

1830s contains “Goryeogunggwoldoryak” 高麗宮闕圖略 which is assumed as the earliest site plan of this main palace of the Goryeo Dynasty. Starting with Gwanghwamun Gate—the main gate of the palace—the main composition consists of Jujakmun Gate, Seungpyeongmun Gate, Shinbongmun Gate, Changhapmun Gate, (Large Stairs), and Hoegyeongjeonmun Gate are illustrated on a central axis in the north-south direction, and *gujeong* is marked in the space between Seungpyeongmun Gate and Shinbongmun Gate. These gates were treated with great weight, accounting for half of the whole picture, reflecting the importance of the gate system 門制. The central group of buildings is equipped with large stairs to enter this space due to its high ground, and the stairs are also the most characteristic aspect of Kaesong Manwoldae. The large stairs are currently placed in 2 positions on the left and 2 positions on the right. However, according to the photographs from the Japanese colonization period, there were originally three central stairs, one on the right and another on the left, a total of five stairs. A survey on the plan of the Changhapmun Gate site hinted that such an arrangement of stairs was made to connect the space in which the doors of the Changhapmun Gate were located and the central three rows of the stairs in front of the Hoegyeongjeon Hall. In other words, the Changhapmun Gate site is five bays by two bays, and the location of *sinbangseok* (the door supporting stone) shows that gates were installed in the central bay and the side bays on its left and right. Also, the position of these gates is in line with the central three rows of the stairs in front of the Hoegyeongjeon Hall, and Hoegyeongjeonmun Gate is also in line with the central bay and side bays with the traces of *sinbangseok*. Such a layout confirms that the entry space was

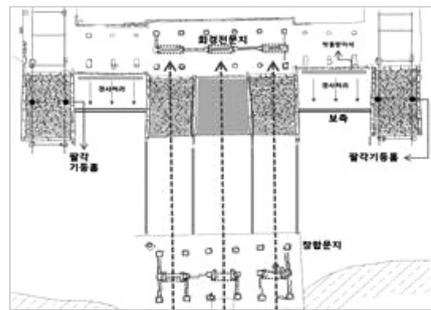


Figure 2. Circulation Path Connecting Changhapmun Gate, Stairs of Hoegyeongjeon Hall, and Hoegyeongjeonmun Gate (Changgeun Nam and Seong-jin Ji 2019)



Figure 3. Central Group of Buildings and Stairs in Front of the Hoegyeongjeon Hall

carefully planned with purposes.

In the ancient palace system, gates provided the space in which not only the process of reaching the central area of the palace but also ritual ceremonies were held. Also, there was a distinction between the number of gates allowed in the space of an emperor and that in the space of feudal lords. In Gyeongbokgung Palace—the main palace of Joseon Dynasty—the entrance space consists of Gwanghwamun Gate, Heungryemun Gate, and Geunjeongmun Gate to reach Geunjeongjeon Hall, the main hall. In contrast, in Kaesong Manwoldae, more gates were installed to realize the identity as an imperial palace and emphasize the depth and hierarchy of the central area. The process of reaching the main hall—Hoegyeongjeon Hall—by climbing the steep stairs and going through the Hoegyeongjeonmun Gate creates a dramatic effect by fully utilizing the topographical characteristics of this site.

The main halls of the central building group include Hoegyeongjeon Hall 會慶殿, Janghwajeon Hall 長和殿, and Wondeokjeon Hall 元德殿. According to literary records, in particular, the Hoegyeongjeon Hall—the main hall—is a place to receive the envoy of Song, receive reports, or hold royal Buddhist and Taoism ceremonies. However, the Hoegyeongjeon Hall was mentioned in the records only after 1029 (the 20th year of King Hyeonjong's reign), so it can be presumed that it was built during the reconstruction of the palace from 1020 (the 11th year of King Hyeonjong's reign) to 1023 (the 14th year of King Hyeonjong's reign). Except for the Hoegyeongjeon Hall, the name of other buildings appears only in *Goryeodogyeong* 高麗圖經, but it cannot be found in *Goryeosa* 高麗史, so it is difficult to accurately identify the details of them or the time period.

