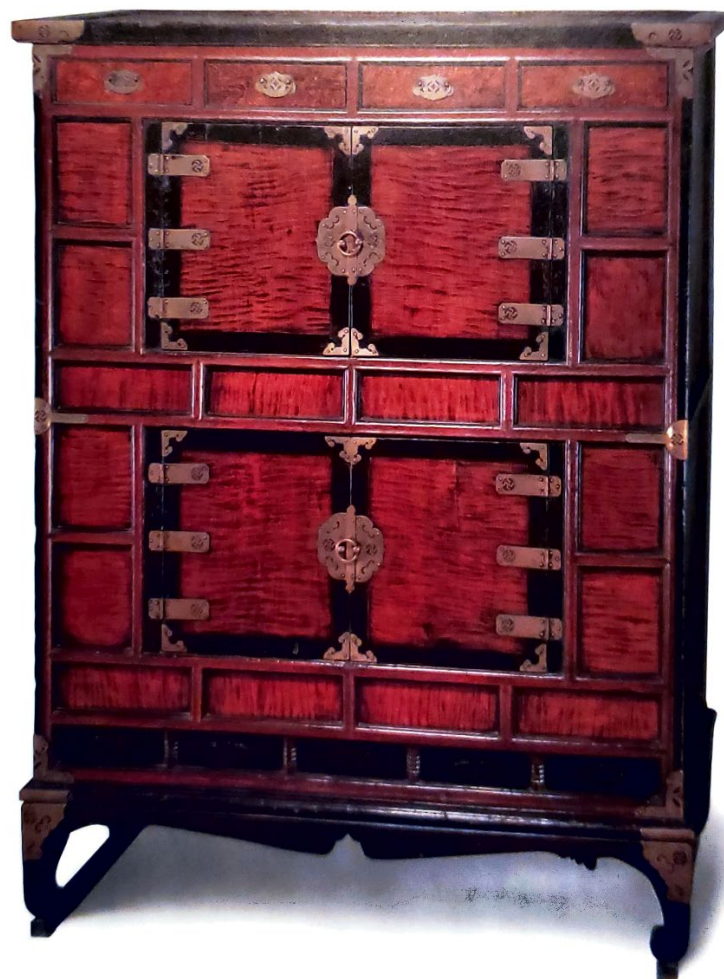


Figure 2. Two-level chang chest with drawers along the top. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture: Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 29.

Each section is an open box with no shelves or drawers dividing the inside (Wright and Pai 127). While it is not always obvious whether the piece in question is a chang or a nong, nong are generally used for long-term storage while chang are used for items accessed more often, and nong are usually made of several separate sections stacked on top of each other on top of a separate stand while chang are usually built into a single frame (Wright and Pai 128). While most chang are multi-level structures, there are some exceptions. As mentioned in the excerpt above discussing the anbang, this room usually contained a *mörjang*, which translates to headside chest, for storing commonly accessed items like, as well as a *pösönjang*, which held women's padded socks, both of which were only one level (Wright and Pai 126).

The last main storage furniture in Joseon design was the *mungap*. “A *mungap* is a low, rectangular chest for storage of stationery and writing materials, and sometimes valuables” (Wright and Pai 131). These chests were generally built at the same height as the user's desks, and usually had three or four panels across the front that the user had to lift up and out one at a time, after sliding them to the correct position, as shown in figure 3 (Wright and Pai 131).



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Figure 3. Mungap chest. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture: Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 39.

Because this method of opening the chest was more difficult than a simple door, mungap were generally not used for items that would be accessed daily (Deprez 50). These chests can be found in both wings of the Korean household, and usually stored items related to scholarly pursuits, like paper and writing implements (Wright and Pai 131). Because they were low to match the height of desks, they could be placed under windows without blocking any light, and they were often used as a surface to display smaller decorative objects (Deprez 50). For additional storage, open shelved bookcases called *t'akja* were placed next to mungap to display prized possessions as well as hold books and manuscripts (Wright and Pai 132). While there were not strict rules as to the design of *t'akja*, in general “They can be of two to five levels, with the bottom level usually enclosed and having double doors” (Wright and Pai 132). Wright’s book shows many examples of *t'akja*, some with all open levels, and most with at least one closed level. Some of the variation in open and closed levels can be seen in figure 4.



Figure 4. A pair of takja shelves, one of which includes an open level and one of which contains only closed levels. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture: Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 98.

The bottom levels of t'akja are a good example of the variation in aesthetic between the men's and women's quarters in a Korean home, as the bottom doors for women's t'akja usually employed woods with decorative grains, while the bottom doors for men's t'akja were made from woods with more plain appearances (Wright and Pai 132).

Tables

While various chests made up most of the permanently placed furniture around the periphery of a Korean hanok room, upper-class Korean individuals also used a variety of desks and tables, designed to be moved into and out of the space as needed. Individual desks were referred to as either *sōan* or *ch'aeksang*, or if built in the style of Buddhist temple desks, *kyōngsang* (Wright and Pai 131). Both types of desks could be used in private homes and often display upturned ends that could help keep scrolls from rolling off the desk while in use (Wright and Pai 131). Another important table, the offering tables set up as part of a family altar, differed only slightly from desks in that “Offering tables for ancestor-worship altars are of similar shape and proportions to these scholar’s desks, though sometimes a bit taller” (Wright and Pai 131).

The other main form of table used in Korean homes was the dining table, called *soban*. Traditional Korean houses do not have one dedicated dining space. Instead, the inhabitants would choose to eat on the daechung in the summer or inside their main rooms in winter, in accordance with the weather at the time (Park 35-6). “Traditional Korean dining culture was marked by separate tables for each person” (Lee Choon Sig 268). This meant the tables were relatively small, usually no more than 50 centimeters wide and 10 inches tall. “If the size of tables of the same kind is much bigger, they are not called *soban*, and are mainly used for different purposes, such as parties and ritual ceremonies” (Park 57). *Soban*’s shape and quantity played a unique role in conveying the owner’s social and economic status, as serving a guest using a higher number of *soban* was believed to show the higher status of the guest and having more *soban* at one’s disposal conveyed the higher status of the owner (Park 58). *Soban* shape also varied, as shown in figure 5.



91. Tray-tables (*soban*)
 Left: pine wood, oil finish; Right: probably ginkgo wood, natural lacquer finish
 Early twentieth century, Kyōnggi or Kyōngsang Province
 Left: H. 27, Diam. 39.5–40.5 cm.
 Right: H. 23.5, Diam. 37.5 cm.
 Though made after the same basic pattern, the variation of detail and style in these *soban* is very great. These two examples are unusual variants. Both are artless and charming, but the photograph does not capture the chunky, vigorous construction of the piece on the right. The table on the left has what are known as “crane” legs.



92. Tray-table (*soban* or *hojok hwa-hyōngban*)
 Ginkgo wood, oil finish
 Late nineteenth to early twentieth century,
 Kyōnggi or Kyōngsang Province
 H. 25.5, Diam. 47–48 cm.
 Like the piece in Plate 80, this has an unusually large diameter. The combination of foliate top and “tiger” legs is known as *hojok hwa-hyōngban*.

93. Tray-table (*soban*)
 Zelkova wood, oil finish
 Nineteenth century, Kyōnggi Province
 H. 12.8, Diam. 29 cm.
 Collection: Ewha Womans University Museum
 This is a particularly low table, used to hold medicine and a water vessel. It is twelve sided and has “tiger” legs.



Figure 5. Various soban dining tables with varying leg shapes. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture : Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 26.

These variations sometimes conveyed economic status, as for most of the Joseon dynasty upper class households were allowed to use soban with more dramatically curved ‘tiger legs’, called *hojokban*, while commoners or lower-class households used tables called *gujokban* that had legs with less of a curve (Park 63-4).

A unique variation of the soban is the *gonggo-sang* or *bon-sang*, shown in figure 6, which was used specifically for feeding officers on duty (Park 65).



111. Pedestaled tray-table (*soban* or *konggosang*)
 Ginkgo wood, oil finish
 Nineteenth century, Seoul
 H. 27.5, Diam. 43.5 cm.
 Collection: Ewha Womans University Museum

Figure 6. Gonggosang dining table. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture: Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 90.

