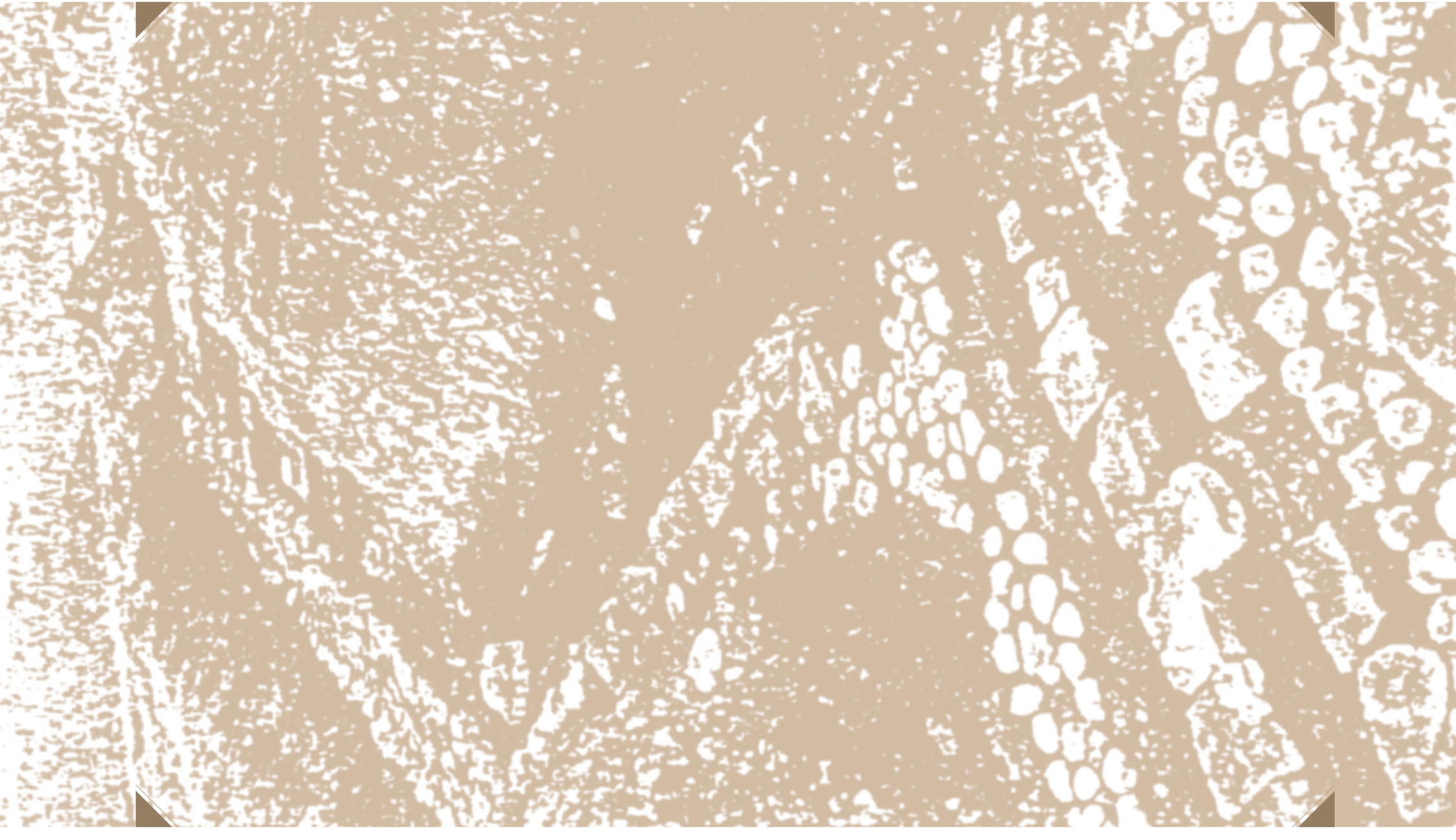
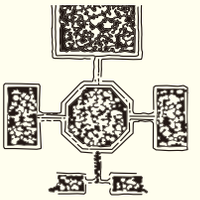
Sango-ri temple site; Image source: Saito Tadashi, "Survey of the Foundations of the Goguryeo Building at Sango-ri, Imwon, Daedong, Pyeongyang," *Kogougaku Jatsi* (考古學雜誌: *Journal of Archaeology*), vol. 30, no.1 (January 1940)