On the other hand, the western group of buildings, which was constructed in a lower area than the central group, was crowded with palace buildings, and the actual management of the palace, such as administration and king's dwelling, was performed here. According to *Goryeosa*, the Cheondeokjeon Hall 天德殿 played the role of the main hall from 928 (King Taejo, 11th) to 1023 (King Hyeonjong, 14th), and the Geondeokjeon Hall 乾德殿 took over the role since 1023. It is difficult to rule out the possibility that its appearance changed as the Cheondeokjeon Hall was renamed to the Geondeokjeon Hall. The most central part of the western group is the Geondeokjeon Hall whose building site was initially identified through excavation survey, but now there are disagreements on its exact location. Therefore, a further empirical investigation

is necessary.

In the western group of buildings, a total of five embankments were constructed in the east-west direction according to the topography, and the terraced layers of the ground show a complex and dense layout of building sites. The buildings are arranged with different axes, and the stairs and corridors form acute angles. The eastern group of buildings seems to have been created as the space for the prince. *Goryeodogyeong* 高麗圖經 explains that the crown prince lives in the Jwachungung Hall after investiture and coming-of-age ceremony, and the Jwachungung Hall is located to the east of the Hoegyeongjeon Hall, past the Cheondeokmun Gate. In *Goryeosa* 高麗史, the name of Jwachungung cannot be found, but the Suchungung Hall appears as the full name of *donggung*. It first appeared in an article in 1056 (King Moonjong, 10th). “*Donggung*” is most often referred to in the records, meaning crown prince. Assuming that Suchungung and Jwachungung were the same building and its location was east of the Hoegyeongjeon Hall, the central group of buildings could have been created through the reconstruction of the palace during the reign of King Hyeonjong while the eastern group of buildings could have been constructed in the same period or later. In the beginning when the palace was centered on the western group of buildings, its main hall was the Geondeokjeon Hall, so it is presumed that there might have been another hall where the crown prince stayed. Its location, however, is not yet known.

Joint Inter-Korean Excavation of Kaesong Manwoldae

The joint inter-Korean investigation of Kaesong Manwoldae started from setting an excavation area of 33,000 m² and checking the existence of remains through a preliminary excavation survey in 2007. By the 8th investigation in 2018, an area of 19,770 m² was excavated, and about 40 buildings, large embankments, two large stairs, and 17,900 artifacts were identified. This is about 60% of the scope originally agreed between the two Koreas.

A brief description of the characteristics of the western building group identified through the investigations so far is as follows.

The western group of buildings in Manwoldae is located on a hilly slope extending from Songaksan Mountain, so efficient spatial composition to fit in the palace system and the dwelling space for imperial life on a limited space was

Table 1. Timeline of the Joint Inter-Korean Excavation in Kaesong Manwoldae

Term	Survey Period	Survey Area	Major Outcomes	Site Map
1 st	May-July 2007 (60 days)	western group of buildings 33,000 m ²	40 building sites, embankment, drainage channels	
2 nd	September-November 2007 (75 days)	site of building group no. 1 3,000 m ²	5 building sites, embankment	
3 rd	November-December 2008 (50 days)	site of building groups no. 2 and 3 3,600 m ²	10 building sites, Gyeongryeongjeon Hall identified	
4 th	March-May 2010 (57 days)	estimated Geondeokjeon Hall site 3,600 m ²	5 building sites	
5 th	November-December 2011 (37 days)	emergency restoration site of building group no. 4 1,280 m ²	emergency restoration investigation, connections of building group no. 1	
6 th	July-August 2014 (25 days)	site of building group no. 5 220 m ²	Large stairs, drainage channels	
7 th	June-November 2015 (183 days)	site of building groups no. 6, 7, and 8 7,000 m ²	20 building sites	
8 th	October-December 2018 (50 days)	embankment of Hoegyeongjeon Hall 1,070 m ²	large stairs, site of corridors	

necessary. Therefore, setting up the site and constructing infrastructure were critical, and overcoming the topographic limitations was the key challenge. Multiple layers of flat embankment were constructed along the contour line of the slope. Buildings were placed on flat surface, and their orientation varied according to the topography. The circulation system showed a vertical hierarchy while the connection between the buildings was made close by placing gates, stairs, and corridors to connect each platform of different heights. In other words, it has been revealed through investigation that it is distinctly different from the geometrical arrangement of those palaces that embodies the



Figure 4. The Plot Plan of the Western Building of Kaesong Manwoldae

iconographic order on the plain.