Rather than legs, this style supported the top panel with a base made from several connected side panels with carved openings. “The multi-sided panels were carved out to create some decorations and also spaces through which the *soban*-carrying person could see ahead and hold the *soban* with their hands to steady it” (Park 65).

Craft Traditions

Alongside the unique furniture types in Korea are several noteworthy craft traditions, including their work with ceramics, metal, and paper. Paper was a common material used in

Korean screens, and their prowess in this art earned them international renown, as described below:

“Korean paper making has a long and prodigious history and was admired by the Ming Chinese, who were not inclined to prize foreign goods. In the eighteenth and nineteenth centuries, paper products were ubiquitous in Korean life. Strong and durable, paper was used for brightly colored storage containers of various kinds in the women’s quarters of Korean homes. Needlework boxes might be decorated with butterflies, bats, and other lucky symbols, often used in combination to form rebuses against misfortune and ensure happiness” (Kerr, “1750-1900” 321).

Screens in particular were a crucial part of Korean design, as “Screens not only enhanced the living environment aesthetically but also provided an indispensable backdrop for the ceremonies that marked life’s passages-birthdays, weddings, and funerals-as well as Confucian rituals of ancestor veneration. Screens served honorific functions; sitting in front of a screen, for example, during a social gathering signified a person’s importance and high status” (Talbot, “1400-1600” 20-1). These screens could be made from various materials, including paper, wood, or embroidered silk, and some screens were decorated on both sides so that one side could be used for happier occasions like weddings or birthdays while the other side could be displayed during somber events like funerals (Talbot, “1400-1600” 21).

Thanks in part to cultural influences from China, Korea also has a strong ceramics tradition. “Korea began producing high-fired, vitreous porcelain in the ninth and tenth centuries, the second country in the world after China to do so” (Kerr, “1750-1900” 321). Alongside the white porcelain forms that aligned with Confucian ideals of moderation and simplicity, Korean potters diversified their wares by implementing cobalt pigments and copper-red underglaze,

either alongside the underglaze blue or on its own (Kerr, “1750-1900” 321). The other main ceramic form in Korea was *buncheong* ceramics, which were unique to Korea (Talbot, “1400-1600” 19). Buncheong ceramics were made from a gray clay, with white slip and green glaze added over top, and “Early Joseon potters excelled in the technique of carving through the slip to reveal a contrasting clay underneath (called sgraffito in the West), and in this manner created a variety of seemingly spontaneous, abstract patterns” (Talbot, “1400-1600” 19).

Another area of artisan crafts in which Joseon Korea excelled was metalwork. Korean kitchenware was often made from brass, bronze, or copper, and “Records attest that as many as 30 percent of the government-supported artisans in the capital were metalworkers” (Kerr, “1750-1900” 320). A technique called *bangjja yugi*, translated as ‘forged brassware’, was used to create the highest quality utensils through a process that used thousands of blows to supposedly bestow upon the metal utensils the ability to detect poisons and maintain food’s freshness (Kerr, “1750-1900” 320). In other areas of the home, Korean craftsmen used inlaid metal such as silver or gold wire to create decorative motifs on metal products like scholars’ brush pots (Kerr, “1750-1900” 320-1). “Birds, butterflies, and flowers were prevalent motifs; so too were messages of good luck” (Kerr, “1750-1900” 321). Decorative motifs also included symbols of longevity like pine trees, bamboo, or deer (Kerr, “1750-1900” 321). Alongside the use of silver and gold wire, “The inlaying of copper wire to represent various motifs like plant stems is unique to Korea” (Deprez 106).

Outside of these artisanal crafts, Korean craftsmen also employed very complicated and impressive finishing techniques for some furniture pieces. These finishing techniques stood out for their use of color and elaborate decoration. One such technique through which Korean artisans gained recognition is their use of mother-of-pearl inlay. In Joseon Korea, “Desk

accessories could be made from a variety of materials, such as ceramic, wood, and bamboo, but among the most costly were those made of lacquer inlaid with mother-of-pearl, a technique that gained Korean craftsmen renown throughout East Asia” (Talbot, “1400-1600” 20). Artisans used the material to create elaborate decorative motifs like vines and flowers by carving thin pieces of mother-of-pearl with crackling patterns and then placing them on the lacquer (Talbot, “1400-1600” 20). “Using metal wires to attach small pieces and strips of mother-of-pearl to a prepared surface, craftsmen applied layers of lacquer until the mother-of-pearl was completely covered—a process similar to cloisonné but, unlike cloisonné, not fired. The surface was polished to achieve a glossy finish and reveal the inlay” (Kerr, “1750-1900” 319). Another technique often used on women’s furniture, and one of the rarest to survive today, is a technique known as hwagak, described here:

Unique to Korea, hwagak (“brilliant horn”) was a centuries-old technique of applying paper-thin pieces of brightly painted ox horn to the surfaces of furniture and other household objects to create vivid and intricate designs. Laborious and time-consuming, it required the horn to be soaked in warm water or steamed, cut open and flattened, and then separated into layers. Cut into regular-sized squares and then glued to a wooden frame or surface with the painted side down so the imagery showed through the translucent horn. The outer surface was polished to a brilliant finish in order to protect the painted decoration. Sadly, this decoration is highly susceptible to changes in temperature and humidity, which cause the horn panels to split, crack, or peel away from the wooden substrate, making the survival of these objects relatively rare (Kerr, “1750-1900” 320).

Hwagak, shown in figure 7, created a bold and colorful impression.

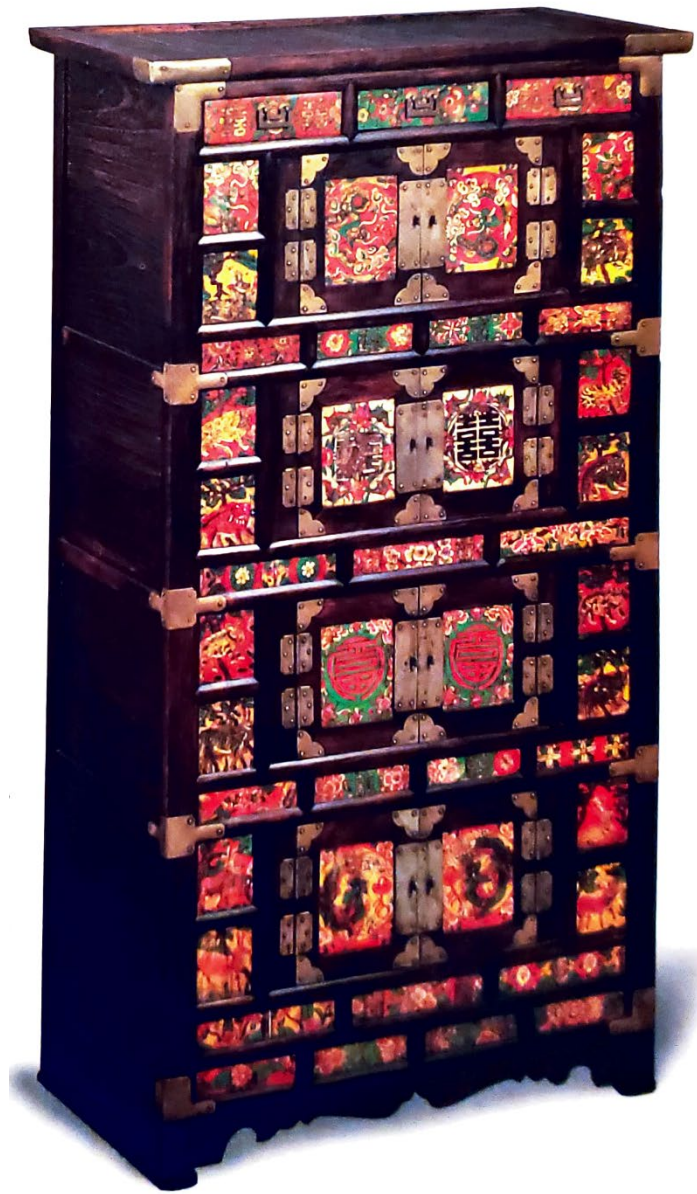


Figure 7. Four-level chang chest decorated with hwagak painted ox horn technique. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture: Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 31.

