Changing perceptions of the Qing Dynasty in the Late Joseon Dynasty and Chinese style architecture that emerged in Joseon in the 18th century

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ABSTRACT
This study examines changing perceptions of China’s Qing Dynasty within the Joseon Dynasty, focusing on Chinese-style buildings during the late Joseon period (18th-19th). Until the mid-18th century, Joseon views of the Qing Empire were dominated by the northern protection. These perceptions began to change when yeonhaengsa introduced Qing Dynasty culture to Joseon society. Some progressive Joseon thinkers promoted the Bukhak theory, arguing that Joseon should proactively adopt Qing and Western culture via the Qing Empire. During cultural exchanges with Qing scholars, Joseon intellectuals developed an interest in China’s advanced architectural technology, including its construction techniques, use of wagons, and ondal system. The Bukhak scholars were particularly impressed with brick, which they endeavored to promote throughout Joseon. First, Park Jiwon (朴贔源, 1737–1805) built brick Chinese-style buildings in Anui, Gyeongsang Province and Gyedong, Seoul at the end of the 18th century. After the construction of the Suwon Hwasong Fortress, architectural experiments influenced by Qing culture began to appear in various fields in Joseon. The Chinese architecture introduced to Joseon by Silhak scholars can be understood as an adoption of a foreign culture. This architecture helped Joseon acclimatize to foreign influences before the full-scale introduction of Western modern architecture, following the opening of the port in the late 19th century.

KEYWORDS
Joseon Dynasty, Qing Dynasty, Chinese-style architecture; Yeonhaengsa

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1Introduction

1.1 Research background and purpose

Around the beginning of the 19th century, East Asian society faced a radical turning point in almost all fields, including philosophy, culture, and the arts, as an influx of Western cultures and knowledge mixed with the existing civilization. As a consequence, this era is often described as a “transitional period” in East Asian culture, moving away from tradition towards modernity.

Exchanges between Korea and China began more than 2,000 years ago. During the Silla kingdom (BC 57–935) and Goryeo kingdom (918–1392) periods, Korean students and Buddhist pilgrims regularly visited China. During the early Joseon Dynasty1 era, Korea’s Sadae policy (事大政策, worship of the powerful country) toward the Ming Dynasty (1368–1644) led to continuous exchanges between Korea and China. However, this pattern changed when the Later Jin (1616–1636), viewed by Joseon society as barbarians, established the Qing Dynasty (1636–1912). Exchanges between the Joseon and Qing Dynasties became somewhat limited, due to Joseon’s hostility and sense of cultural superiority. However, from the end of the 17th century onwards, the Qing Dynasty strengthened its national power and established itself as a cultural state by adopting the advanced civilization of the West. As Joseon became aware of this change through yeonhaengsa (燕行使, Envoy to Qing Dynasty),2 cultural exchanges between Joseon and Qing began to resume in the mid-18th century (Lim 2001, 3). Joseon regularly sent yeonhaengsa to the Qing Empire; as these envoys travelled back and forth, they introduced Joseon to advanced Qing culture. Some Joseon intellectuals began to argue that aspects of Qing civilization should be imported into Joseon. As books on mathematics, astronomy, agriculture, and Western science and technology began to arrive in Joseon via some members of the yeonhaengsa, perceptions of Qing society started to change in Joseon (Kang 1994, 152).

1Joseon is the former name of Korea from 1392 to 1897. There are two ways to distinguish the 500 years of the Joseon Dynasty. The first way is to divide it into the former and latter eras, into two eras. This is a way of distinguishing the former and the latter eras on the basis of the two wars, the Imjinwaeran (壬辰倭亂, Japanese invasion of Joseon, 1592) and the Byeonggiahonan (丙子胡亂, Qing invasion of Joseon, 1636–1637), as the Joseon society has undergone great transformations due to the two wars. The second is to divide it into three eras: the early, the middle, and the late eras, into three eras. This is derived from the perspective that there was a middle era to Joseon in between the early and the late eras. The early era refers to the 15th century in which the emerging gentry took lead; the middle era refers to the 16th to mid-17th century during which Confucian scholars led the society; the late era refers to the era after the late 17th century, during which the ruling system centered on Confucian scholars was disrupted and dissolved and the movement towards a modern society began. Thus, the Joseon Dynasty has been divided into three eras.

2Yeonhaeng (燕行) refers to the policy that sent envoys to the Qing Dynasty in Joseon. The journals they used to record what they saw and heard during their official trips to Beijing (燕京) are called Yeonhaengsa (燕行錄, Envoy Records from Beijing during the Qing Dynasty).
After the 18th century, rapid changes began to appear in architecture. Buildings incorporating new materials, patterns, and shapes emerged in palaces and other upper-class and royal family properties. As these emerging forms were influenced by Qing culture, Chinese-style buildings began to be built in Joseon. New architectural styles always reflect historical situations or the changing spirit of an age; it is clear that changing perceptions of the Qing in Joseon society fostered the adoption of Chinese-style architectural elements, which appeared during the late Joseon Dynasty.3

These Chinese-style buildings used brick, a material rarely seen in Joseon previously, and one of the great trends to emerge from the architectural exchange. The widespread use of brick, chosen for its practical benefits, was an architectural phenomenon in China and Vietnam, as well as on the Korean Peninsula. Some Joseon scholars were fascinated and inspired by foreign cultures and the practical aspects of their architecture.4 Accordingly, foreign cultural artifacts that initially appeared mainly in palaces and houses built by royal and upper-class figures in the late Joseon Dynasty gradually spread across the country. It means that new types of buildings appeared in Joseon, within the framework of Chinese style. Such East Asian architectural trends, which appeared in 19th-century buildings to a somewhat limited extent, materialized in earnest with the opening of the port. By focusing on the first Chinese-style architectural elements to appear in royal palaces and buildings during the late Joseon Dynasty, the present study examines the relationship between changing perceptions of Qing and Joseon architecture at that time. In addition, it attempts to discover the character and meaning of the Chinese-style architecture that appeared in Korea at this time. In doing so, this study investigates the possibility of reinterpreting the transformative period in Korean architectural history, which linked pre-modernism to modernism and is now remembered as a sudden breakdown before and after the opening of the port in the late 19th century.

1.2. Research method and structure

This research was carried out using primary sources drawn from Korean and Chinese literature, as well as materials gathered during fieldwork. To examine the shift in Joseon perceptions of Qing, Yeonhaengroks (燕行錄, Envoy Records from Beijing during the Qing Dynasty) and Joseon wanggio sillok (朝鮮王朝實錄, The Veritable Records of the Joseon Dynasty), which detail interactions between Joseon and China, were used to analyze Joseon views of the Qing Empire and cultural exchanges between the two countries. A literature review was carried out, both to explore changing perceptions of Qing in the late Joseon Dynasty, and also to research various architectural exchanges and descriptions of specific buildings that were built in Qing and Joseon at that time.