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CHANGES IN THE LAYOUTS OF BUDDHIST TEMPLES OF GOGURYEO CIRCA FIFTH CENTURY AD

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CHANGES IN THE LAYOUTS OF BUDDHIST TEMPLES OF GOGURYEO CIRCA FIFTH CENTURY AD

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[ABSTRACT]

Among the archaeological excavations of Buddhist temple sites of the Goguryeo period, information on site plans exists in only four instances. Analysis of such information is crucial not only for the understanding of early Korean Buddhist architecture, but also to provide insight into the development of East Asian architectural studies generally, especially as no archaeological evidence of the same period has been discovered in any other country, including China. Through investigative study of these four temple sites, this paper attempts to identify the dates of construction and the patterns of structural change of Goguryeo temples, relying on comparative analysis of the changes in temple structures, such as the pagoda and golden hall, the surrounding corridor, and other types of buildings. It concludes that Sango-ri temple site is the earliest example of a temple site, followed by Jeongneungsa (temple) circa 427 and Toseong-ri in the late fifth century. It argues that changes in architecture were much influenced by religious developments.

[KEYWORDS]

Goguryeo, temple sites, Buddhist, architecture, site plans, Cheongam-ri,

Sango-ri, Jeongneung, Toseong-ri, Wono-ri, golden hall, pagoda

I INTRODUCTION

Among the Buddhist architectural ruins of Goguryeo (高句麗, 37 BC-668) available for examination, only four temple sites provide relatively clear information on the layout of the buildings within each site. They include the Cheongam-ri (淸岩里) and the Sango-ri (上五里) temple sites, which were surveyed by Japanese scholars circa 1940, and the Jeongneung (定陵) and Toseong-ri (土城里) temple sites, which were investigated by North Korean scholars after the liberation from Japanese colonialism in 1945. A report on the Wono-ri (元五里) temple site written during the Japanese colonial era also remains, but lacks information on the ground plan. For this reason, it will not be considered in this paper.

Since the reports on these temple sites were compiled on the basis of archaeological excavation alone, there is no reliable information on the architectural styles of the buildings themselves, and it is thus only possible to imagine parts of the buildings by examining the remains of stone platforms, gutters, foundations, cornerstones, and the like. This paper draws on the extraordinarily dynamic changes in East Asian site plans. It should be emphasized, however, that its goal is to note changes in the architectural placement of structures and buildings, rather than to define the characteristics of above-ground architecture for restoration purposes. In East Asian architecture changes in the layout of buildings rather than changes in architectural style provide a more accurate reflection of the historical architectural trends of the time. Yet, there is a tendency to classify all ancient Buddhist architecture collectively and to understand their structures under a category easily identifiable to us, for example as a certain type of "pagoda" or as a "golden hall" (金堂, *geumdang*: the central image hall in a Buddhist temple where Buddhist images or statues are enshrined). On close scrutiny, however, we find that within the same classification of architectural forms there lie distinct differences, reflecting a consistent pattern of change in Buddhist aesthetics and ideology. Rather than theoretical studies on architectural form, a more significant focus of inquiry, therefore, would be to identify the substance of these changes and to address the causes that lie behind them.

In the case of some temple sites, it is possible to ascertain a clear reconstruction of the site plan to a reliable degree even when there are no surviving above-ground architectural remains. This paper begins with an analysis of the data on Buddhist temple sites of Goguryeo, followed by an attempt to identify specific changes in the layout of temple buildings and other structures. The final

part of this paper puts forward an assessment of the date of each temple site together with explanations as to why changes in site plans occurred.