The main infrastructures identified so far include the retaining wall that separates the central and western building groups in the north-south direction and the five embankments extending east-west within the western group. The northernmost area made by the fifth embankment was identified with the building sites, known as the northwestern group of buildings, through excavations by North Korea from 1973 to 1974. Below that are the sites of the first, second, and third building groups. In the third site, located in the westernmost part of the investigation area, a building site equipped with ritual facilities was identified. This site was identified as the Gyeongnyeongjeon Hall, which enshrined King Taejo (the founder of Goryeo Dynasty) and four generations of ancestors. Each group of buildings was surrounded by corridors to form an independent area, and the first building group was connected to the

northwestern group of buildings located on its north by corridors and stairs. In particular, the first building group was the largest among the western group of buildings as identified until now, and the central hall is presumed to play an important function as it has a 亞-shaped plan. In addition, the south corridor of this building group is again connected to four corridors in the north-south direction. Such a composition can be seen as a characteristic of 12th-century architecture that constitutes a closed space seen in palaces and annexes such as the Wondeokjeon Hall of the central group in Manwoldae, the first and second palace sites in Daehwagung Palace in Pyongyang, Hyeemwon site in Paju, and Oeseonmi-ri building site in Uljin.

The site located in the south of the first to third building groups was separated by embankments, and building sites in various shapes were arranged in a relatively large area. However, the central area of the western building group (building site number 7) is confirmed to be completely destroyed. The joint investigation team named the building site just south of this area as an estimated Geondeokjeon Hall site. Also, by referring to literature records, the team suggested a perspective on the layout of the western building group. To the east of this Geondeokjeon Hall, several building sites were overlapped in a complicated pattern. Building site number 6 has a relatively large gate area, a 亞-shaped building site, and a building site of 3 bays by 3 bays on the north side along the north-south axis. At the same time, however, it is not easy to presume the time period because the platform of other building site is overlapped at the bottom. On the north side of the 3-bay by 3-bay building site, there is a corridor in the east-west direction with a different axis, but it is also difficult to estimate the construction period. On the east side of this building site arranged along the north-south axis, a complex overlapping trace of 1-bay building site that can be seen as a corridor was confirmed. The building site in the north-south direction has the east boundary formed by the drainage cover stones. In the south of this building site number 6, a porcelain with stippled inscriptions was unearthed. There is an assumption that it was used in annexes of the palace according to stylistic analysis on its inscription and porcelain type. This assumption is supported by some evidences such as the formation of the building group connected through corridors and the location of a well.

The building site number 7 shows heavily destroyed ruins, but sophisticated patterns and special types of artifacts were excavated here as well. Although it is a small amount, celadon bowls related to tea and celadon pillows were

excavated, suggesting the possibility that it was originally a space for living, such as bedroom. The building site number 8 is located in the south of the Gyeongnyeongjeon Hall site. Due to the big difference in the height, the embankment for the south corridor of the Gyeongnyeongjeon Hall site is constructed in two layers. Then, the stairs protruding from this embankment are connected to the south corridor of the building site number 8, and the space is divided into east and west. The building site is found in the east, and a stele support stone and brick floor tiles were found in the west.

Meanwhile, as the flat surface meets the embankment on a north-south axis, two large stairs connect the central and western building groups. The large stairs in the north is located on the north side of the Janghwajeon Hall in the central group, and the large stairs in the south is located on the north side of the Hoegyeongjeon Hall, providing a circulation path connected to the western building group. However, there is a difference in shape. The height of the embankment is not high in the north, but the height difference increases as it descends to the south. Therefore, the stairs in the north are 2.5 meters in height (13° inclination) and constructed as a protruding shape attached to the embankment. The stairs in the south, however, are 5 meters in height (37° inclination) and built in the embankment. On the other hand, it is common that a drainage channel is built at the bottom of the stairs, so that it is connected to the north-south drainage channel constructed in parallel with the north-south embankment.

