A Survey of Korean Cities, Settlements, and Houses by East German Architects in the Late 1950s

Hideo Tomita*1

1 Associate Professor, Department of Architecture and Civil Engineering, Kyushu Sangyo University, Japan

Abstract

East German engineers who moved to the North Korean city of Hamhung in the late 1950s to help with urban reconstruction after the war damage caused in the Korean War. This paper focuses on the surveys made prior to urban planning by the East German architects, and clarifies how they understood the cities, settlements, and houses of the Korean Peninsula in the latter half of the 1950s. We analyze the contents and results of their survey on houses, settlements, and cities based on their reports and drawings. Through the analyses, following points were revealed. Konrad Püschel pointed out that the houses, settlements, and cities in the Korean peninsula were built through a close relationship with the surrounding landscape appropriate to each hierarchy, based on the results of survey by East German architects. Püschel identified the structural features of each space, wherein the boundary is determined by the surrounding mountains, with a river flowing through it. Based on these observations, Püschel concluded that the cities and settlements in the Korean peninsula are deeply rooted in the mutual relationships between the structure/form of the Korean landscape, the landscape itself, and Korean society and economy.

Keywords: East German Architects; Konrad Püschel; Landscape; Korean Peninsula

1. Introduction

Very little is known about the hundreds of East German engineers who moved to the North Korean city of Hamhung in the latter half of the 1950s to help with urban reconstruction after the war damage caused in the Korean War. Owing to the cooperative relationship between socialist nations in those days, they moved to an unfamiliar world around 8,000 km away at the request of the East German government. They were known as the “German Work Team Hamhung” (Deutsche Arbeitsgruppe Hamhung) and were a group of engineers consisting of three divisions: planning, construction, and finance/management. They migrated with their families for a certain period of time to design and implement reconstruction plans while also enjoying leisure time with their friends and families and interacting with Korean people.

* Contact Author: Hideo Tomita, Associate Professor,
Kyushu Sangyo University, 2-3-1 Matsukadai, Higashi-ku,
Fukuoka, 813-8503 Japan
Tel: +81-92-673-5779
e-mail: tomi@ip.kyusang-u.ac.jp   tktomito@gmail.com

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The post-war reconstruction of Hamhung by East German engineers has been studied by several researchers. Frank (1996) pointed out the characteristics of the postwar-reconstruction of Hamhung in the late 1950s. Kim and Jung (2017) presented the microdistrict theory regarding the post war reconstruction of North Korean cities, including Hamhung. However, fewer evaluations of the survey made prior to urban planning by East German architects have been attempted. Therefore, this paper clarifies how East German architects understood the cities, settlements, and houses of the Korean Peninsula in the latter half of the 1950s. The author has already presented an outline of this survey, with regard to Korean settlements (Tomita, 2014). For this reason, this study expands to three fields, namely, cities, settlements, and houses, and considers them as a whole. Regarding research methodology, the contents and results of the survey of the East German architects on houses (Section 2), settlements (Section 3), and cities (Section 4), were analyzed and contrasted, in each section, based on their reports and drawings. As research materials, we used the materials left by the architect Konrad Püschel (1907–1997) to the Bauhaus Dessau Foundation. Püschel graduated from Bauhaus and led the city planning department of the German Work Team in Hamhung. The city planning department was a division belonging to the German Work Team Hamhung’s planning division and was in charge of the urban reconstruction plan. Püschel first carried out an investigation into the structural characteristics of the planning area and based on the structural value that soon became apparent, he established a new order for the planning space.

2. A survey on houses: Eight House Types

The architects of the city planning department created classification charts (Fig. 1) for typical house types in each province of the Korean Peninsula. Using floor plans, they analyzed the internal spaces of different houses and their placement on the premises depending on the region. The charts contained a map showing the division of provinces, scheme of the house types in each region (province), and floor plans of houses in North Korea (Hamhung, Pyongyang, and Kaesong). Both the old divisions (the Eight Provinces of Korea during the Choson dynasty, 1392–1910) and the new divisions (after the north–south partition in 1948) are shown in the charts. Eight house types are shown on the right side, representing the house types that were typical to the region since early times. However, the chart shows two house types for Kaesong and Seoul in Gyeonggi Province, and also shows house types in the Chagang Province (created in 1949), which was not included in the eight provinces of Korea. On the other hand, the house types in Kangwon Province, which is listed in the eight provinces of Korea, are not shown. These discrepancies are likely because the house types do not necessarily correspond to the divisions of the eight provinces of Korea.