Kerr writes that, “Above all, it was employed for women’s personal belongings, including jewelry and cosmetic boxes, sewing boxes, spools, and combs” (“1750-1900” 320).

Korean traditional design has created a reputation for itself among modern collectors and scholars for its austerity, simplicity, and minimalism, as seen in their ceramics. “Plain white porcelain exemplified the Korean taste for simple, unadorned forms as well as the influence of Confucianism, a philosophy that emphasized purity and a lack of pretension” (Kerr, “1750-1900” 321). A main goal of such simplicity in decoration was to emphasize the natural materials they used (Iwatate et al. 11). “In its ideal state, ‘Korea style’ values not only age and nature but also a commitment to minimalism as a way of life” (Iwatate et al. 11-2). With their focus not distracted by elaborate decoration and finishing techniques, Korean furniture makers perfected their approach to form and proportions, such that “This ‘classic’ purity of proportion is clearly illustrated when small pieces are photographed: often, if no indication of size is present, they are easily mistaken for very large pieces (Plate 147)” (Wright and Pai 17). This reputation for exquisite proportions is present in their ceramics and wooden furniture alike (Iwatate et al. 11). In their exploration of form, “Korean furniture also makes much use of symmetry, which, when combined with straight lines, makes for timeless and comforting designs” (Deprez 95). These main characteristics of Joseon design—natural materials, simplicity, and classic proportions—have given the pieces timeless value and a distinct style that collectors easily recognize.

Main Characteristics of Korean Design

The main characteristics of traditional Korean furniture design during the Joseon dynasty can be categorized under three main influences: environmental adaptations, Confucian influences, and a Korean independent spirit characterized by resistance to, or adaptation of, foreign influence alongside long-held Korean traditions and techniques. The main influence on

Korean furniture design is environmental adaptations, as these are a natural first consideration for architectural development, which then determines the form of the furniture.

Environmental Adaptation

One's climate defines the needs of one's shelter. The Korean peninsula has a temperate climate with four seasons. The northern regions experience colder winters, while the southern regions experience hot, humid summers. To accommodate these two extremes, Koreans created a two-part flooring system: *maru* and *ondol* (Park 35). *Maru* refers to a separate, wood-floored room, where "The room is usually larger than other rooms and is raised from the ground to allow air to freely circulate under it, creating a cool living environment during the warm summer season" (gateway-korea.org). The under-floor heating system known as *ondol*, on the other hand, "was originally adopted in the northern part of Korea to endure the cold of winter" (Park 35). *Ondol* first appeared in Korea in the Ancient Period, having been around since at least 600 BCE (Iwatate et al. 8). This system "...conducted warm air from a stove in or adjacent to the kitchen through channels in a masonry floor. Floors were made of stone, covered with clay, and faced with oiled paper" (Kerr, "1750-1900" 319). Because the room was heated through the floor, special considerations were made so that the wooden furniture commonly used in Korean homes would not be damaged. One aspect this affected was the furniture arrangement, as "Furniture is arranged against the wall to avoid the heat of *ondol* can reach, and arrangement method of this interior can be found in current living rooms [sic]" (Kim and Choi 5). This floor-heating system also necessitated legs to protect the body of the furniture, resulting in the majority of furnishings being supported by legs that would allow separation of the furniture and the floor (Kim and Choi 7).

The ondol floor heating system also affected the design and arrangement of furniture more broadly by facilitating a floor-sitting culture. Because the ondol made the floor the warmest part of a room, Korean furniture is typically built low to the ground and placed along the walls, consistent with the practice of sitting on the floor (Lee Choon Sig 260). One aspect of this floor-sitting culture is that spaces were designed to be multi-use. A wealthy inhabitant could perform most of their daily activities from the same space, moving different pieces of furniture in or out depending on their current need, whether that be eating, writing, or sleeping (Kim and Choi 4). It also impacted the shape and size of furniture. As an example, “The narrow long rectangular *mungap* was placed under the window, lower than *changho*(window frame) in order not to obstruct looking out on a yard” (Kim and Choi 4). Beyond simply not blocking the windows, traditional Korean furniture overall tends to be on the shorter side to better fit the shorter rooms they were designed for. “The sunken height and modest structure of Korean traditional furniture often creates perfect harmony with the room in which it is placed, with the other household objects and even the wall left unadorned” (Lee Choon Sig 266). One *somokjang*, or master carpenter, who was interviewed in Lee Choon Sig’s research said, “That’s why our furniture is very low-lying and any of these does not block our eye sight when we sit down because our ancestors believed objects bigger and taller than us blocked our spirits” (Lee Choon Sig 268).

In some cases, the environmental adaptations of Korean designers show an overarching theme of practicality. In addition to the short legs that protect the wood from the heat of the ondol floor, Korean designers came up with a way to account for the changing temperature and humidity of the air over the course of a year. One of the key characteristics of large wooden Korean furniture like *chang* is that they are built out of several smaller pieces of wood rather than a few large boards. There are two main reasons for this, the first being the climate, which

experienced wide variation in temperature and humidity that would lead the wood to expand and contract. If not accounted for, this expansion and contraction would have led to deformed and damaged furniture. To mitigate this, craftsmen used thin and small planks of wood rather than wide, thick ones (Lee Choon Sig 263). The second reason for this method was as an adaptation to the available resources, as discussed here:

“Most wood used for traditional furniture comes from the trunks of mature trees. But in Korea, mature trees are frequently rotted-out and hollow at the center, which makes it difficult to obtain boards that are wide and thick. This drawback is turned into practical and aesthetic advantages by using numerous small pieces of wood and creating attractive designs out of their varied lines and surfaces.” (Choi 71)

Another instance of practicality in Korean furniture design is the choice of woods used to make the furniture. One example is a typical *t'akja* bookcase. “*T'akja* are usually made of three different woods—decorative panels for the doors, a hardwood for the frame, and paulownia for the shelves and sides” (Wright and Pai 132). Because each piece of furniture was made of several different wood pieces, craftsmen were able to choose the best species of wood for each purpose within the overall piece of furniture. In general, wood types can be split into two categories: those preferred for frames and those preferred for decorative grains. Pine was used in all kinds of furniture due to its strength and ability to withstand temperature and humidity variations without shrinking or swelling significantly (Deprez 97). Another structural wood common in Korean furniture, paulownia, is light and strong, and also resists shrinking from temperature and humidity changes. Paulownia wood also has insect repellent properties, so it was often used for chests to store books, clothes, and documents. “Like pinewood, its sober appearance made it a popular wood for *sarangbang* furniture” (Deprez 98). Other popular structural wood species

included ginkgo, a popular practical choice for soban dining tables, which was favored for its light weight and high elasticity, allowing it to heal itself when wet, which is especially helpful for a piece that could often face damage from cutlery (Park 66-7).

The final environmental consideration in Korean furniture is the lack of metal nails in their joinery. In the context of large pieces like chests, “Bamboo nails have the advantage of shrinking and swelling with the wood, thus preventing cracks” (Deprez 96). In the construction of *soban*, metal nails were eschewed because “Even today, Korean *soban* makers tend to avoid metal nails and Kim explains that ‘metal nails will rust very quickly with salt and moisture’” (Park 69). Another advantage of the bamboo nails was that they could blend into the rest of the wood after the finishing process was complete (Park 69). As is discussed later in this section, Koreans also held a strong affinity for natural materials, and one common belief is that “They shun metal nails because these ‘alien’ objects can damage the wood’s beauty borne from the landscape, and instead, fit the parts of the work together by making grooves and holes” (Lee Choon Sig 269).