The present study examines Joseon’s perceptions of Qing before and after the Bukhak (北學, Northern Learning) theory appeared during the late 18th century, drawing on the Yeonhaengroks and The Veritable Records of the Joseon Dynasty. Among many sorts of cultural trade, the exchange of architectural ideas has been extracted and specifically analyzed. This study also analyzes Chinese-style buildings built by Park Jiwon in Anui (now Hamyang), Gyeongsang Province and Gyedong, Seoul, as well as the circumstances in which new architectural technologies were used in the Suwon Hwaseong Fortress, at the end of the 18th century.

For this study, Kim Changup’s Yeonhaeng-ilgi (燕行日記, 1658–1722’s) Joseon, Lee Euhyun’s (李宜賢, 1669–1745’s) Gongsijaeilagi-jabji (庚子燕行記, Hong Daeyong’s (洪大容, 1731–1783’s) Eulbyeongyeonhaengrok (乙丙燕行錄) and Damheonseo (奠軒, Jiwon’s, 1750–1805’s Bukhagwi (北學議), and Park Jiwon’s (朴錫源, 1737–1805’s The Jehol Diary (熱河日記) were used, in addition to primary sources, such as The Veritable Records of the Joseon Dynasty.

2. Changing perceptions of Qing in the Late Joseon Dynasty

As the Joseon Dynasty initially made contact with China only through official envoys, a limited number of historical sources describe the relationship between Joseon and China. However, Joseon perceptions of Qing culture can be deduced from the Yeonhaengroks written by Joseon envoys who visited China (Figure 1). Various records on Joseon perceptions of Qing also appear in The Veritable Records of the Joseon Dynasty (Seo 2007, 9–10).

2.1. Joseon perceptions of Qing before the mid-18th century

Before the middle of the 18th century, Joseon perceptions of Qing were largely based on the ideas in Sungmyeongbancheong (崇明反淸) and the ideas in Sungmyeongbancheong (崇明反淸). Joseon Dynasty was dominated by anti-Qing sentiments and loyalty to the Ming Dynasty. According to The Veritable Records of the Joseon Dynasty, Joseon recognized the Ming Empire as the country of its parents and viewed the Qing Dynasty as a country of barbarians, remaining loyal to the Ming even after their country disappeared.

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3The late Joseon period which is discussed in the paper, refers to the 18th and 19th centuries.
4Brick was finally recognized for its power of resisting fire, humidity, and insects, as well as its cost efficiency and durability, mainly by Silhak scholars around the 18th century. Starting with some buildings in the late 18th century, brick architecture became a trend among royal families.
Visiting China was perceived as visiting a country with less poetry and culture than Joseon itself (Park 2004b, 246). One article from the period even critiques Qing Dynasty customs, reflecting attitudes toward Qing people that directly paralleled Joseon views of lowly servants.6

From the perspective of Joseon, the Manchus who founded the Qing Dynasty were barbarians. For this reason, it was difficult for Joseon people to recognize or show obedience to Qing rulers, even when surrendering to the Qing after the invasion of Joseon, the Byeongjahoran (丙子胡亂, Qing invasion of Joseon, 1636–1637). Until the middle of the 18th century, both the royal families and government officials of Joseon, who regularly traveled back and forth, and even madubae (馬頭輩, assistant staff of Joseon in delegations to China) ignored the Qing and showed contempt for them. Since the reign of King Hyojong (孝宗, 1619–1659), who planned the Bukanon (北伐論, northern expedition) with support from the Noron scholars (老論學派), Joseon had considered Qing an adversary to overcome and stay vigilant against; this lasted throughout the reign of King Youngjo (英祖, 1694–1776), until the beginning of King Jeongjo (正祖, 1752–1800)’s reign.

2.2. Joseon perceptions of Qing after the mid-18th century

Anti-Qing perceptions, colored by memories of the northern-expedition plan, persisted for around 150 years after the Byeongjahoran, gradually began to change from the mid-18th century onwards. Eventually, the Qing Empire reached a cultural peak, based on the political stability achieved by the Kanxi (康熙, 1654–1722), Yongzheng (雍正, 1678–1735), and Qianlong (乾隆, 1711–1799) Emperors between the late 17th and early 18th centuries, the Revolt of the Three Feudatories (三藩之亂, 1673), and Gojeunghak (考證學, textual criticism), which had its intellectual roots in the Gyeongseochiyong (經世致用, applying knowledge to daily life). As this advanced version of Qing culture was introduced to Joseon society by the yeonhaengsa, people began to evaluate the Qing Dynasty more objectively, recognizing its developed culture. Therefore, Joseon perceptions of Qing began to change. In particular, Noron scholars from the Nakron faction (洛論系), including Hong Daeyong, Park Jiwon, and Bak Jegyo, all recommended a change of worldview, promoting the Bukhak theory because they realized, after witnessing the development of the

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5It can be said that as a scholar born in the periphery state, it is lucky to see the vastness of China, but unfortunately, it has been a long time since the former clothing system has changed in China due to the reign of the Qing, and all the remarkable civilizations have disappeared that we can only lament the capital of the old country. So, what you (Hee Seek-jung) will get from this trip is just carving this sadness’ (Song Around 1700 but year unknown).

6Although they may not be well aware of the situation at the time, there is no one out there who does not look down on Qing’s red hat and sleeve of a robe. They know their own clothes are tattered, but they do not have any shame when standing with those wearing silk clothes. The so-called great cause, ‘Revere China, Resist Barbarians (尊華攘夷),’ of my country is deeply embedded in even the most humble servants, and it will be an inexcusable fact that all the ideologies come from the same conscience’ (Park 2004c, 290).
Qing Dynasty in their role as envoys, that Joseon was relatively backward.

China is the center of the world (宗國), and it is the basis of enlightenment (教化). This is where traditional customs (衣冠制度) and poetry and literature (詩書文獻) are found on all sides (Hong 1997, 17-18).

Hong Daeyong traveled to China as a Jajegungwan (子弟軍官) with his uncle, Hong Eok (洪德, 1722–1809), who became the Seojianggwan (書狀官) in 1765 (King Youngjo 41). He was shatter to see China’s prosperity with his own eyes, and praised the country highly. He argued that the Chinese custom and literature systems should be adopted as standards in Joseon.

Park Jiwon also wanted to aggressively adopt any Qing Dynasty laws or advanced systems that could actually help Joseon. Park went to China in 1780 (King Jeongjo 4) as a member of the yeonhaengsa for Emperor Qianlong (乾隆帝, 1711–1799)’s 70th birthday party. An article in his yeonhaengnok, The Jehol Diary, reveals his views of Qing. He argues that, although the Qing Empire is recognized as a barbarian state, Joseon should adopt any superior Qing systems that could benefit the country and the people.

Today’s Qing Dynasty, who is being called barbarians, forcibly took anything if China (Qing) could benefit from and enjoy for a long time, and they protected it at all costs. Also, they unhesitatingly implement any good policy that was there before as long as it benefits their people and country, even if that policy was made by barbarians (Park 2004a, 27).