First, with respect to regional positional relationships, the house types of Chagang Province (which was included in Pyongan Province) are shown as independent types. This is likely presented this way to differentiate the Chagang Province type, with a simple floor plan wherein the rooms and the kitchen are directly aligned, from the one evolving from this type into the Pyongan Province type with an L-shaped floor plan. Next, it shows two different types for Seoul and Kaesong in Gyeonggi province. These are likely considered to be independent house types because houses in the capital city of Seoul have evolved uniquely (Chu Namm-Cheol, 1981) and have specific features that are different from those of other provinces. Moreover, Kangwon Province was apparently omitted because the Hamgyong Province type is common in Kangwon Province (Chu Namm-Cheol, 1981).

The characteristics of each house type are analyzed in order from north to south as follows: 1. The Hamgyong Province type has four squarely arranged rooms. 2. The Chagang Province type has a simple planar shape with room and kitchen aligned in an east–west direction. 3. The Pyongan Province type has an L-shaped floor plan surrounding the kitchen, with porches at both ends. 4. The Hwanghae Province type is closely similar to the Pyongan Province type, with a long narrow porch by the room. 5. In the Gyeonggi Province, the Kaesong type is closely similar to the Chagang Province type, with wooden-floored rooms.
between rooms. 6. In the Gyeonggi Province, the Seoul type has an L-shaped floor plan with wooden-floored rooms between rooms, and a kitchen protruding to the south. 7. The Chungcheong Province type is very similar to the two Gyeonggi Province types. 8. The Gyongsang Province type is closely similar to Chagang Province type, with wooden-floored rooms between rooms. 9. The Jeolla province type has a floor plan similar to the Chagang Province type, with porches all around.

It is observed that, in the northernmost region, the Hamgyong Province type has more densely packed rooms, whereas as one moves south, more wooden-floored rooms and porches are found, with the rooms being more dispersed. It is evident from this analysis chart that the house types have a close relationship with the large climatic variations running north to south along the long Korean peninsula. In the report “The lifestyle of the Korean people” (1957), Püschel wrote the following about the houses in the Korean Peninsula, “Therefore, it is not a coincidence that a farmhouse forms the basis of all types of houses in the Korean Peninsula. The farmers, by organically blending the houses completely with the surrounding landscape, made the houses capable of withstanding the forces of nature, and laid out the rooms in the house to suit the farmers’ lifestyle... They know very well how to blend the house closely with the surrounding landscape.”

3. Survey on Settlements: Landscape and Boundaries of Communities

One can acquire a concise description of the settlements formed by clusters of farmhouses from the paper “A Survey of the Development and Construction of Korean Settlements” by Püschel (1959). In this paper, Püschel classified houses, settlements, and cities in the Korean Peninsula based on their location and the topography of the land, and identified the formational characteristics of the settlements considering the entire Korean Peninsula. The paper starts with a description of how fascinated he was by the beautiful Korean landscape. In the first part of the paper, by classifying the settlements in the Korean Peninsula based on the geographical features of their locations, he outlined the stages of their development. In the second part of the paper, he identified the formational characteristics of settlements across the Korean Peninsula. Specifically, Püschel classified Korean settlements and cities according to features of the terrain. These were classified...
as valley settlements, riverside settlements, coastal settlements, and mountain settlements. Then he pointed out that the features of the terrain and the existing water system largely determined the spatial arrangement of the settlements and the cities. Figure 2(a) to (c), using varying scales, analyze the entire Korean Peninsula, South Hamgyong Province, and villages in Joyang in Hamju County, and show that the mountains form the basis for the demarcation of areas for living and administrative division, and that the rivers and canals included in each such division help the spread of farmland for rice cultivation, creating an economic backbone.

First, the analysis chart of the entire Korean Peninsula (Fig. 2a) depicts the boundary lines of the eight provinces in the 15th and 16th centuries (dotted line), as well as the major rivers (solid lines) and the cities. Although the source streams of the rivers cross the province boundary lines at some places, the actual river basins are essentially contained within the province boundary lines. Province boundaries and rivers overlap only at the border with China. In explaining the chart, Püschel wrote, “The boundaries of provinces follow the mountain ranges and contain complete river systems.”

Next, the province boundary lines and the rivers were similarly analyzed in the chart titled “Landscape of Southern Hamgyong Province” (Fig. 2b). Commenting on this chart, Püschel wrote, “Within the large provincial territory surrounded by high mountain massifs, there are seven small territories separated by mountain foothills, with their own river systems.” The seven territories identified here were based solely on independent analysis by Püschel et al., and each area contained 1–6 cities/counties. According to Püschel, the surrounding mountains formed the boundaries of the territories containing their own river systems. This is almost synonymous with the meaning of a river basin (a catchment area surrounded by nearby streams).