While these practical aspects all stemmed from environmental adaptations tailored for the Korean climate, other environmental considerations were more symbolic or spiritual in purpose. For example, feng shui played a large role in the placement and architectural features of Korean homes. Houses were designed based on a principle “called Baesanimisu (배산임수), literally meaning that the ideal house is built with a mountain in the back and a river in the front, with the ondol heated rock system for heating during cold winters and a wide daecheong (대청) front porch for keeping the house cool during hot summers” (Inkas.org). Clark Llewellyn discusses the significance of feng shui, also called geomancy, in the introduction to the book *Korea Style*:

Geomancy, a method of divination for locating favorable sites for cities, residences, and other activities, was proclaimed as a leading principle of design. The basic theory stems from the belief that the earth is the producer of all things and the energy of the earth in each site exercises a decisive influence over those who utilize the land. It is believed that when heaven and earth are in harmony, the inner forces will spring forth and the outer energies will grow, thereby producing wind and water; interestingly, the Korean word for geomancy, *pungsu*, literally means ‘wind and water’ (Iwatate et al. 11).

By embracing principles of feng shui, Korean design sought to achieve harmony with nature rather than dominate it, described by scholars as “very much a Korean trait” (Deprez 22). While this adaptation of feng shui principles is a key part of Korean design on its own, it is also emblematic of another influence on Korean design: the adoption of Neo-Confucian ideologies and the ways they shaped the social, economic, and political landscape.

Neo-Confucian Ideology

Perhaps the most influential force contributing to Joseon dynasty design, the Neo-Confucian ideology was enforced by the state and provided a strict code for how individuals were expected to act to gain respect within society. Amongst the upper class, this ideology created a strict gendered division of labor and established a set of key virtues such as filial piety, the pursuit of knowledge, and appreciation for the natural world. The latter two of these aspects are easily seen within Joseon Korean furniture. As Deprez explains in their book on Korean antique furniture, the strict division of genders and their expected behaviors in neo-Confucianism created a duality of designs within upper class households, with furniture designed for the male sector of the house, the *sarangchae*, appearing as austere and understated as possible by letting the wood grain speak for itself as the main or sole ornament, while furniture designed for the

female sector of the house, the *anchae*, was more often decorated in colorful and detailed patterns, such as with lacquer, painted ox horn, or mother-of-pearl inlays (Deprez). The values present among Korean furniture were drawn directly from the social values of the time. The men's quarters were the most heavily affected and thus best example of this trait. "Being a neo-Confucian society, values such as propriety, humility, and restraint were highly valued in Korea. Korean furniture was thus simple in appearance and functional, rarely showing excesses of any kind" (Deprez 93). The strict and complete separation of genders is explained in more detail here:

By the seventeenth century, the Neo-Confucian concept of *naeobeop* (law of inside and outside) had resulted in the strict gendering of domestic spaces among the *yangban* class. Females, associated with the inside, were sequestered in the women's quarters (*anchae*), usually in the northwest section of the family compound, while males, correlated with the outside, inhabited the men's quarters (*sarangchae*) closer to the front. In furnishing the *sarangchae*, where men ate, slept, studied, received guests, and attended to the family's worldly affairs, *yangban* typically eschewed bright colors, overt luxury, and ostentation, instead favoring minimally adorned objects that reflected Confucian virtues of frugality and moderation" (Talbot, "1600-1750" 162).

Llewellyn's introduction also suggests that the Neo-Confucian system was the source of many of the main principles associated with Joseon dynasty designs, stating "The basis of the architecture and art that we see today, and which forms much of contemporary 'Korea style', was established during the Yi (Joseon) Dynasty, which supported the ideals and practice of Neo-Confucianism. The principles strongly influencing design at this time included dedication to simplicity, moderation, respect, and restraint" (Iwatate et al. 11). A further example of the influence of neo-

Confucianism on Joseon design's aesthetics comes from the book *History of Design: Decorative Arts and Material Culture 1400-2000*. This source describes the direct link between the Neo-Confucian governmental system and Korean furniture with the example that, "The *yeonsang* in figure 7.17 exemplifies the restrained aesthetic advocated in the Gyeongguk Daejeon (Great Code of the Nation), the Joseon dynasty's national code, which states in its "Guidelines for Crafts" that since wood grains were beautiful in themselves, elaborate carving and bright varnishes should be avoided in the pursuit of 'upright elegance'" (Talbot, "1600-1750" 162). Based on those guidelines, "Metal fittings added reinforcement and decoration, but these were applied sparingly on furniture used in the men's quarters (Talbot, "1600-1750" 163).

Another Confucian value adopted by the Joseon dynasty was a reverence for scholars, which resulted in all members of the upper class wishing to portray themselves as such. One way this manifested itself was in the use of scholarly images such as in the case of *chaekkori*, paper screens decorated with images of books or other scholarly motifs. To this end, "*Chaekkori* screens were ideally displayed behind the desk in a scholar's study, where they conveyed dignity, luxury, and reverence for scholarship through imagery which included books, writing brushes, ink stones, and Chinese porcelain and bronzes" (Kerr, "1750-1900" 321). Because scholars were so highly revered under the Confucian guidelines of society, gaining access to the highest social and political positions, "The scholarly accoutrements portrayed on screens were evidence of the aspiration to rise to the highest levels of society" (Kerr, "1750-1900" 321).

Additionally, alongside the simplicity of form advocated by Neo-Confucianism, one defining aspect of Korean furniture is their respect of nature, which Llewellyn also attributes to Confucian teachings, explaining that "Confucianism engendered a deep respect for all things natural, in particular for what their natural state might have been like without the intervention of

man. This natural state found beauty in stones left unpolished, wood left unfinished, landscapes left untouched, and plants growing without artistic shaping” (Iwatate et al. 12). This respect for nature, alongside the virtues of moderation prescribed by the neo-Confucian state, are repeatedly credited for the focus on the beauty of wood grain as the main feature among Korean sarangbang furniture, as mentioned several times thus far. “The beauty of Korean traditional wooden furniture lies in the grain of the wood from which it is made. For most master carpenter specialized in making the type of furnishing, no artificial beauty can exceed the loveliness of what is natural” (Lee Choon Sig 269). To emphasize the wood grain as the main decorative feature of the piece, Korean furniture makers avoided stains, paints, and other embellishments when finishing their pieces. Instead, they finished their works simply by applying camellia or walnut oil. “Such treatment increases the pure beauty of the wood and the piece as a whole as time goes by (Kim, 2004)” (Lee Choon Sig 269).

A Certain Korean Touch

While this approach to natural materials is associated with Confucian teachings, there is another element to Korean design that takes this appreciation beyond that seen in the designs of other countries influenced by Confucianism. Even in adapting other influences, there is a certain character to Korean furniture that may be best described as the appreciation of natural imperfection. This distinction sets Korean design apart from its neighbors. Edward Reynolds Wright, a twentieth-century scholar of Korean furniture, devotes several of his points to describing what makes up ‘Koreanness’ in furniture design by describing the way Korean craftsmen interacted with their materials, achieving a natural feeling that comes not just from what materials were used, but in how they were allowed to shine simply for what they already were. As Wright described after his many years of research, “While the traditional Korean

craftsman certainly achieved balance and harmony of design, his efforts in general do not show the preoccupation with formal perfection and highly refined technical virtuosity that is found to a far greater extent in both Japan and China” (Wright and Pai 18-9). In Korean design, the furniture projects “a feeling that the craftsman has allowed his materials just to be themselves. In furniture, individual woods are respected for what they are and are used or allowed or aided to show their own characteristics and personalities” (Wright and Pai 19). Wright describes the Korean approach to appreciation of natural materials not just for their material identity, but for their unaltered and naturally imperfect selves:

Because the Korean craftsman does not force his materials to perform tricks or to be obscured by obvious technique, but, rather, lets his work flow with the character and idiosyncrasies of the materials, no two pieces of Korean furniture seem to be quite the same. Despite the fact that the craftsman has “let go,” in a sense, his presence behind and as a part of the process is strongly felt. Korean objects, furniture especially, somehow transmit something directly from craftsman to user. This sense of innocent, artless directness is part of their great appeal (Wright and Pai 19).