Another notable infrastructure is a drainage channel. The treatment of falling water and surface water should have been considered important because the entire area of the western building group is located on a slope and the building sites are crowded. The largest drainage channel was formed in



Figure 5. Large Stairs 1



Figure 6. Large Stairs 2

the north-south direction along the north-south embankment. The drainage channels built along the platforms of the building sites within the western group are connected to this large drainage channel, and this drainage channel eventually flows into Gwangmyeongcheon Stream, which crosses the south side of the palace in the east-west direction. With the centering axis formed by the two building sites of the western group and the estimated Geondeokjeon Hall site, the original terrain is inclined to the southeast on the east side, and to the southwest on the west side. Therefore, utilizing such a topographic condition, drainage channels for each building site were planned to treat falling water and surface water well.

We mainly looked at the ruins up to this point, but it is known that more building sites of considerable size are located in the south of the survey area since the ruins are exposed to the ground. Further excavation surveys would allow more comprehensive spatial analysis.

Meanwhile, excavated artifacts to date can be largely divided into roof tiles, porcelains, and ironware. Among the roof tiles, *maksae* (tiles used at the edge of eaves) mainly consists of *yeonhwamun* (lotus flower pattern), *dangchomun* (arabesque pattern), and *gwimokmun* (rounded edges). The location of excavation also differs according to the types of the tiles. *Maksaes* with *yongmun* (dragon pattern) and *bonghwang* (phoenix pattern) were found in the north of the western group of buildings while those with *beomjamun* (Sanskrit alphabet inscribed) were intensively excavated around the building site south of the Gyeongnyeongjeon Hall.

In addition, more than 30 kinds of roof tiles with inscription were excavated. It can be estimated that the kiln site, roof tiling master's name, or place to be used was marked. Also, celadons with various types and pattern inscribing techniques were excavated. It is particularly noteworthy that through the engraved texts and symbols, it is possible to estimate many features such as the building's characteristics, time period, and production site.

Future Prospects on Joint Inter-Korean Excavation

North Korean archaeologist Su-ho Son (2016) explained the current status of the joint inter-Korean excavation and its academic significance in his article, "North-South Joint Excavation on the Goryeo Royal Palace, Manwoldae, and

Its Significance” in *Archeological Research*. This article serves as an evaluation of excavations from 2007 to 2015. It explains the characteristics of Kaesong Manwoldae, identified through joint excavation: freely designed architectural composition which corresponds to the site’s topography and each building’s functions; and effective spatial usage within a tight site to create splendid and dignified palace of a unified nation. In addition, it is meaningful that he evaluated this joint investigation positively that it—a representative icon of inter-Korean cooperation in the field of history and archaeology—has prepared a wider basis for further academic exchange projects. Based on such an evaluation, the characteristics of the 2018 survey, which was resumed after three years, reflect that globalization and scientification are pursued in the protection and management of the cultural properties, as this trend can be clearly seen in the recent National Heritage Protection Act of North Korea as well. In other words, North Korea’s interest in utilization of the cultural properties has been heightened. I would like to share my thoughts on the tasks and prospects of the future inter-Korean investigation projects.

First of all, in the inter-Korean consultation on the 2018 survey plan, North Korea emphasized the necessity for the maintenance of the ruins. In other words, they strongly insisted on the restoration of the collapsed section of the embankment, but after the actual investigation began, it was not feasible due to sanctions against North Korea and shortened investigation period. Instead, securing basic data for restoration works was regarded as important. In addition, in terms of the follow-up measures after the excavation of the large stairs, the joint investigation team aimed not only to cover the land but also to proceed with temporary maintenance that can reveal the remains to some extent. In addition, the team tried to comply with the principles of the International Charter by recording of the ruins before and after the temporary maintenance actions and marking the location of relocated components. It is presumed that the maintenance plan considered the importance of protection- management and tourism as a World Heritage site. Globalization was no exception to the protection-management of the properties; a great interest was expressed in exemplary maintenance cases of other countries. North Korea is making continuous efforts to acquire the latest trends and techniques for the protection-management of its cultural properties through joint inter-Korean investigations as well as exchanges with other countries.

Second, although it was part of the maintenance works, it was very

meaningful that the central group of buildings could be dealt with during the 2018 survey. Previous investigations were conducted in the western group of buildings in priority, and access to other areas was limited. However, in 2018, a survey on the remains of the central group’s Changhapmun Gate site, stairs in front of Hoegyeongjeon Hall, Hoegyeongjeon Gate site, and Imcheongak Pavilion site could be conducted. This was possible because the agreement of the inter-Korean investigation team was respected. As mentioned above, the favorable evaluation of the accumulated investigation results had a positive influence to some extent, so on-site decision-making could be executed. Accordingly, it was possible to identify the planned order of the arrangement of the Changhapmun Gate site and stairs in front of the Hoegyeongjeon Hall and confirmation of the large building site in the Imcheongak Pavilion site. In the future, if a comprehensive maintenance plan is implemented jointly between the two Koreas, the investigation of the central building group will be essential. Therefore, in addition to the known facts from the previous investigation, a more precise analysis of the remains in the central building group is expected.