In 1778 (King Jeongjo 2), Bak Jega went to Beijing as an assistant to Chae Jegong (蔡濟恭, 1720–1799), who was one of the Saeunsa (謝恩使) in the King Jeongjo (正祖, 1752–1800) period. According to Bukhagui, Park argued that Joseon should not disregard Qing’s institutions that it could learn from, even if today’s Qing is regarded as a barbarian nation (夷狄). Park argued that, as long as it had great laws and policies, the Qing Dynasty should be viewed as a teacher, whether or not the people were barbarians. Most importantly, he emphasized that modern-day Qing was not the Qing of the past, which was regarded as a barbarian nation.

If their laws and system seem to be great, then you must reach out to those barbarians, treating them as your teacher and learning from them. Besides, they are massive in size, their way of thinking is fair (精鍊), their production is huge, and they have excellent literature. Also, haven’t they still retained the unique cultures of Han, Tang, and Song Dynasties since the three Dynasties of Xia, Shang, and Zhou . . . (ellipsis) . . . the Present China is not the China of old days (Bak 2003, 14).

Moreover, Silhak scholars from the Bukhak school, such as Hong Yangho (洪良浩, 1724–1802), asked the king directly to adopt and implement six advanced Qing technologies through a letter of petition known as the Jinyukjoso (陳六條疏) in 1783 (King Jeongjo 7). Article 6 of Simuchaeg (時務策) in The Veritable Records of Jeongjo states that Chinese systems should be proactively adopted to improve the efficiency of methods of construction: “the wagon system should be introduced in construction field” and “the brick manufacturing method should be used” (Jeongjo 1783).

From the mid-18th century onwards, Joseon intellectuals no longer viewed Qing as a barbarian state. The envoys were greatly impressed by the development of the Qing Dynasty and began to acknowledge its power and achievements. Through their Yeonhaengnoks, the yeonhaengsa began to convey positive messages about Qing’s domestic situation, the interests of its emperor, intimate details about the imperial family, public sentiments, and exchanges with Korean intellectuals. Perceptions of Qing, which, for 150 years, had revolved around the northern expedition (北伐論) and the Byeongjahoran, began to grow less negative; by the mid-18th century, they had begun to shift. During the latter half of the 18th century, some progressive thinkers proposed the Bukhak theory, which argued that Joseon should embrace Qing and Western culture via the Qing Dynasty and forget about the northern expedition. The proposal that Joseon should adopt Chinese cultural developments spread throughout the country (Bak 2003, 66). For example, King Jeongjo (正祖, 1752–1800) tried to actively absorb the developed culture of China by sending envoys to Beijing to purchase the Siku Quanshu (四庫全書) and keeping Chinese books in Kyujanggak (奎章閣), alongside Korean books in the palace.

3. Intercultural exchanges between the Joseon and the Qing Dynasties in the late Joseon period

Qing cultural imports, limited by negative memories of the northern expedition, and Western culture passed down via the Qing entered a new era in the late 18th century, with the rise of the Bukhak theory. Cultural exchanges began to reappear in Joseon as the argument in favor of adopting Qing

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7 Jajegungwan (子弟軍官): It refers to those children (sons or disciples) whom envoys brought as their personal attendants to broaden their knowledge.
8 Seojianggwan (書狀官): It refers to a person who records journey. There are temporary government employees, who accompanied envoys sent from Joseon to other countries. The position is one of the Somsu (使使) along with Jeongsa (正使) and Bunsu (副使).
9 It refers to the delegation or an envoy sent from Joseon to pay gratitude to Ming and Qing when the two Dynasties show their kindness to Joseon.
10 Hong Yangho visited the Qing Dynasty in 1782 (King Jeongjo 6) as a Dongbujuso (同知府事) and in 1794 (King Jeongjo 12) as a Saeunjeongso (謝恩正使).
11 The Siku Quanshu (四庫全書) is a series of books completed and published in 1781 on the orders of the Qianlong emperor of the Qing in 1773.
and Western cultural practices became a full-fledged phenomenon.

The most common ways for Joseon intellectuals to interact with Qing culture were through their hearsay, members of yeonhaengsa, or the books they brought into Joseon. Sometimes, Western knowledge and skills entered the Joseon, along with missionaries secretly infiltrating Korea. However, these people did not make a major impact overall (Won 2000, 14). The Joseon sent envoys to Qing for 257 years, from the 15th year (1637) of the reign of King Injo (仁祖, 1595–1649) to the 31st year (1894) of the reign of King Gojong (高宗, 1852–1919) (Jeon 1970, 37). They usually engaged in private activities after their public duties were finished (Daedong Institute for Korean Studies 1960, 297–298). Since many of the envoys enjoyed academic and cultural activities, they made a huge impact on the cultural exchange between Joseon and Qing.

### 3.1. The influx of Chinese books brought to Joseon by members of the Yeonhaengsa

Researchers believe that the Joseon envoys always visited the Liulichang (流璃廠) in Beijing during their leisure time (Figure 2). The Liulichang was a meeting place, where knowledge of the world came and went. It was lined with shops selling books and antiques. The envoys’ impressions of Liulichang and the lists of books they purchased there can be found in the Yeonhaengnoks left by Bukhak scholars such as Park Jiwon (朴趾源, 1737–1805) and Hong Daeyong (洪大容, 1731–1783). It is said that when Park Jiwon found the Liulichang, there were a lot of shops selling books, antiques, and ink for writing on paper. The Joseon envoys used to visit shops near the Liulichang to buy books during their free time. Liulichang was the place where Joseon intellectuals could acquire new knowledge and open up their minds.

### 3.2. The expansion of western knowledge and the acceptance of western culture

Intellectuals frequently visited the Liulichang in Beijing as well as the Xuanwumen Church (天主堂) and Heumcheongam (欽天監), where the Western missionaries lived. The Xuanwumen Church, a favorite place for intellectuals to visit, was the birthplace of Seohak (西學, the study of the West) and a center where Korean intellectuals could broaden their knowledge of the West. They came there to learn about science, technology, and Western knowledge by connecting with Westerners.

The records kept by one missionary reveal the level of Korean interest in Western culture at that time. They (Joseon intellectuals) come here every year. Since they were the most incredulous people in the world, they did not even try to say the most obvious. … Sometimes, none of them could speak Chinese. So, they would ask us questions by writing down when we could communicate only in writing, and we also answered in writing in return with the help of our servants. They used to ask very deep questions about astronomy. When I told them I would give them detailed answers if they wrote down their questions and came back later, they would always refuse to write a single word, saying they would rather return over and over again (Won 2000, 93-94). The intellectuals of Joseon actively reached out and tried to learn about Western science and technology. The envoys dispatched in 1752 (King Yeongjo 28) expressed their admiration for Qing’s technology, such as cannons, battering rams, and fortresses. One of Joseon envoys even said that he would bring a skilled smith on his next trip to fully learn and master those techniques. Through those who, having experienced Qing culture themselves, understood its excellence and advocated for its proactive adoption, Western science, technology, and civilization finally entered Korea through the Qing.