For the Korean craftsman, there was a desire to expose and support the beauty nature had already created, rather than bend nature’s beauty to their own design. Deprez describes this phenomenon by saying, “They put nature first and themselves second, striving only to highlight nature’s beauty in the best way they could”, contrasting with the Western attitude of using the material to show off their own skill or identity (Deprez 94). This difference in the expression of appreciation of nature held true not just across Korean furniture pieces, but also in their broader architectural design, as described below in the foreword of a book praising modern Korean architecture inspired by Joseon designs, comparing the Japanese and Korean approaches to gardens:

Likewise, while the Japanese developed Zen gardens with purity and symbolism, the Korean culture continued to embrace natural expressions and the outdoors with much less formality. Trees, grass, and natural gardens are preferred to manicured and artificially developed landscapes. Grass, which has been browned by winter and the lack of water is considered more natural, and thus more beautiful, than the arranged perfection of raked sand. Trees, which reflect the effects of weather and time, are held to be more beautiful than a 'tortured' bonsai (Iwatate et al. 12).

In both their furniture and their landscapes, traditional Korean designers allowed the natural materials around them to dictate their own appearance.

Another example of this appreciation for the artistic yet imperfect is their appreciation of homemade pieces. One intriguing example is the use of homemade rank badges, called *hyungbae*, by high-ranking officials. Initially adapted from a Chinese practice of identifying military and governmental officers through rank badges depicting stylized animals, the Korean system added their own twist. "Whereas Chinese badges usually were made in commercial studios, *hyungbae* typically were created domestically by female members of the official's family, resulting in remarkable stylistic and technical variety. In their ceramics as well, this down-to-earth sense of beauty personified by 'imperfections' was a hallmark of Korean design and is still treasured by collectors" (Talbot, "1600-1750" 163). For example, "In the case of large pieces, firing difficulties sometimes led to imperfections such as warping and slumping, requiring the forcible removal of wares from kilns when the glaze fused the vessel to its support. Such kiln effects are highly valued by collectors today, who believe that they add the appealing spontaneity of Korean porcelains" (Kerr, "1750-1900" 321). Related examples of pieces known for earthy simplicity include the buncheong wares popular in the early half of the Joseon period.

This type of ceramics, “made with coarse gray bodies, white slip (liquid clay) decoration, and greenish glaze” had no name at the time, but were instead named *bunjang huicheong*, shortened to *buncheong*, by the twentieth century historian Go Yu-seop (Talbot, “1400-1600” 19). At the time, Korean potters produced both *buncheong* ceramics and porcelain, however “Unlike celadons and white porcelains which were developed from Chinese prototypes, *buncheong* originated on the Korean peninsula in the first half of the Joseon dynasty (1392-1897) and is seen as embodying an unostentatious simplicity that Koreans like to associate with their national character” (Kerr, “1900-2000” 495). This sense of national character was very important to Koreans and forms one of the final pillars on which their design traditions are built.

For context, the Korean peninsula has a long history of invasions by its neighbors, especially Japan. Long before the annexation of Korea by Japan in 1910, there had been numerous conflicts that left the Korean peninsula with significant damage. Korea suffered a period of repeated Japanese invasion attempts from 1592 to 1598 and two invasions by the Manchu in 1627 and 1636, but ultimately maintained its independence. “Despite these decades of destruction and upheaval, the Joseon government retained political control over the kingdom, established a long-lasting peace with its belligerent neighbors, and oversaw the slow but successful rebuilding of Korea’s economy” (Talbot, “1600-1750” 160). This development had a significant impact on Korean design, as “Having preserved national independence in the face of formidable odds, the Korean people gained a buoyant self-confidence that fostered unprecedented creativity in philosophy, academic inquiry, and the visual arts during the late seventeenth and eighteenth centuries” (Talbot, “1600-1750” 160). This reinvigoration saw artists delving deeper into their own culture and surroundings to create traditions that are truly unique, and while this history of invasion and conflict influenced the isolationist behavior that gave

Korea the nickname 'Hermit Kingdom', it also fostered the growth of a national style of design distinct from their neighbors. Edward Reynolds Wright credited the isolationist attitude of Korea for the development of their unique style when he wrote, "Korea's cultural and artistic debt to China is substantial; even so, Korea's cabinetry tradition is unique due to the insular and conservative nature of the society-until recent years Korea was known as the 'Hermit Kingdom'" (Wright and Pai 13). *History of Design* also credits this phenomenon, stating in their section on Korean design from 1750 to 1900 that "As in past centuries, close political and economic ties with China introduced Korea to new techniques, materials, and forms, but the Koreans inevitably transformed these to suit local lifestyles and aesthetic preferences" (Kerr, "1750-1900" 322). One example of this appears in the Korean approach to porcelain ceramics:

Although early blue-and-white wares produced at the Bunwon kilns closely resembled Chinese prototypes, a distinctly Korean expression emerged in the eighteenth century. As illustrated by the bottle in figure 7.16, artists at the kilns began to decorate ceramics with restrained blue-and-white designs depicted against large expanses of pure white, a style that appealed to the ascetic neo-Confucian sensibilities of the yangban. Although ceramic forms, styles of painting, and subject matter changed with fashion in the seventeenth and eighteenth centuries, Korean kilns and consumers avoided elaborately patterned polychrome porcelains like those popular in contemporaneous China. Koreans instead favored plain white or sparingly decorated blue-and-white wares" (Talbot, "1600-1750" 162).

Other examples include the *hyungbae* identification badges. As mentioned above, this tradition was originally borrowed from a Chinese practice. "At the end of the seventeenth century, however, a distinctively Korean expression emerged in *hyungbae* design, characterized by

dramatically stylized animal figures, horizontally striated clouds, and semicircular, rainbow-like waves at the bottom” (Talbot, “1600-1750” 163).

The Intersection: Mirror-Image Panels

While all three of the major influences described so far contribute to various aspects of traditional Korean design, there is one area that shows clear overlap by taking into account the Neo-Confucian ideals of natural beauty, the Korean appreciation for allowing natural materials to showcase their own sometimes imperfect appearances, and a practical adaptation to environmental factors: mirror-image wood panels, as featured in figure 8.



Figure 8. Stacked chest featuring design based on mirror-image wood grain slab panels. Edward Reynolds Wright and Man Sill Pai, *Korean Furniture: Elegance and Tradition* (1st ed., Tokyo, Kodansha International Ltd, 1984), p. 57.

As Edward Reynolds Wright explained in his book, “A single slab sliced in two vertically produces two panels whose grain patterns are mirror images. Such mirror-image panels were commonly used to provide a balanced composition on a chest front” (Wright and Pai 135). This approach to using natural materials and simple forms, as revered by Neo-Confucian ideology, adapted those ideals into a uniquely Korean take on decorative wood grain. To achieve this design, craftsmen preferred woods with dramatic grain patterns which “... included zelkova, persimmon, maple, cherry, and Korean ash” (Wright and Pai 135). Furthermore, the practicality of Korean design shines through as these front panels were constructed with both decoration and structure in mind. “Often they were cut thin and backed with pine or paulownia to provide added strength and to reduce the possibility of cracking” (Wright and Pai 135). By constructing the panels in this way, Korean craftsmen highlighted their practicality by considering the effects the environment would have on their works over time, while allowing the naturally imperfect yet beautiful wood grain to take center stage in their designs, combining the three influences discussed previously into one design.

In the end, Korean design is made up of several intermingling influences, which cooperate to create the style known by scholars for its simplicity, practicality, and sense of form as well as a celebration of natural materials and their imperfections. While different aspects of these principles are influenced by environmental adaptations, neo-Confucian values like austerity, moderation and restraint, or even the celebration of spontaneity and natural imperfections, each of these core factors contributes to the style described by scholars and collectors today as ‘Korea style’.

