Dwelling manners of Palhae, successor to Koguryo

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The great leader Comrade **Kim Jong Il** said as follows.

"A successor to Koguryo, Palhae played a great role in developing the history of our country in the period between the late 7th century and the early 10th century." ("**Kim Jong Il** Complete", Vol. 2, p 163)

A powerful sovereign state built on the former territory of Koguryo by the ruined Koguryo people, Palhae inherited and developed the culture of Koguryo and made a tangible contribution to protecting the repeated invasions of Korea by different northern countries and ensuring the safety of the country.

Based on the fact that the first capital area of Palhae at the time of its foundation was originally the residential area of Su Mo, some foreign documents describe as if Palhae was the "country of Mo" who played the main role in setting up the country and represented its name as "Bohai Mo", "Wu dai shi ji", a Chinese history book, says that the original name of Palhae is Mo and another race of Koguryo in a bid to deny Palhae.

This shows that the documents were written in a bid to deny Palhae and distort its historical facts although they admit that Palhae was legitimately Koguryo's successor built by the ruined Koguryo people.

The fact that Palhae succeeded to Koguryo can be verified through "Jewangungi" written by Ri Sung Hu in the 13th century. It says that "Former Koguryo general Tae Jo Yong founded a country in Zhou in 684 by relying on the southern fortress of Mt. Thaebaek and named it Palhae". As seen in old records, the contemporary people were of the opinion that Palhae was founded by the ruined Koguryo people and it inherited Koguryo culture.

Through the fact that the structure and array of dwelling houses used by the Palhae people coincide with the ones of Koguryo houses, this paper deals with the dwelling manners of the nation which were inherited from Koguryo to Palhae.

The dwelling culture of the Korean nation which was formed and consolidated through a long historical course has developed into a pillar- and beam-type ground structure through cave and straw-thatched hut in its early stage to dugout and semi-dugout.

In particular, the dwelling houses of Koguryo in the period of the Three Kingdoms clearly took the form of pillar- and beam-type dwellings designed in favor of production activities including small peasant farming and to coincide with national living customs and life sentiments of the Korean people who liked to sit on the room. This form was later inherited to the structure and array of dwellings in Palhae.

First of all, the form of strip of level ground under the eaves and plane structure of Koguryo dwellings can be found in the houses of Palhae.

Continuity relations appear in the form of strip of level ground under the eaves of Koguryo and

Palhae dwellings.

As a fixture needed only for ground dwellings, the strip of level ground is one of the structural components peculiar to the national dwellings, which helps enhance the aesthetic sense of houses and promote convenience in everyday life.

The strip of level ground lifts the building a level higher from the ground to ensure the balance of house and look better.

Typical sites showing Koguryo's strip of level ground include Tongdaeja house site and house lot No. 10 in the site of Jongnung Temple.

Their strips of level ground were hardened with mixed soil and sand to a certain height before building a layer of frame with trimmed stones to meet their face.

The strips of level ground of two dwelling houses seen in the right side of outer castle of the Liaodong Castle in a mural painting in Ryongbong-ri, Sunchon City, South Phyongan Province, are very vivid. On the contrary, embankments rising 0.7 to 1.5 metres were built in such palaces and temples as the sites of Anhak Palace and Jongnung Temple. This difference was given to meet the functional demand of buildings. It can be claimed that the strip of level ground is designed to add beauty and neatness to dwellings, but the embankment is to highlight the grandeur and mystery.

This shows that the practice of building a strip of level ground in dwellings has been much popularized in Koguryo.

The strip of level ground seen in Koguryo dwellings played an important part in protecting the Korean hypocaust, a kind of under-floor heating system, making heat come into the floor, reinforcing the foundation of house and protecting walls. In view of living, as it is built in a position linking the outdoors and room, it makes it possible for dwellers and other visitors to put off shoes outside the house and go into the room through the strip of level ground in keeping with the living customs of the Koreans who make indoor life without putting on shoes and to ensure the cultural traits of indoor life.

As the northern nations that bordered with Koguryo at that time put on shoes in rooms, the strip of level ground was badly needed for dwellings. Most of their living rooms were directly linked to the outdoors without the strip of level ground to ensure the convenience of entrance and exit of rooms.

This shows that the strip of level ground of Koguryo dwellings is a peculiar facility which was contrived and used to suit the dwelling manners of the Korean nation unlike the dwelling houses of neighbouring countries at the time.