### 3.3. Private Interactions between Joseon and Qing Scholars

As the envoys also had considerable academic knowledge, their level of cultural interest was high and they tried to interact with Chinese scholars.
whenever they had the chance. Scholars who did not speak Chinese communicated in writing (Won 2000, 93–94). Bukhak scholars, such as Hong Daeyong (洪大容, 1731–1783), Hong Yangho (洪良浩, 1724–1802), Bak Jega (朴齊家, 1750–1805), Yoo Deukgong (柳得恭, 1748–1807) and Kim Jeonghee (金正喜, 1786–1856) met with Qing scholars many times to discuss science and culture. In particular, Hong Daeyong frequently communicated with Qing scholars, including Eom Seong (嚴誠), Banjeong-gyun (邊庭筠), and Yugbi (陸飛) in Beijing in 1766. Although Hong Daeyong was not fluent in Chinese and communicated with them in writing, it is said that they quickly became close friends.

Hong Yangho went to the Qing as the Dongjijungchubusa (同知中樞府事) along with Jeongsa (金正喜), Jeong Jon-gyeom (鄭存謙), and Seojiangwan (洪敏泳) in 1782 (King Jeongjo 6). After witnessing the completion of the Siku Quanshu (四庫全書), a collection of 36,000 books, during his trip, he got to know the Qing scholar Dai Quheng (戴衢亨, 1755–1811). In 1794 (King Jeongjo 18), he visited China again as the Saeunjeongsa, and this time met Ji Yun (紀昀, 1724–1805), who was responsible for publishing the Siku Quanshu. The exchanges between Hong Yangho and the Qing scholars, Dai Quheng and Ji Yun, continued until the final years of his life (Kim 2003, 169).

Bak Jega visited Qing four times, once in 1778, twice in 1790, and once in 1801; most importantly, in 1790 he accompanied Yoo Deuk-gong and met with Chinese scholars and literary people, including Ji Yun, the editor of Siku Quanshu, and the archeologists Sun Xingyan (孫星衍, 1753–1818) and Ruan Yuan (阮元, 1764–1849) (Park 2007, 19). Kim Jeonghee went to Yanjing (the old name for Beijing) as a Jajeugwan and became a member of Yeongyeonghakoe (燕京學會, Learned Society of Yeongyeong), through which he continued to exchange ideas with Chinese scholars and to engage in academic and artistic activities.

These interactions between Joseon envoys and Qing scholars not only fostered the exchange of academic information and knowledge but also fostered personal relationships with Qing academics through continuous contact. These relationships were sustained through the exchange of letters, materials, calligraphy, and epigraphy, even after the scholars of Joseon returned to Korea (Lee 1999, 158). These relationships played a role in further promoting cultural exchanges between Joseon and Qing.

4. The architectural exchanges between Joseon and Qing in the late Joseon period

4.1. The beginning of architectural exchanges between Joseon and Qing via Yeonhaengsa

Cultural exchanges between Joseon and Qing during the late Joseon period also began to occur in the field of architecture. The yeonhaengsa recorded the excellence of the Chinese architectural techniques they discovered in mainland China in their Yeonhaengnoks. The yeonhaengsa were surprised by the excellence of Chinese fortress-building techniques, the convenience of wagons that made construction more efficient, and the excellence of the Chinese ondol system (炕制); they urged the Joseon government to introduce and use Chinese methods.

4.1.1. The excellence of fortress-building techniques (築城技術)

In the Yeonhaengnoks and The Veritable Records of the Joseon Dynasty, the yeonhaengsa left written records describing the characteristics and excellence of the technology used to build the fortresses that appeared in China. In particular, Kim Changup compared the size of Joseon and Chinese fortresses in his writings, entitled Yeonhaeng-ilgi, and wrote an article describing the grandeur and size of the Chinese fortresses. In Bukhagui, Bak Jega criticized the materials used in Korean fortress-building. Both bricks and battlements were used in China, while Joseon used rocks and a wooden cache to construct fortress walls. He argued that the Chinese walls were superior and more solid than Korean walls. The yeonhaengsa pointed out the inefficiency and drawbacks associated with Joseon technology stone-wall technology while praising the effectiveness of Chinese fortress-building methods.

Is the so-called fortress a facility to defend against the enemy? If not, then is it a facility to be abandoned and

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16Hong Daeyong sought a friend from China as he said he did not have a friend in Joseon who could connect with him. His letter to Lee Deokmoo (李德懋, 1741–1793) shows how many interactions he had with Chinese scholars (below): "濃濃親愛之深心猶未足, 何音樂不張名譽, 以 nuovo, Yung Hyeohyo (Yugbi) has a big heart and made a name for himself in Yeon and Oh. A good writer, Ban Hyangjo (Banjeong-gyun) has clean energy just like bamboo shoots. I became a friend with them over the sky, but my life is so busy that I can’t help but feel sad…” (Lee Late 19th century but year unknown, Wonjeong of Hongdamheon Daeyong).

17This was a government position ranked at Jong2pum in the Jungchubu of the Joseon Dynasty.

18The Sujibeso (시جي서보) and Munbjaso (문별서보) in the Gwonsoo (권서) of Iljgido (일결도) by Hong Yangho are in fact written by Ji Yun (紀昀).

19The "architectural excellence" of Chinese fortresses is higher than those of Joseon. The size and the number of Chinese fortresses exceed those of Joseon. The Chinese fortresses were built with bricks and are three times higher than that of man, and are the best among the great palaces in the mountains and sea. It is comfortable and has a jade-like field and a bountiful harvest, and the sea is on three sides, and the small banks of all yug become lively within the fortress. [The fortress of Joseon] is not three times higher than a man. Above the [China] fortress, the watchtower of the cross shines in a golden blue color at two and three floors" (Kim Early 18th century but year unknown, Sancheonpungsong Chongnok).
run away from when an enemy invades? If it is the latter, I don’t know. If it is the former, it can be said that there is no such thing as a fortress in our country. Why on earth do I say this? ... [ellipses] ... It’s a good idea to make a battleground from the cost of installing a wooden cache (Bak 2003, 43).

### 4.1.2 The convenience of using a wagon (車制)

As the discussion above makes clear, the Joseon scholars who visited Qing showed an interest not only in practical building methods, such as fortress-construction techniques but also in introducing more efficient methods of construction into everyday life. For example, they promoted the use of wagons, which did not exist in Joseon but were widely used in Qing, emphasizing their convenience. Kim Kyungsun (金景善, 1788–1853) stressed that wagons would make the construction process in Yeonwon Jikji (燕輪直指) far more efficient. Park Jiwon also repeatedly emphasized the need for wagons throughout *The Jehol Diary* (Park 2004a, 237–250).

Although a wagon is an object given from the sky, it moves on the earth. It is a boat running on the ground and a room that could move. Since there is nothing better than a wagon, which can serve the big purpose of a country, people always answered with the number of wagons when the king asked to *jebu* (卒夫) according to the Rites of Zhou (周禮) (Park 2004a, 239).

Park Jiwon also pointed out that China had abundant wealth, which was not concentrated in one part of the country. According to him, China’s wealth was spread out because it used wagons; if wagons could be used in Joseon, they would make other things easier too (Park 2004a, 241–242). He promoted wagons enthusiastically, arguing that Joseon did not have enough roads because there weren’t any wagons. Once wagons were introduced to Joseon, roads would naturally follow, just as in China (Park 2004a, 240–241).