In the analysis chart of villages in Joyang in Hamju County (Fig. 2c), the terrain along with the locations of settlements are shown. The Joyang terrain has a mountain range of approximately 600 m in elevation on the west and plains with paddy fields on the east. Two rivers (Joyang River and Taedong River) flow from east to west, passing through the village center. The central settlement of the village is located along the Joyang River, within a boundary defined by the mountains and the plains, and includes facilities arranged for village party leadership, village committees, the agricultural production cooperative, and administration of rice cultivation. Similar to Figures 2a and 2b, commenting on this analysis chart, Püschel wrote, “The boundaries lie on the ridge of the surrounding mountains and enclose two full river systems. The paddy field spreads from the plain up to the river valleys. The hamlets use elevations above the plain.”

Fig. 2. Analytic drawings in Püschel's thesis (1959)
4. Survey on Cities: City Walls, Mountains, and Rivers

In a survey on cities titled “Korean city forms” (Fig. 3), the East German architects analyzed the relationship between the topography and the city walls of a total of nine major cities of the Korean Peninsula (including Seoul and Hamhung), classified their urban configurations, and arranged them by their principal forms and evolutionary processes. The city planning department classified the urban configurations into “main forms” and “special forms, or variations of main forms”. The main forms were further classified into two forms, namely (1) a type (Pukchon, Kyongsong) using city walls on four sides (square or rectangular) built on flat land, and (2) a type (Tanchon, Hamhung) using a mix of freeform city walls along mountains and straight walls on flat land. In both types, a major river system existed outside of the walls. The special forms, or variations of main forms, were further subdivided into the following five types: (1) a type with a city wall built along the surrounding mountain ridge, and a river around the middle of the area (Seoul); (2) an extension of type (1) with a wall along the surrounding mountain ridge, and a river in the middle (Kaesong); (3) a type with a wall along the river (Pyeongyang); (4) a type with a wall along the surrounding mountain ridge, with a major river outside the wall (Yongbyon); and (5) industrial or port cities without walls, built in the 20th century (Chongjin). In types (1) to (4), since the walls are built along the mountain ridge or riverbanks, they are all freeform in shape.

Among these seven types (nine cities), as described in the paper by Püschel and outlined in Section 3, Seoul and Kaesong are the ones where the surrounding mountains define the area with a river flowing through it. In his paper, Püschel wrote the following on the city of Seoul: “The plan clearly shows the city in its landscape. The division of the city shows the relations of the cultivated area to the water system. The palaces of the Ri Dynasty (1392–1910), surrounded by walls, are part of the irregular area development. They have connections to the peaks of the surrounding mountain ranges around the city, which are typical for Korean cult and palace complexes.” With respect to Kaesong, he wrote, “The old and the extension walls of the capital of the Goryeo Dynasty (935–1392) also follow the surrounding ridges and enclose complete river systems.” Therefore, it can be said that he identified similar features in the two cities.

As can be observed in the analysis charts, the chart for Kaesong depicts the terrain with relative accuracy, whereas the chart for Seoul depicts a largely deformed shape similar to a distorted rectangle. Moreover, the chart for eight cities, except Seoul, depicts the terrain with relative accuracy. In short, it is clear that only the terrain of Seoul exhibits a largely deformed shape in the analysis charts, when compared to the actual one. Therefore, we analyzed how the Seoul chart deformed, by comparing the map from the city planning department (Fig. 4a) to the 1861 outline map used in the paper by Püschel (1959) shown in Fig. 4b, and the current city wall and terrain map of Seoul in 2014. First, the map from the city planning department (Fig. 4a) is very close to the 1861 outline map (Fig. 4b). Second, the actual city walls around Seoul are not similar to a distorted rectangle but rather much more freeform, following the surrounding mountain ridges (Fig. 4c).

As pointed out in the first half of Section 4, the city of Seoul meets very well with the feature pointed out by the East German architects, wherein the walls built around the city use the surrounding mountains, and a river flows through the middle. In the analysis chart by the city planning department (Fig. 4a), it can be observed that the river flowing through Seoul is actually the Cheonggyecheon River, based on a comparison with the current map of Seoul (Fig. 4c). The river was reduced to an underground stream during the 1950s and 1960s, and then restored in 2005. The existing Cheonggyecheon River matches with the original layout, which was integral to the Korean Peninsula lifestyle, as revealed in the survey conducted by the East German architects in the late 1950s. Thus, in the 1959 investigative report, Püschel presented the idea that Korean cities are irregular in form, owing to their being ordered according to the landscape and the demands of people’s lifestyles.
5. Conclusion

As described above, Püschel pointed out that the houses, settlements, and cities in the Korean peninsula were built through a close relationship with the surrounding landscape appropriate to each hierarchy, based on the results of survey by East German architects. Püschel identified the structural features of each space, wherein the boundary is determined by the surrounding mountains, with a river flowing through it. Based on these observations, Püschel concluded that the settlements in the Korean peninsula are deeply rooted in the mutual relationships between the structure/form of the Korean landscape, the landscape itself, and Korean society and economy.

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