The strip of level ground in the dwelling site of Palhae has the same appearance with that of Koguryo dwelling.

Palhae's typical dwelling sites that have been unearthed so far include the site in the western section of royal palace in Sanggyongryongchonbu, the capital of Palhae, the sites in the Sogo and Phalryon castles of Helong County, Jilin Province, dwelling sites No. 1 and 2 in the Chonghae mud castle of Pukchong County, South Hamgyong Province, Jolkol site, the site of northern building No. 1 and the site of Kumsan building No. 1 in Omae-ri of South Hamgyong Province, Odong and Somil castles in Dunhua County, Jilin Province, and the Maritime Territory of the Russian Far Eastern Region.

All of them have strips of level ground under the eaves.

The strip of level ground in the dwelling site found in the western section of the royal palace in

Sanggyongryongchonbu was hardened with soil and sand in several layers and covered by well-trimmed stones in their surroundings as steps. A ditch is connected to the strip of level ground. The size of each stone step in the northeast was 62cmX22cmX36cm. The strip of level ground was 28.95 metres long from the east to the west and rose 0.15 metre. A ditch was made to the outer side of strip of level ground backed by this stone step.

The site of Kumsan building No. 1 of the Jolkol site in Omae-ri, South Hamgyong Province, has nothing to do with the site of temple in structure, but takes the form of dwelling house with the strip of level ground. The strip of level ground stretches 20.15 metres from the east to the west, 5 metres from the north to the south and rises 0.35 metre. It was hardened with weathered gneiss and reinforced by turning roofing tiles upside-down on its edge. The lap roofing tiles were taking the place of stone steps.

The proper construction of strip of level ground is related to the prevention of humidity and long living customs of the Korean nation who has enjoyed indoor life without putting on shoes.

As seen above, the strips of level ground in the dwelling sites of Palhae succeeded to those of Koguryo dwellings.

Their inheritance is clearly found in the plane structure of Koguryo and Palhae dwellings.

A Koguryo dwelling discovered in Jian consisted of a house standing inclined from the middle to the west and accessory buildings in its front and back sides among a large architectural group that constituted a dwelling house. The house consists of two rooms in the east and west and a narrow passage stretched from the north to the south. The two rooms in the east and west are less than 15 metres long.

This makes it possible to easily understand that Koguryo dwellings consisted of several buildings and in view of plane structure it had a small room which was used as a passage with two large rooms arranged in the right and left side of the passage.

Such a dwelling structure of Koguryo can be also found in the house of Palhae.

The plane structure of dwelling site in the western section of the royal palace in Sanggyongryongchonbu of Palhae consisted of three rooms linked from the east to the west and a corridor surrounding them.

The rooms in the east and west were large, but the one in the middle was divided into two spaces by a dividing wall. The site of main building in the royal palace had three rooms. The two rooms in both sides are big, but the room in the middle was small.

The site of Kumsan building No. 1 of the Jolkol site in Omae-ri of South Hamgyong Province served as a building to defend the passage leading to the Jolkol site and watch the situation in the East Sea or on the Omae-ri Plain, and its plane structure consisted of three rooms linked from the east to the west. The two rooms in the east and west were large and they were 8.5 metres long from the east to the west and 3.5 metres from the north to the south. A room used as a passage, the room in the middle was 2.25 metres long from the east to the west and 3.5 metres long from the north to the south.

This testifies that the plane structure of Palhae dwellings coincides with that of Koguryo dwellings.

Next, let's consider about the fact that the heating system of Palhae dwellings coincides with that of Koguryo dwelling houses and their inheritance and development.

Koguryo dwellings were all furnished with low and narrow long two hypocaust (ondol) flues.

The hypocaust flues in the Tongdaeja relics of Koguryo were low and long and could be divided

into single and two hypocaust flues. The two heating system was two metres wide and some ten metres long to warm up a large area of floor.

The appearance of floor heating system of Koguryo dwellings can also be found in tomb murals.

The pictures depicting the kitchen and long heating system in the Ko Kuk Won Mausoleum and the Yaksu-ri tomb mural show a woman preparing foods while putting an earthenware steamer on the kitchen range and another woman making a fire in the kitchen range fireplace. They also depict the fire kindled at the fireplace running out of a chimney through the flues.