Park Jiwon was very disappointed that Joseon had no wagons and insisted on using wagons to improve the overall logistics of Joseon. To make his case, he used information from the Western book, *Gigido* (奇器圖) and *Gengzhitu* (耕織圖) written by the Kangxi emperor, while also referring to descriptions of wagons in the Chinese books, *Tiangong Kaiwu* (天工開物) (Figure 3). Park argued that wagons should be used in Joseon as soon as possible and advised Joseon engineers to study wagons in-depth. In this way, he tried to raise awareness among Joseon citizens (Park 2004a, 244).

Hong Yangho wrote a petition to the king of *Jinyukjo* (金玉局), in which he claimed that wagons were the first of six Chinese systems that Joseon should adopt. He discussed six technologies that Joseon desperately needed and talked in particular depth about wagons, arguing that Joseon would become rich if it introduced a system of wagons. If Joseon became rich, ordinary citizens would also become rich which, in turn, would naturally strengthen the nation’s military power. For all of these reasons, he argued that Joseon needed to be proactive in developing wagons (Jeongjo 1783).

During the construction of the Suwon Hwaseong Fortress (1794–1796), Jeong Yakjong (丁若镛, 1762–1836) argued that a wagon should be used to collect rocks from nearby mountains and transport them to the site. To achieve this, he pointed out, the roads must be well constructed. He included drawings and articles that explained the materials needed to build a wagon, such as *Daegoejendo* (大車全圖) and *Pyeonggojendo* (平車全圖), in the *Hwaseongseongyeoguige* (華城城役儀軌). A completion report for the construction of Hwaseong Fortress (Figures 4, Figure 5). The Silhak scholars recognized that wagons were an efficient way to move building materials from one point to another and promoted wagons enthusiastically, arguing that they should routinely be used in construction sites.

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20. 前之於山當用匠幾人 依運之之後又用匠幾人 以melon之策石之 際又用匠幾人 用人係多貴目 [Author’s interpretation as follow] Mowing a mountain to acquire rocks requires craftsmanship, pushing a wheelbarrow to move the rocks requires a strong young man, pushing a wheelbarrow already requires craftsmanship, and smoothing the rocks is different from architecture, it already consumes a day to prepare all this” (Kim 1832-1833).

21. This was the government position ranked at Jong6pum in Joseon.

22. This was a book on craftsmanship written by Song Yingxing (宋應星) during the Ming Dynasty. The book is divided into 18 chapters in three different volumes. It covers a range of themes, from agriculture to other industries in China, and explains the process of manufacturing a particular tool.

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**Figure 3. Hapgwaedachado (合掛大車圖) in Tiangong Kaiwu (天工開物), 1637; an illustration of a wagon pulled by eight horses, but driven by one person (Public domain image).**
4.1.3 The Chinese Ondol (炕) and other systems

Silhak scholars also admired the Chinese ondol heating systems (炕制), noticing that an ondol system made rooms evenly warm by absorbing heat well; a Chinese ondol system did not tilt or sink because it was made of bricks, unlike Korean ondol systems (Park Around 1800 but year unknown, Jang 16b, 19a, 22b–23a, 26a–27a; Park Around 1800 but year unknown, Jang 4b–5a). As Korean ondol had many flaws, Chinese ondol systems should be introduced to replace them (Seo 2005, 215–223).

Seo Yugu (徐有榘, 1764–1845) published the Imwon Gyeongjeji (林園經濟志, Treatises on Rural Living), incorporating references to books by Park Jiwon and Bak Jega and various late 18th-century Korean and foreign technical records. In the Seomyongji (營用志) chapter, he pointed out problems with the Korean ondol system, citing Park Jiwon’s The Jehol Diary. Park described the six problems with Korean ondol and argued that the Chinese Kang system should be used instead (Seo 2016, 120–123). While traditional Korean ondol allowed fire to pass beneath an entire room, the Chinese Kang heated only the bed (Figures 6, Figure 7). The Kang system relied on bricks, covering the floor of the entire room, apart from the bed area, in bricks. This use of bricks in place of soil or wood protected the house from fire, rain, and wind, since the pillars and beams were buried in the wall (Seo 2016, 116). The design of the Chinese-style ondol also reflected the practical approach of Silhak scholars because it saved firewood, which was hard to find at the time in Joseon.

4.2. Arguments and the introduction of brick architecture by Silhak scholars of the Bukhak School in the late Joseon period

The first unfamiliar scenery that Joseon envoys encountered after crossing the Yalu River into China was a group of brick houses; they were impressed by the excellence of Chinese brick houses. At that time, people in Joseon knew from the yeonhaengsa that China was building rock-solid buildings out of brick. Since Joseon faced a timber shortage after the 18th century, Silhak scholars, inspired by the practical architectural methods and culture of the Qing Dynasty, argued that bricks were needed in Joseon as well (Kim 1999, 25). In particular, Bak Jega, Park Jiwon, and Hong Yangho constantly posted articles and petitions to the King in Yeonhaengnok and The Veritable Records of the Joseon Dynasty, advocating the use of bricks in Joseon.

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23The 19th-century Korean encyclopedia entitled Imwon Gyeongjeji (林園經濟志, Treatises on Rural Living) was written and edited by Seo Yu-gu (徐有榘, 1764–1845). Another title is Imwon Gyeongji Sibyukji (林園經濟十六志, Sixteen Treatises on Rural Living). The encyclopedia includes sixteen treatises in one hundred and thirteen traditional volumes.
First, Bak Jega made the case that wagons for carrying construction materials and bricks for creating buildings were widely used in China (Bak 2003, 64). Second, in his book *Bukhaqui*, he argued that Joseon should begin using bricks, which were universally used because Chinese houses has been built using bricks (Bak 2003, 254).

I [Bak Jega] heard that there are buildings that have not been repaired after 1,000 years because the West [China] builds their houses using baked bricks. This is an extreme method for saving the cost of construction, but if this is true, it is like China’s Zhanghua palace  and E pang palace  still remain to this day, which means future kings will never have to exhaust people’s energy with construction works such as building the palace again (Bak 2003, 50).

Park Jiwon also became very interested in Chinese brick architecture after crossing the Yalu River. In the *Dogangnok* chapter of The Jehol Diary, he describes in detail the brick houses he saw in China and the excellence of Chinese bricks as a building material.