Roadblocks in the Study of Traditional Korean Design

While preparing this research, I encountered a lack of English-language resources on Korean traditional furniture compared to other countries' design from similar eras. This could be because Korea is a floor-sitting culture while the Western world is comprised of chair-sitting cultures. As one source put it, "The characteristic of Korean and Japanese residence is that there is no furniture compared to the West and China" (Kim and Choi 8). This argument proposes that just like they do today when adapting Korean furniture for modern use, past scholars or designers would have encountered a culture clash when trying to incorporate Korean design inspiration into their own work. However, another explanation I found is much simpler, and that is the relative lack of extant pieces of Korean furniture that modern scholars can study. The simplest explanation for this phenomenon is that by using wood as their main furniture material, Korean designers left these pieces vulnerable to the elements. This is not the most compelling argument, though, because as Park notes in their thesis on *soban* dining tables, "Not only is wood a perishable material, but in Korea, many furniture pieces were burnt and destroyed by invading armies. The Japanese invasions of 1592-1598 led by Toyotomi Hideyoshi virtually wiped out the art treasury in Korea." These invasions drastically altered Korean design in the realm of ceramics as well, with the quintessentially Korean technique of buncheong ceramics disappearing for centuries after the Japanese moved whole villages of buncheong craftsmen out of the country to fulfill their own desire for the craft. As Talbot explains, "This influx of Korean potters permanently altered the nature of Japanese ceramics production, but in Korea itself the *buncheong* tradition soon disappeared, not to be revived until the twentieth century" ("1400-1600" 20). The loss of original pieces due to foreign interference also extended into the twentieth century. For instance, there was a heavy interest in Korean furniture by Japanese collectors after

the annexation in 1910, making them the first active collectors of traditional Korean furniture in the early twentieth century (Wright and Pai 16). On the other hand, some wealthy Koreans were inspired by the heavy Japanese interest in Korean crafts to start their own collections, resulting in the preservation of many pieces in personal museums like those of Chun Hyung-pil, Lee Byung-chul, and Lee Hong-gun. (Wright and Pai 16). The Korean war also resulted in the destruction of a significant amount of Korean furniture, as well as land and resources. Aside from pieces destroyed by the war itself, many heirloom pieces were sold or discarded as junk (Wright and Pai 15). In the years following the Korean War, "...an increasing number of Westerners has become attracted to old Korean furniture and to reproductions and designs based on traditional Korean models. Possibly the reason for this attraction is that traditional Korean furniture blends well with a very wide range of interior styles and decors" (Wright and Pai. 17). This new interest wreaked havoc on the surviving pieces of original Joseon furniture because, "With the dearth of original pieces, reproductions, both carefully and hastily made ones-have become popular, particularly ones made with wood salvaged from older pieces in extreme disrepair" (Wright and Pai 15). Today, the effects of repeated invasions linger in the lack of mature trees to make wooden furniture from, as "Overcutting during the Japanese occupation and the subsequent ravages of the Korean War have had catastrophic consequences for Korean forests" (Deprez 96).

The effects of international conflict with Japan and China go beyond the destruction of individual artifacts, however. If one tries to access written sources from before the destruction of much of Joseon Korea's furniture, they unfortunately find that the lack of study is a historical issue rather than a modern one. Even when Joseon furniture pieces were in easy supply, the international demand for in-depth study was too low to result in sources we could look back on today. One scholar, Hyon-sob Kim, gathered their own research on the prevalence of Korean

design and architecture amongst international studies. They found that the lack of academic sources stems back to at least the 1800s, when descriptions of Korean architecture published internationally were mostly limited to superficial explanations in travelogues (Kim 351). Additionally, the problem of Korea receiving little to no mention in East Asia-focused scholarly work goes as far back as the early 20th century, when professional art or architecture books that went into detail on design from China and Japan gave Korea no more than a short chapter of acknowledgement (Kim 351). Kim credits this treatment to the international struggles Korea experienced throughout its history, stating that “The politically unstable situation of Korea seems to have discouraged researchers, even within the country itself” (351). Kim goes into depth on how Korea’s strained international standing resulted in less acknowledgement not only in written publications, but also in its participation in international exhibitions. The first appearances of Korean architecture in the West, as described by Kim, were the inclusion of Korean pavilions during the World’s Columbian Exposition in Chicago, Paris International Exhibition, and the Japan-British Exposition in London in 1893, 1900, and 1910, respectively (Kim 351). During the 1893 Chicago exposition, the Korean delegation was relegated to a small corner of the Manufactures and Liberal Arts building, a much smaller and less impressive space than the outdoor locations of the Japanese and Chinese pavilions (Kim 352). In addition, the overall visuals of the pavilion did not accurately reflect Korean architecture, with more attention being paid to the objects inside the pavilion than to the structure itself (Kim 352). Kim explains that this was the result of the lack of time, budget, and carpenters among the Korean delegation, which required the structure to be exceedingly simple to construct (352). Kim also claims that the building for the Paris International Exhibition was far more accurate than the previous, but still encountered many problems of its own. The original designs included one large pavilion,

inaccurate but at least grand, alongside a market street intended to mimic the port city now known as Incheon (Kim 352). After the initial designer's death, a new designer vetoed the market idea, criticized for its similarity to a previous exhibit that showed an inaccurate and derogatory version of an Egyptian city, and cut the pavilion's size by two-thirds (Kim 352).

Using the Royal Audience Hall of Gyeongbokgung Palace, the Joseon dynasty's main palace, as its base, this version of the Korean pavilion was more faithful to Korean architecture in terms of aesthetics but differed almost entirely in terms of supporting structure (Kim 354-6).

Unfortunately, this version still did not create a large public response, due to an inconvenient location that resulted in many fairgoers never seeing it in the first place (Kim 354). According to Kim, the 1910 Exposition in London hosted the most accurate Korean architecture yet in the form of a noble gate that stayed true to its source material in a way none of the previous buildings had (356). Unfortunately, this structure was part of the Japanese exhibition, which was meant to show off Japan's recently acquired imperial conquests and was "shadowed by a Japanese curtain that wrapped the upper part of the gate columns and a veil of the 'rising sun' that hung over the Korean section", eliminating the possibility for Korean design to be acknowledged as its own separate entity worthy of international attention (Kim 356). In the end, Kim found that "In fact, Korea's participation in the events was more political and commercial than cultural and architectural. Likewise, the Korean gate in London in 1910, this time built up in quite an authentic manner, was used as propaganda of the Japanese empire" (358). The international exhibitions show how international positioning failed to allow Korean design to stand out among other East Asian design traditions early on, contributing to the lesser amount of resources and study it has received to this day.

Another potential obstacle to the study of Korean furniture is the challenges one encounters when trying to study this type of furniture in the same frameworks as Western design history. Many design history books organize design movements chronologically by era, but within Joseon dynasty furniture there is hardly any change from one century to the next, as Wright found that “The furniture of Korea is practically unique among the furnitures of the world: it is part of a tradition that goes back well over a millennium, and furniture designs have remained relatively unchanged from at least the seventeenth century” (Wright and Pai 13). A painting by Sin Yun-bok provides evidence for this claim. As Wright explains in his book about Joseon furniture:

This interior scene of a traditional village drinking house makes it clear that furniture styles and customs have changed not at all from the artist’s time to the twentieth century. Almost the identical scene can be viewed, with minor modifications, in the remote Korean countryside today; and as recently as the 1960s, it was not unusual anywhere in the country. (Wright and Pai 14)

Another obstacle to studying Korean furniture in the same way as Western design is that the creators of Korean pieces usually went unnamed. Originally, most of the Joseon furniture craftsmen were government slaves and “They belonged to the various agencies in Seoul or to the provincial governments” (Wright and Pai 18). Later in the Joseon period, these artisans were allowed to take private commissions (Wright and Pai 18). This leads to another problem in compartmentalizing Korean furniture. At first it appears that rather than grouping Joseon furniture by era, it would be more effective to study it by treating each region in the same manner other texts treat design eras. In some cases, this works quite well. In his book, Wright goes into detail about the different regional styles identified in bandaji chests. Generally, there is

an aesthetic difference between chests from the southern and the northern provinces of the country, based on the availability of certain types of wood in each region. For example:

Woods plentiful in the north were without decorative grains, therefore there is more emphasis on decorative metalwork than on wood grain. The *ssung-ssung-i* style of *bandaji* displays an abundance of finely wrought openwork iron (Plate 31), while the Pyöngyang style often has a large amount of brass extensively incised with happiness and longevity motifs (Wright and Pai 154).

Additionally,

The style and arrangement of ironwork on Cheju Island *bandaji* is characteristic only of Cheju pieces. Hinges have a modified swallowtail design with rounded ends; the front bottom of the *bandaji* often has a chrysanthemum-shaped metal ornament with a Buddhist swastika at the center (Wright and Pai 154).