This coincides with the records of Chinese history book "Jiu Tang Shu" which say that "Koguryo people lay a system of flues in the floor in winter and kindle fire to warm up their rooms, which shows that the ondol used in Koguryo at the time was a low and long under-floor heating system.

Such a heating system of Koguryo can be found nowhere else except Palhae dwellings.

In view of the heating system in the dwelling site in the western section of royal palace in Sanggyongryongchonbu, it had three heating systems in the rooms in the east, middle and western corridor, plus four in the western room and northern corridor, seven in all. All the heating systems were bent type and installed horizontally to the wall, and two floor heaters in the northern corridor were single one and the rest were double ones.

Four clay blocks were piled up for some 30 centimeters to build a heated floor with the system of flues underneath it and the floor was covered with plain rocks which were 10 centimeters thick. In case of double-heating system it was 1.4 metres wide and the area covered by ondol in the room acreage was comparatively large.

The heating system was linked to two chimneys in the north, in which the flues of hypocaust in the eastern room and northern corridor were joined to be linked to the chimney in the northeast and the ones in the middle and western rooms and northern and western corridors were also joined to be linked with the northwestern chimney. The dwelling site in the western section in the royal palace of Sanggyongryongchonbu was equipped with a well-knit heating system designed to draw smokes coming out of several hypocausts through two chimneys.

The site of Kumsan building No. 1 belonging to the Jolkol site in Omae-ri of South Hamgyong Province was provided with two heating systems, in which one was 3.8 metres long and the other was 3.6 metres long with their hypocaust flues low and narrow.

The heating system of dwelling site No. 1 in the north of the same relics was five to eight metres long, 1.5 metres wide and 0.4 metre in height.

The characteristics of the heating system of Palhae is that jodol (auxiliary heating system) has been installed at the neck of chimney linking with two hypocaust flues so that it can draw smokes well by heating the edge part of the flues and the neck of chimney.

The heating-system flues in the dwellings of the Palhae people coincide with those of Koguryo dwelling houses and represent its inherited and developed aspect, and show that Palhae dwellings have originated from Koguryo dwellings.

The heating system of Palhae dwellings has commonness in the chimney facilities connected to the heating-system flues with those of Koguryo dwellings.

The chimney system in the Tongdaeja dwelling site of Koguryo was built circularly with the

thickness of 1.5 metres by mixing stones and mud while adjusting its inner side to make its lower side to be four metres in diameter to keep warm the air inside the chimney. A pit one metre in diameter was dug at the bottom of chimney.

The chimney in the site of Jongnung Temple also has a pit which is some one metre in diameter and the lower part of the chimney built by applying soil to the roofing tile pieces remains around the pit.

It shows that chimney was set up to let heat come into the heating system by preventing the head wind from the outside and it was one of the important equipment of the heating system along with hypocaust in Koguryo dwellings.

The chimneys in Palhae dwellings show well the inheritance of such chimney facilities of Koguryo.

With regard to the chimney in the dwelling site in the western section of royal palace in Sanggyongryongchonbu, the rim of chimney was piled up with trimmed stones while narrowing down line by line to make a circular shape, and a pit and smoke hole were made in the middle of the chimney. A ditch was dug around the chimney to connect it with the one beneath the strip of level ground.

The chimney in the Jolkol relics in Omae-ri, South Hamgyong Province, was also a square-shaped large one which was two metres long in all sides. There was a sign of pit whose diameter was 0.8 metre in the middle of the chimney. Such chimney facilities were the same with the chimney arrays of Koguryo heating system, which represented their inheriting relationship.

The countries and nations adjoining Koguryo in those days used such heating facilities as kang designed to only heat sleeping place in the room, fireplace and brazier. They used to lead an indoor life of sitting or standing while putting on their shoes. This is quite contrary to the indoor life of the Korean nationals who sat on the floor or slept on it in the room with low hypocaust flues without putting on shoes.

Therefore, it shows that the Palhae people who lived in rooms furnished with the heating system convenient to leading a sitting life were the successors to Koguryo who carried on the customs of using the hot floor of Koguryo dwellings and they formed a main group of populations in Palhae.

The inheritance and development of national dwelling manners which were carried forward from Koguryo to Palhae clearly show that the traditional culture and custom of the Korean nation were carried on steadily and that Palhae is the successor to Koguryo.

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