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24 Although those Chinese houses are sloppy and simple without twists and turns, they have several advantages. First, there are no useless eaves on three sides, so every inch under the roof has a purpose of use. Second, their walls are built with bricks so they do not tilt. Third, it is not cold because the walls are thick. Fourth, once the door is closed, it is the same as locking all doors, including the barn door, the room door, and the kitchen door, so there are fewer things you need to worry of thieves at night. Even if the house is isolated in the field, the wall is naturally equipped when you build a house …… There is no way other than learning from China” (Bak 2003, 67).
Table 1. Chinese-style buildings constructed by Park Jiwon.

| Building(s)                              | Year(s) Built | Remarks |
|------------------------------------------|---------------|---------|
| Secondary Staircases of Chundangdae (春塘臺) in the Changdeokgung Palace, Jeongjo-hyun (東窯) | 1786–1788     | Never built but seen in an illustration of Donggwooldo (東鳴圖, Painting of Eastern Palace) |
| Napung Jukro Camp (南風竹露堂), Yeonsangak (應朝閣) | 1793          | Located on the west side of the administrative quarter of Anui-hyun |
| Gongjukwane (孔雀館), Baekchok Odonggak (白尺楠閣) | 1796          | Modern-day Gyetong, Jongno-gu, Seoul |

Park Jiwon pointed out the advantages of using bricks, which included the fact that all bricks were the same shape and did not have to be trimmed separately, unlike existing building materials. In addition, bricks could be made in a single frame, which kept them neat and straight, so that no one had to put much effort into carrying them (Park 2004a, 76). He stressed that there was no better building material than brick. This emphasis on the production and transportation of materials, rather than the traditional methods of Joseon, reflected the practical spirit of the Silhak scholars, who emphasized efficiency.

Hong Yangho also vigorously promoted the use of bricks, sending a petition to the King, Jinyukjoso, in the 7th year (1783) of the reign of King Jeongjo (正祖, 1752–1800). In his petition, he argued that bricks were second among the six items the government should support in order to build public welfare. He addressed the writing to the king, emphasizing that if Joseon craftsmen could learn to bake bricks in China and bring their skills home, they would be able to build structures more efficiently. Therefore, he argued that Waseo (瓦署) must bake them in accordance with relevant laws and use them to build every important place, including border gates (軍門) (Youngjo 1744).

The convenience of using bricks is even more incomparable than using a cart. . . . Bricks should be used in all areas that need to be repaired or rebuilt because there is no such thing as a fortress. If the method of stacking bricks is consistent with the Chinese [Qing] system, how would this not be a great way to strengthen the country and defend its borders? (Jeongjo 1783).

In the Seomyongji chapter of Seo Yu-gu’s Imwon Gyeongjeji, Seo strongly promoted the benefits of bricks, while explaining how to make them. He stressed that bricks protected all nations, preventing them from suffering in the face of floods and fires, corrosion and humidity, and tilting and collapse. Given the advantages of bricks, he argued, it was a mistake for Joseon not to use them (Seo 2016, 285–286)26.

### 4.3. Emerging Chinese-style buildings by Park Jiwon in Anui and Gyetong

Silhak scholars, inspired by Qing’s advanced architectural technology, began to build Chinese-style buildings in Joseon in earnest. In particular, Park Jiwon started to imitate the Chinese buildings that had made such a strong impression on him when he was a member of the yeonhaengsa. Chinese-style architectural features thus began to appear in buildings that he was involved in constructing (see the Table 1).

In July 1786 (King Jeongjo 10), when Park Jiwon was 50 years old, he became the Seongonggam gamyeoog (綏工監監役)27 recruited by Yu Eonho (俞彦詔, 1730–1796) (Park 1998, 57–58). Park served in this position for two years, until 1788, and became involved in installing stairs at Chundangdae for the Changdeokgung Palace. The Chundangdae is located in front of the Yeonghwadang, in the backyard of the Changdeokgung Palace. Along with the Seochongdae, it is a stone embankment that was built in the vacant lot in the backyard of the palace. The Chundangdae is not only a place in which the royal family feast with their subjects, but also a place where scholars took tests and soldiers examined (Figure 8) (Ahn 2005, 116–117). Park Jiwon used bricks while setting up supplementary stairs in front of Chundangdae. To mass-produce

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25It refers to a government organization that used to make tiles and bricks for the royal family of the Joseon Dynasty. In the first year of King Taejo (1392), the organization was initially divided into Dongyo (東營) and Soyoe (西營) but later merged into one changing its name. The organization was finally removed in the 19th year (1882) of King Gojong.

26Anui” is modern-day Hamyang in South Gyeongsang Province.

27Official title at Jong 9 pum at Seongonggam (綏工監); Seongonggam was a government office established by King Taejo during the early Joseon Dynasty, which was responsible for new construction, building repairs and civil engineering works.
bricks, kilns were made following the Chinese system and it is said that the size of bricks used here was also according to the Chinese system (Park 1998, 66). As such, he tried to reflect what he saw and felt in China directly in real politics. Such efforts in the palace during the late 18th century would have provided experience in using bricks in large quantities when Joseon built the Suwon Hwaseong Fortress.

Hojopanseo Seo Yurin (徐有隣, 1738–1802), a Seongonggam Jedo (提調), suddenly took over the work of Jamungam (紫門監). Park Jiwon followed Hojopanseo to the palace and looked around Chundangdae. Seo asked:

> “Every time there is a Jeonjwa (殿座), money and energy are wasted installing secondary staircases. How much would it cost if we build it as a Dae (臺)? And what form should it take?”

My father replied as follows:

> “If you build the stand using baked bricks, it will cost you about ten times more to install the temporary secondary staircases, but since the end result will be solid and permanent, you can completely eliminate the cost of installing and removing secondary staircases in the future.”

Hojopanseo told the king what my father had said. Then the king ordered him to set up a brick-baking kiln at Waseo (瓦署) so that my father could freely bake bricks at his discretion. My father ordered Lee Hee-gyeong (李喜經) not only to make a kiln according to the Chinese

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28 “Jedo” refers to a Jong 1 pum or Jong 2 pum official who is temporarily appointed to direct and oversee the affairs of the respective official in the event of emergencies.

29 An organization within the Seononggam, which was responsible for palace construction and repairs.

30 The king comes out and sits on the throne of the royal palace at the time of Joha (朝賀: a ritual in which his subjects salute the king).

31 A manufacturing building that made tiles and bricks for the royal families.
system but also to follow the exact size of the bricks used in the Chinese system. In that way, hundreds of thousands of bricks were baked, and the cost was reduced so much that the figure was written exactly in The Jehol Diary. Soon after, something happened to our country, so that he couldn’t build the stairs as planned. However, the bricks were used for other purposes. For example, when the Suwon Hawseong built was built, only bricks were used to build the fortress, for which I assume this method was used (Park 1998, 65-66; emphasis added).

In December 1791 (Jeongjo 15), Park Jiwon was made the Head of Anui, a small village between Hamyang and Geochang. While serving as the head of this village, he began to realize his ideas in various fields (Lee 2006, 304). For instance, he used the architectural techniques that he had observed for years on visits to China to construct Chinese-style buildings, including Hapung Jukrodang (荷風竹露堂), Yeonsanggak (野桑閣), Gongjakgwan (宮監閤), and Baekchoek Odonggak (百尺梧桐閣).