Furthermore, “The ironwork on upper-class *bandaji* from the Chölla region is generally similar and shows little variation in style, particularly the hinges for the plate and lock” (Wright and Pai 154). However, this method is still flawed because these regional differences are not foolproof. In some cases, this is due to the artisans taking commissions, as mentioned earlier. Wright describes this complication below:

In such cases, they would usually retain the styling and flavor of the furniture of their native areas. Thus, pieces with decorative characteristics, including metalwork, of one region may be found in alien places. Sometimes, too, furniture makers for the middle and lower classes peddled their wares at various marketplaces over a wide area (Wright and Pai 155).

In other cases, there were simply many regions that shared a style, as shown by how “Chests from the Kyōnggi, Kangwōn, North Kyōngsang, and North Ch’ungch’ōng areas often display a similarity of styles, woods, and decorative metalwork, making accurate identification of provenance difficult” (Wright and Pai 155). Techniques also often varied by maker, further complicating attempts to firmly define or categorize the Korean furniture finishing process, with Wright explaining that, “At present, one encounters seemingly contradictory information on the subject; however, such contradiction is natural if a variety of techniques was used, depending on the object and, above all, the craftsman” (151). Based on the factors above, from the destruction of original pieces to a lack of variation across time or region, it is easy to understand the relative lack of study of Korean furniture to date compared with other countries.

Even among communities and scholars who have done the work of studying these designs, there are several instances of misinterpretations and misunderstandings by foreign researchers. An early linguistic misunderstanding resulted in a mistranslation of the term *bandaji* by Western collectors in the nineteenth century, as Edward Reynolds Wright explains:

Korean antique dealers call a *bandaji* a ‘blanket chest’ in English, a term that seems to be gaining increasing usage among Westerners. There is no linguistic basis for this, however. The word *bandaji* means ‘half’ (*ban* or *pan*) ‘closing’ (*taji* or *-daji*). The term ‘blanket chest’ possibly came about because in many middle-class and lower-class households floor sleeping mats (*yo*) were folded and stacked on top of the *bandaji* during the daytime. For whatever reasons, this term undoubtedly started as a simple and easily understood way for dealers to refer to *bandaji* in English; it has nothing to do with traditional Korean terminology” (Wright and Pai 125).

Some misinterpretations stem beyond labels to identifying completely the wrong elements. For instance, Wright found that many of pieces labeled ‘elm’ were actually made from zelkova wood. This repeated mistake potentially occurred because zelkova is less well-known among Western researchers. Rather than hold this mix-up as a source of shame, however, Wright points out that elm and zelkova trees come from the same botanical family, so “The confusion is natural, since both trees have similar qualities of grain (though elm is usually less distinctive), density, and durability” (Wright and Pai 136). These misinterpretations add to the difficulty of studying the work of other cultures, especially when their lifestyle means the furniture pieces they used don’t have direct counterparts in Western lexicons.

Enduring Influence of Korean Design

With so many difficulties standing between researchers and a thorough understanding of Joseon design, the seeming lack of study and resources available today is understandable. However, there are several reasons why it is crucial that design scholars persist in attempting to understand this culture. First, studying designs from other times and parts of the world helps expose our minds to new ideas. Within the framework of product design education at the University of Minnesota, specifically through the introductory Creative Design Methods course required for all students majoring or minoring in Product Design, exposure and openness to new experiences is introduced as a crucial tool to help designers keep their minds creative. Throughout other courses of the program, instructors repeatedly remind students to practice empathy towards potential users and engage with their concepts from the eyes of the user rather than designing for themselves. With the world becoming increasingly more globalized, extending empathy towards people of different cultures is vital to maintaining relevance in this changing world, as designers and as people. Designers have been looking to other countries’

designs for inspiration for centuries, as seen in practices including chinoiserie, which referred to European designs which used Chinese design elements as inspiration. In fact, there is already an example of Korean design elements, specifically ondol flooring, inspiring well-known Western architect Frank Lloyd Wright. As Hyon-sob Kim explains in their article chronicling the history of Korean design in Western architecture, Frank Lloyd Wright not only showed his interest in Korean design by collecting Korean craftworks alongside those he collected from Japan or China, but by incorporating an underfloor heating system into several of his designs (Kim 356). As Kim describes, while working on the Imperial Hotel Project in Tokyo, Wright was invited to the house of a wealthy patron of the project, where he was introduced to the ‘Korean room’, which used an ondol heating system (356). This experience inspired him to conduct a trial of an electric floor heating for the Imperial Hotel Project, and he went on to include the feature in more than thirty projects by the year 1943, including the Johnson Administration Building and the first Jacobs House (Kim 356). In Kim’s words, “The value of Korean architecture was at last confirmed by Frank Lloyd Wright, who had already appropriated Chinese and Japanese ideas” (358). If past influential designers, including Wright, saw the value of Korean design, it stands to reason that modern design students can also gain insights and inspiration from studying as wide a range of design cultures as possible.

Another argument for the importance of understanding Korean design is that traditional Korean furniture pieces have been gaining popularity among collectors and interior designers since the decades following the Korean war. In some cases, this continued interest in traditional pieces is supported by the coexistence of traditional and modern lifestyles within Korean homes, as Park explains:

The number of Korean houses with western-style architecture and interiors has increased, but many Koreans like to blend the western style with Korean elements for interior arrangements and furnishings. The bedrooms in Korean houses still serve as the living rooms — especially for older generations, and are designed for the traditional floor sitting, whereas kitchen and dining rooms are arranged in the western style, using chairs and high tables (76).

In other cases, these traditional pieces are reinterpreted within modern frameworks. “Headside chests are now frequently used as bedside tables, kitchen cabinets are used to store books and other sundries, a pair of stationery chests becomes a TV stand, rice chests can serve as a sideboard or small table, medicine chests are used as decoration and to store small objects” (Deprez 109). Seeing this popularity, companies have found several different ways to fill demand. While some companies make cheaper, mass-produced pieces that look like traditional designs, others aim to modernize traditional designs, such as a furniture brand called Onn that combines modern designs with traditional construction (Lee Choon Sig 271). This approach requires reconciling the gap in user needs between the floor-sitting culture these pieces were originally designed for and more modern habits. “Accordingly, Korean furniture companies are consulting with traditional furniture craftsmen and cultural specialists in their efforts to develop hybrid neo-traditional designs” (Choi 75). These traditional craftsmen are the heart of the modern traditional Korean furniture industry, and to acknowledge their cultural importance, “...the government bestows upon the best of them the title of Intangible Cultural Properties... the recipients of this distinction receive a monthly stipend from the government” (Deprez 110). While approaches like this are crucial to supporting the rise in demand for traditional Korean furniture, they do not explain why this change in popularity occurred. Tae-won Choi proposes in

a short essay that, on one hand, the revival of interest in Korean furniture in the early 2000s corresponded to international trends of Orientalism, wherein Zen ideas and motifs became popular as a balance against the excessive consumption of Western cultures, and naturalism, wherein a population overwhelmed by the modern technological world finds solace in that which is natural or traditional (72-3). On the other hand, the resurgence of interest among Korean consumers can also be seen as a counter-response to globalization and old ideas of Western superiority in that it provides a way to connect back to a unique national identity (Choi 73). Overall, Choi's essay implies that consumers are tired of industrial or artificial products and are seeking something to provide a sense of quiet. In Choi's eyes, traditional Korean furniture is one option to fill this newfound desire.

From a different perspective, another interesting intersection of traditional design with modern sensibilities is the use of traditional design principles to create modern designs that speak to the same spirit as traditional pieces. Iwatate and Kim's *Korea Style* is full of examples in which contemporary architects use traditional principles to create designs that are familiar yet modern. Traditional influences live on in the use of traditional methods of breaking up space, such as the use of paper screens or movable walls (Iwatate et al. 16). Additionally, many of the abstract features of Korean design discussed earlier continue to define the work of contemporary Korean designers. As Llewellyn explains:

Simplicity, moderation, constraint, and a deep respect for all things natural have remained the hallmarks of Korean architecture and interiors throughout the ages. Yet, despite maintaining these traditions, contemporary Korea is unique in its acceptance of contrast and lack of formality as part of its expression. Old is intertwined with new, rural

with urban, unstructured with structured, noise with silence, and light with dark (Iwatate et al. 15).