Third, the confirmation of the new layout of the western building group was a very meaningful achievement, but the lack of microscopic research on each of these building sites or artifacts remains a regret. Since Manwoldae in Kaesong was expanded and renovated several times in a relatively short period of time, careful attention is required in the interpretation of the remains. In addition, the site layout or the column rows were confirmed to be not orthogonal to a large extent; therefore, minute analysis is required for the roof’s upper structure and the connection of the roofs. In the case of the Gyeongryeongjeon Hall, its plan indicated its function, but the characteristics of the ritual facilities, actual ritual procedures, and architectural layout should be reviewed together with careful consideration of its restoration. The remains of the large stairs identified in the 2018 survey suggest that there was a gate facility since a drainage channel with an inclination under the stairway and the foundation stone at the upper part of the stairs were found. However, similar cases cannot be found. For this microscopic in-depth study, it is necessary to disclose the results of excavation in more detail, and a broader comparative study of medieval architectural culture before and after the Goryeo Dynasty period is needed.

Another point that can be mentioned is a great interest in scientific approaches such as 3D scanning, geophysical prospecting, artifact analysis, and preservation processing. During the field survey, questions and discussions were

actively made on the scientific investigation of the ruins, estimation of the style and time period of the excavated materials, and analysis methodologies. The principles of globalization and scientification seem to have worked on such an interest, but due to practical limitations, the actual exchange in these areas has not been conducted, leaving all of the inter-Korean investigation teams wistful.

From 2007 to 2018, the joint inter-Korean excavation was conducted in eight times, and except for the six-month survey in 2015, each survey lasted only about two months. It is the most regrettable part of the joint investigation that consistency has not been guaranteed. The joint investigation team tries to secure as much information as it can at the site, but it is as important as the field investigation to organize such information systematically and draw shared opinions on its analysis. However, since the short investigation period is insufficient even just to confirm the remains, organization and interpretation of excavation results are being carried out separately. In 2018, it was meaningful that the inter-Korean excavation team had an opportunity to share and organize the results of the survey, but it is difficult to say that sufficient exchange of opinions was made by this one event. Publishing a joint investigation report through continuous discussion is the ultimate duty of the team. Therefore, above all, it is necessary to ensure a stable long-term investigation period. In order to jointly disclose the results of the field investigation, a regular survey system should be established. Fortunately, both the South and the North acknowledge the need for such a system. Since the long-term investigation agreement, not a single-year agreement, was already discussed in 2018, its feasibility can be expected to some extent.

If a long-term joint investigation is feasible, maintenance of the ruins, as well as excavation, will be critical. As mentioned earlier, North Korea hopes to carry out the maintenance works that would improve the quality of tourism, that is, to convey the authentic value of the site, along with the conservation management. By establishing the systematic maintenance process, it is necessary to prove that the protection and management of this World Heritage site are successfully implemented. Therefore, a comprehensive maintenance plan should be prepared first, and specific maintenance steps should be carried out step by step. These steps would include grasping the current maintenance status of the ruins within the central group of buildings, investigation of the unexcavated areas, including the eastern and western building groups, and establishment of a mid- to a long-term plan that simultaneously consider protection measures and

step-by-step maintenance process. It can be said that the investigation of the remains and maintenance status of the central group in 2018 was the first step. Further investigations to establish a maintenance plan that includes steps such as protection measures to prevent further damage to the remains, restoration of destructed parts, and maintenance of facilities to promote public awareness and convenient tourism will require expansion of the scope of joint research between the two Koreas.

Lastly, it is necessary to carry out follow-up studies following excavation. The scope of follow-up studies, such as preservation and analysis of artifacts, restoration studies of Goryeo palace architecture, Goryeo celadon, metal type, and comparative study with literature records, can be very broad and diverse. Based on these studies, our understanding of Korean medieval culture and history would be enriched.

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