As previously mentioned, details of the Chinese-style architectural designs for Hapung Jukrodang, Gongjakgwan, and Baekchoek Odonggak can be found in the book Gwajehongk (過庭錄), written by Park Jiwon’s son, Park Jongche (朴宗采, 1780–1835), and in writings by his grandson, Park Gyusoo (朴珪壽, 1807–1877) (Kim 2002). Park Jiwon demolished a desolate warehouse in the Anui village administrative quarter in 1793 and built a garden in that vacant space (Park 1998, 65–66). He used a wall to separate the inner government buildings from the garden and placed a fence between Hapung Jukrodang and the area of Baekchoek Odonggak. Hapung Jukrodang faced east, with four horizontal blocks and three vertical blocks. It had a corner door, round windows, and a wind gate with a vial-shaped roof and an arched bridge. There was a round window, a style that was widely used in Qing Dynasty architecture, but not in Joseon. The Yeonsanggak is a pavilion. While there is a pond near the pavilion, the pond has dried up and there only remains an island. In addition, the Hongyumun (虹霓門) was used to connect it with the Hapung Jukrodang (Shin 1939).

The house (Hapung Jukrodang) was built facing east and there were four blocks in horizontal and three blocks in vertical, and the daemaru were gathered and raised like a hair bun to form a round roof. (omitted) A wide open window was created and a round wind gate was also made. (omitted) By building a guard rail with bricks, the pond bank was protected, and a long fence was built in the front to separate the boundary from the outside courtyard. … [ellipsis] … In the middle, a Hongyumun (虹霓門) was built to connect with Yeonsanggak (Park 1997, 193-195).

The Baekchuck Odonggak is a 12-kan (間) guesthouse that was renovated dozens of steps northwest of the main hall. Park Jiwon brought stones of various shapes from the riverside, stacked them on the stairs, cut down the front pillar and made a long railing. He also made a spacious garden and dug a pond. Beyond the fence, there was a royal foxglove tree, which was over a hundred cheok (unit of length, 1 cheok = 30.3 cm) tall; it is said that its dark shade covered the railing. Therefore, it was called the Baekchuck Odonggak. The southern floor of Baekchoek Odonggak is called Gongjakgwan, and the house that the round roof faces is Hapung Jukrodang (Park 1997, 25).

Park Jiwon used bricks to build this wall, in imitation of the Chinese system (Park 1998, 102–103). Later, these types of designs, which incorporated round windows, a representative feature of Qing design, appeared in various places and royal family houses in Joseon.

They built a house near the pond and built a wall with baked bricks. This was modeled after the Chinese house building method. The long bamboos and lush forests were very lovely because they had a blue color. Each house was given a name, such as Hapung Jukrodang, Yeonsanggak, Gongjakgwan, and Baekchoek Odonggak (Park 1998, 102-103).

Park Gyusoo, Park Jiwon’s grandson, drew a picture of the place where his grandfather lived, which included the Chinese-style building that Park Jiwon built in the village of Anui. Park Gyusoo’s friend, Shin Seokwooo (申錫愚, 1805–1865), visited the building after seeing his painting of Hapung Jukrodang and left a travel journal describing it. Shin Seok-woo described Hapung Jukrodang as “a brick building with a round window half exposed and a roof tile to allow the wind to come in” (Shin 1939). Thus, Park Jiwon built buildings with round windows, in the Qing architectural style, using building materials (bricks) from the Qing Dynasty.

Park Jiwon came to Hanyang (old name of Seoul in Joseon) in March 1796 (King Jeongjo 20) after his term as the officer heading Anui (縣監) ended; he bought an orchard in Gyesan-dong as a place to build his future residence. He built a pavilion-shaped building called Gyesan Chodang (桂山草堂) (Park 1998, 120). When he built this building, he built it with black bricks, modeled after how the Chinese built a soil house. In addition, a small house built like an attic, with windows,
was constructed west of the Gyesan Chodang, and was named Chonggye Seosuk (崇桂書塾) (Park 1998, 127). Also, this Gyesan Chodang was inhabited by his son Park Jongchae, who later wrote Gwajeongnok.

Finally, he [Park Jiwon] bought an orchard in Gyesan-dong, cleaned the site, and built a small house out of earthen bricks. Earthen bricks are bricks that are made by just drying them in the sun without baking them in a kiln. This is modeled after the Chinese method of building an earthen house. West of this house, he built a small attic and named it Chonggye Seosuk (崇桂書塾), which is where I [Park Jongche] live now (Park 1998, 127).

There are records of an old woman from Anui, who visited Gyesan Chodang 30 years later and saw this building, saying that it looked the same as the pavilion that Park Jiwon built for Anui officials in the village administrative quarter. We can thus assume that Gyesan Chodang was also built with Chinese-style bricks, like the buildings inside the public administrative quarter.

As previously explained, Park Jiwon built a Chinese-style house in Gyesan-dong, after he left his position as the head of Anui village in Gyeongsang Province and returned to Seoul. Although this fact can be confirmed in various historical records, no building that he designed has survived. Park Jiwon’s architectural experiments in Anui and Gyedong can be understood as efforts to introduce the new Chinese (specifically Qing) architectural technology; he used the advanced Qing architectural technology that he saw in China to build his own places.

### 4.4. Architectural experiment at Suwon Hwaseong Fortress (1794–1796)

In the latter half of the 18th century, the Bukhak scholars’ efforts to promote bricks partially succeeded, as Park Jiwon used bricks to construct buildings in Anui, Gyeongsang Province and Gyedong, Seoul. However, the real pay-off came when the fortress was built in Suwon in 1796 (King Jeongjo 20). As the pictures below illustrate, the method used to build the firing kiln and Hwaseongseongyeoguigwe (華城城役儀軌): A completion report for the construction of Hwaseong Fortress was described in the Explanatory Diagram Doseol (圖說), published in 1801 (Figure 9). To construct a barbican (塞城) for the Hwaseong fortress, a kiln was built, based on the method described in the Tiangong Kaiwu (天工開物); to make the bricks, used for this construction, all of the brick craftsmen in Joseon were gathered together and

![Figure 9](https://example.com/figure9.png)

**Figure 9.** (Left) A method of layering bricks in the Hwaseongseongyeoguigwe. (Right) A kiln baking bricks in the Hwaseongseongyeoguigwe (Photo by author, originally in Kyujanggak Institute for Korean Studies).

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36Seosuk (書塾) means writing room. However, here it refers to the library.
37Thirty years later, in the summer of Gapsin Year (1824), an old shabby lady entered Gyesan Chodang and murmured like this. ‘That’s strange, why does the shape of that Chodang (Gyesanchodang) look exactly the same as the pavilion inside the government office quarter in my village?’ (Park 1998, 120).
38Gwajeongnok, Hoejangil, Saecheoek Odonggakgi, Hapung Jukrodangi, Gongjakgwangi.
39Uigwe (儀軌) refers to government documents that recorded all of the construction after Hwaseong Fortress was built. The Construction of Hwaseong began in January 1794 and continued until August 1796. Hwaseongseongyeoguigwe was completed in 1796 and published and distributed in print in 1801. Official documents related to the construction of the fortress are included, along with drawings, the number of participants, the materials required, and the architectural design. For this study, I have primarily used the 1994 Kyujanggak edition as a reference.
a new method, known as *Chungongaemul Yoje* (天孔開物窯制) was used to produce the bricks. Initially, bricks were produced in a kiln in Wangyryn (旺倫), Gwangju, Gyeonggi Province; here, kilns were installed just outside the north gate of Hwaseong and Seobong-dong in Suwon. This was the first time Korea manufactured bricks in the modern sense (Cho 2005, 43).