Through connections like these, the key facets of traditional Korean design remain relevant to better understanding the designs we interact with today.

On a more scientific level, even for those who do not see the benefit of understanding the origins or connections of aesthetic design principles, studying Korean design can help designers and engineers develop new, more environmentally friendly technologies and design practices. The first example of this concept is the ondol flooring system, as discussed previously. Thanks to the work of Frank Lloyd Wright and others, the popularity of this under-floor heating technique already spread to the West and Japan as an alternative to other heating techniques like forced air or radiators. The ondol method offers several advantages, as “This technological innovation is still embraced by contemporary residential architecture for its energy efficiency, even distribution of heat, and elimination of the need for diffusers, radiators, and other visible mechanical devices” (Iwatate et al. 8). Other scholars advocate for a deeper understanding of the Korean design principles of feng shui for its potential to illuminate new ways to reduce energy consumption. As Han explains in their paper on the subject, “Feng Shui consists of valuable design principles and the elements have similarities with Western architecture theory” (Han 50). By studying the similarities in feng shui and sustainable energy principles, their paper aims to prove the importance of understanding what is often considered a non-scientific and thus non-relevant system of design thought. For starters, Han explains that in sustainable design, “The purposes of design elements are to prevent energy passing from the inside to the outside and to decrease energy transfer in cooling and heating systems” (30). They point out that feng shui also centers itself around the goal of facilitating the free flow of energy within a space, such that,

“The smooth flow of energy can establish the level of energy efficiency and promote energy performance in heating and cooling building system (sic)” (Han 30). As a result, homes designed around feng shui principles reduce their reliance on mechanical HVAC systems, a significant source of modern energy usage, because buildings designed around feng shui can accomplish most of their air flow and temperature regulation needs through natural ventilation (Han 31). While natural ventilation is key to cooling, feng shui principles also contribute to more efficient heating by mimicking a technique that modern designers refer to as passive solar heating, as described by Han:

Passive solar heating system is a sustainable energy strategy that uses passive solar to heat building space for providing heating load. The strategy can reduce energy consumption of buildings dramatically with the location of building and size and adaptation of windows (25).

Similar considerations have been adapted into the construction of Korean *hanok* for centuries, such as by using large overhangs to cool the home through natural shade or placing the kitchen in the northeast corner of a home where it is likely to be coldest and thus prevent food from rotting (Han 44). Furthermore, while feng shui principles consider maintaining an open view important for its attributed psychological effects, the use of windows that keep this principle in mind also improves indoor air quality, which is why the same strategy is part of passive solar design principles (Han 32). The construction of *hanok* walls also mirrors passive heating principles. As Han explains:

First, a small reinforcing post is erected inside of a wall at regular intervals and crossed stripes to make a grid pattern. The next step is to weave a straw and branch and cover the wall with mud. Finally, the wall is finished with plaster and wall coverings. The wall

system is similar to passive solar wall technique, Trombe wall, which is thick mud wall and improves passive solar insulation system (45).

Through the examples of natural ventilation and passive solar heating, Han's paper argues that Western designers and architects should study the ancient architecture principles of feng shui to glean important lessons that are still applicable to today's world, because the similarities between the feng shui principles used to construct traditional *hanok* and the principles of sustainable design show that even philosophies that have otherwise been disregarded by Western architecture have valuable lessons to share with the world of international design.

Conclusion

Overall, traditional Korean design has a long history, filled with influences that create a unique national style that set it apart from even its closest neighbors. Their design is rooted in a practical sensibility towards their natural environment. This shows in their architectural choices for heating and cooling their homes, the short legs they used to reduce the heated floor's effects on the wood, and the mismatched wood pieces that leverage the best qualities of each material Korean artisans had available to them. While being heavily influenced by Confucian ideologies in their love of all things natural and a gendered division of life that allowed for the development of two very different yet complementary styles of ornamentation, Korean craftspeople maintained a fiercely independent spirit that lends Korean pieces a distinct identity separate from any pieces that may have inspired them.

Unfortunately, this highly unique school of design and architecture directly contributes to the lack of study and appreciation for Korean design in much of Western design study to date. While adapting furniture from a floor-sitting culture like Korea to a chair-sitting one like much

of the West is already a difficult feat, international conflict and the struggle to be appreciated separately from neighboring China and Japan also hampered potential enthusiasm for the study of Korean furniture early on in Korea's global interactions. Later, the devastation of the Japanese occupation and Korean war, alongside the degradation of the natural materials these pieces were made of, increased the difficulty of academic study once international interest finally blossomed. Despite these obstacles, Korean design offers a compelling field of study with various lessons to teach global designers, from the basics of empathy and diversity of thought in design to potential environmentally friendly benefits to propel modern design forward in a time of climate distress. For these reasons, exploring the rich differences present in Korean and other international design traditions stands to benefit the whole design industry long into our collective future.

List of Works Cited

- Choi, Tae-won. "Maintaining a Human Touch: Revival of Traditional Furniture." *Koreana*, 2002, pp. 70–75.
- Deprez, Mathieu. *Korean Antique Furniture & Accessories*. Seoul Selection, 2013.
- Han, Na. Environmental Ethics and Sustainable Design: A Case Study on the Traditional Korean Residential Building Type: Han Oak, 2013.
- "Inkas - Hanok." InKAS, International Korean Adoptee Service Inc, 21 Aug. 2013, <http://inkas.org/en/weblog/2013/08/21/hanok/>.
- Iwatate, Marcia, et al. "Korean Aesthetics, Modern Directions." *Korea Style*, Tuttle Publishing, North Clarendon, VT, 2018, pp. 8–16.
- Kerr, Rose. "1750-1900: East Asia, Korea". *History of Design: Decorative Arts and Material Culture, 1400-2000*, edited by Pat Kirkham and Susan Weber, Bard Graduate Center: Decorative Arts, Design History, Material Culture and Yale University Press, 2013, pp. 319-323.
- Kerr, Rose. "1900-2000: East Asia, Korea". *History of Design: Decorative Arts and Material Culture, 1400-2000*, edited by Pat Kirkham and Susan Weber, Bard Graduate Center: Decorative Arts, Design History, Material Culture and Yale University Press, 2013, pp. 494-498.
- Kim, Hyon-Sob. "The Appearance of Korean Architecture in the Modern West." *Architectural Research Quarterly*, vol. 14, no. 4, 2010, pp. 349–361., doi:10.1017/S1359135511000145.
- Kim, Jinok, and Kyungran Choi. "Comparative Study on Korean and Japanese Traditional Furniture Design Based on the Residential Behavior Related to Floor Sitting."

Kirkham, Pat, and Susan Weber. *History of Design : Decorative Arts and Material Culture, 1400-2000*. New York : Bard Graduate Center: Decorative Arts, Design History, Material Culture ; New Haven ; London : Yale University Press, 2013.

“Korean House: Hanok.” Gateway Korea Foundation, 20 Sept. 2018, <https://www.gateway-korea.org/korean-house>.

Park, Hyun-Hye. *Soban: A Traditional Korean Furniture Form for Dining*, 1996.

Talbot, Lee. “1400-1600: East Asia, Korea”. *History of Design: Decorative Arts and Material Culture, 1400-2000*, edited by Pat Kirkham and Susan Weber, Bard Graduate Center: Decorative Arts, Design History, Material Culture and Yale University Press, 2013, pp. 18-22.

Talbot, Lee. “1600-1750: East Asia, Korea”. *History of Design: Decorative Arts and Material Culture, 1400-2000*, edited by Pat Kirkham and Susan Weber, Bard Graduate Center: Decorative Arts, Design History, Material Culture and Yale University Press, 2013, pp. 160-164.

Wright, Edward Reynolds, and Man Sill Pai. *Korean Furniture : Elegance and Tradition*. 1st ed., Tokyo, Kodansha International Ltd, 1984.