These improved brick kilns made it possible to build the Suwon Hwaseong Fortress using bricks. In particular, the northwest and northeast Gongsimdons and Bongdon of the fortress were built with bricks (Figures 10, Figure 11). This reliance on brick shows that new methods of construction and building materials were now being used in Joseon. It is also significant that Korean manufacturers discovered a way to mass produce a specific size of brick to use in construction. This was different from the traditional Joseon Dynasty method of building, which was carried out by craftsmen. The emergence of new concepts, including the efficiency of architectural mass production, shows that Joseon had begun to experience elements of modernity during its transition from a pre-modern to a modern society.

Moreover, in the case of the Hwaseong fortress, Western science and technology, passed down via China, were also used in the construction. As so many bricks were used to build the fortress, an efficient method of transporting these bricks to the construction site was essential. The main tools used to move the bricks were a type of crane known as Geojunggi (舉重器, Korean traditional crane) and Nokno (挪転, potter’s wheel). Geojunggi was developed by Jeong Yakyong (丁若鏞, 1762–1836) with the help of a book called *Gigidoseoil* (機器圖設, Diagrams and Explanations of the Wonderful Machines of the Far West), included in the *Gujin Tushu Jicheng* (古今圖書集成, Integration of Ancient and Modern Anthologies), which was purchased by King Jeongjo from the Qing Dynasty in 1776. The Suwon Hwaseong Fortress was made possible by the advocacy of Bukhak scholars, such as Park Jiwon and Bak Jega, who were influenced by China and who heavily promoted the use of brick, as well as by Western science and technology, such as Geojunggi imported to China at the end of the 18th century. It can therefore be said that the successful completion of the Suwon Hwaseong Fortress was the result of various factors, including the Silhak scholars’ efforts to bring advanced Qing culture to Joseon and government efforts to understand it and exchange information with the Qing Dynasty.

After the Suwon Hwaseong Fortress in the 18th century, Joseon more actively accepted Chinese-style architecture and such culture was reflected in Joseon. The Chinese architectural elements of the late Joseon Dynasty influenced by China (Qing) were those that the envoys who traveled to and from China strongly encouraged Joseon implement, such as the use of brick-related construction technique including the Gyeongsan roof (硬山屋頂), side walls built from bricks (瑠璃摺風), circular windows, and doors, emerged in addition to the planar structure in the form of Siheyuan (四合院, courtyard houses) housing the use of the Qing style measuring units. These can be seen as Chinese-style architectural elements influenced by China, which had not previously emerged in Joseon. Under such circumstances, Joseon’s palaces such as Changdeokgung Palace and Gyeongbokgung Palace after the 19th century have many buildings with Chinese-style architectural techniques and styles that have not been seen before. In addition to the

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40 China’s vast encyclopedia, published during the Qing Dynasty. It consists of six series, namely *Yonggasanghuijeon* (曆象彙篇) on cosmology, *Bangyeohuijeon* (方舆彙篇) on geography and local traditions, *Myeongyunnuijeon* (明倫彙篇) on kings and baegwan, *Bakmulhuijeon* (博物彙篇) on medicine and religion, *Iaghwhiyeon* (理學彙篇) on literature, and *Geongjehuijeon* (經籍彙編) on the past, music, and military.

41 The side walls of Seonhyangjae in the Yeongyeongdang Hall of Changdeokgung Palace and the Jibokjae of Gyeongbokgung Palace are representative Chinese-style buildings that emerged in the 19th century.
palaces, Chinese-style architectural elements are also found in modern architecture such as Seokpajeong (石坡亭), the royal family’s housing, and Sehando (讖寒圖), a painting by Kim Junghew (金正喜, 1786–1856) who had actively accepted Qing literature as part of the Northern School, and modern architecture such as the Beonsachang (飯沙廳). Such influx of Chinese architectural elements was consumed and used to a very limited extent, especially by those who had direct or close access to Chinese culture, such as those in palaces, royal families, or scholars of the Northern School. These Chinese-style elements appear in various buildings in the late Joseon Dynasty, which directly reflects that Chinese-style architecture was popular in Joseon at the time.42

5. Conclusion

After the Byeongjahoran in 1636, the people of Joseon associated the Qing with the northern expedition. After the 1750s, when advanced Qing culture was introduced to Joseon by the yeonhaengsa, perceptions of Qing began to change. Some progressive thinkers among Silhak scholars argued that the cultures of the Qing and the West (passed down through Qing) should be proactively introduced into Joseon; this led to the emergence of the theory of Bukakh school. Against this backdrop, exchanges between the Joseon and Qing Dynasties were facilitated by envoys to China, who brought Chinese books back to Joseon. These envoys also advanced the adoption of Western science and technology through contacts with Western missionaries and private scholastic interactions with Qing intellectuals.

During the cultural exchanges between Joseon and Qing, Joseon intellectuals became very interested in China’s advanced architectural technologies. In particular, Silhak scholars of the Bukakh school, including Hong Daeyong, Park Jiwon, Bak Jega, Hong Yangho, and Kim Changup encouraged the use of Chinese systems in Joseon by emphasizing the excellence of Chinese construction techniques, wagons, the Kang (Chinese ondol system), and so on. They paid particular attention to brick, a material already widely used in Qing. They enthusiastically promoted the use of bricks in Joseon. In the late Joseon period, their energetic efforts to promote bricks finally paid off, as brick became a standard building material in Joseon. For example, at the end of the 18th century, Park Jiwon used bricks to build Chinese-style buildings in Anui (now Hamyang), Gyeongsang Province and Gyedong, Seoul. Architectural experiments, including the use of bricks and Geojugungi, came to fruition when the Suwon Hwaseong Fortress was built in the late 18th century.

The emphasis on efficient methods of construction, like using wagons and creating a rational plan to mass-produce architectural bricks, did not exist during the pre-modern architectural culture of the Joseon Dynasty. These changes, which emerged around the turn of the 19th century, were the first sprouts of the modern era. In this, Qing played a key role, acting as a buffer zone to lessen the cultural shock wave caused by Western culture before the full-scale introduction of Japanese and Western modern ideologies to Joseon after the 19th century. This study thus presents a new interpretation of the pre-modern and modern transformation period, which is generally seen as a sudden break in Korean architectural history.

Moreover, Joseon began to actively accept Chinese style architecture after the Suwon Hwaseong Fortress. The elements of Chinese architecture in the late Joseon Dynasty started from 18th century, which were influenced by China (the Qing Dynasty), were stornonlg urged by envoys traveling to and from China to Joseon. Such culture was more clearly seen in Joseon by the Joseon upper class, including palaces and royal buildings after 18th century. As a follow-up to this study, the Chinese-style architecture introduced by the royal families and upper classes of Joseon will be further examined in a future study.

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42 Although this study will not cover Chinese-style architecture that emerged in Joseon after the 19th century in depth, further research is necessary in the future.
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