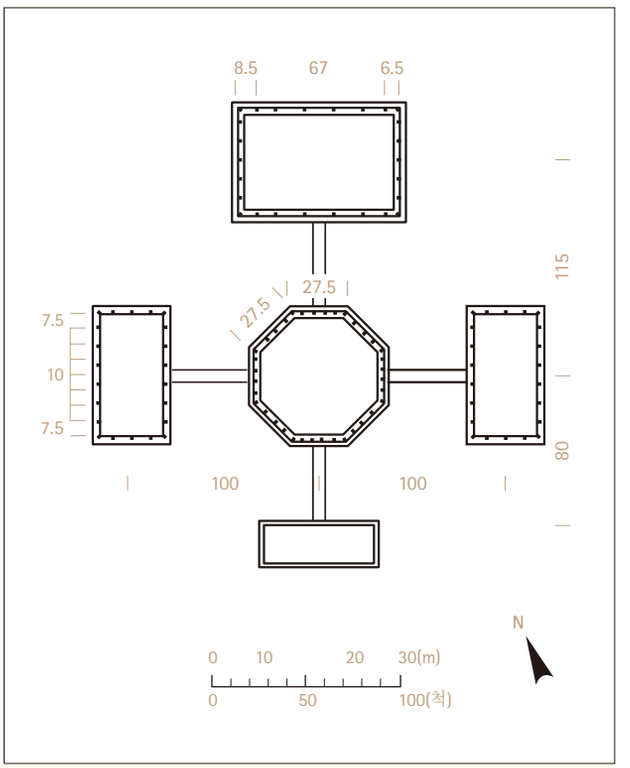
There are a number of assumptions that can be made about Goguryeo temple sites built around the fifth century AD, which are supported by documentary evidence. Documents exist which record that Buddhism and Buddhist architecture of ancient China had already reached full bloom by the fifth century and that by this time Goguryeo's absorption of Buddhism from Former Qin (前秦, Qianqin, 351-394) of the Northern Dynasties (北朝, Beichao, 386-535) had been completed. In the fifth century, during the time of the Southern and Northern Dynasties (南北朝, Nanbeichao, 386-589), China consisted of several states that espoused Buddhism and competed in the building of Buddhist temples. More significantly, the flowering of Buddhism in China in the fifth century had a profound influence on Goguryeo. There are, however, no excavation reports on Chinese Buddhist temples of that period and, thus, the evolution of Goguryeo temples and related findings of temple sites are key not only to understanding Goguryeo architecture but also to assessing broader trends in ancient East Asian Buddhist architecture. Furthermore, findings on Goguryeo Buddhist temple sites also serve as an essential template for understanding the Buddhist architecture of Baekje (百濟, 18 BC-660) and Silla (新羅, 57 BC-654).

With respect to this thesis, I have already presented a paper on the Sango-ri temple site[1] in which I attempted to analyze the dates and sequence of construction by comparing Sango-ri with other sites. This paper, by contrast, seeks to complement it by providing a conclusive conceptual framework. Indeed, sometime after the publication of my earlier paper, a newly excavated temple site in North Korea was reported, the discovery of which made it incumbent on me to reassess my previous work. It has become necessary to take a general overview of all such temple sites in order to be able to compare them within a single genealogical framework, as well as to compare each site individually and to gauge the differences between them in a more objective and quantifiable manner. Such a holistic view of all temple sites lends itself to a more effective evaluation of the chronology and the overall pattern of development of Buddhist temple site plans of the Goguryeo period.

II TEMPLE SITES OF THE GOGURYEO PERIOD

Although there are several documentary reports about Goguryeo temple sites available, for the purpose of my overall argument I have chosen to outline below the salient features of each temple.

The best-known Goguryeo temple site is the Cheongam-ri temple site (Plate 1). It is located on a hill north of the Daedonggang (大同江: river in Pyeongannam-do), about three kilometers northeast of Pyeongyang (平壤). Three buildings, each thought to be a golden hall, surround an octagonal pagoda.[2] An entrance site (門址, *munji*) to the south of the pagoda



(Plate 1)
Cheongam-ri temple site

site (塔址, *tapji*) has also been discovered.

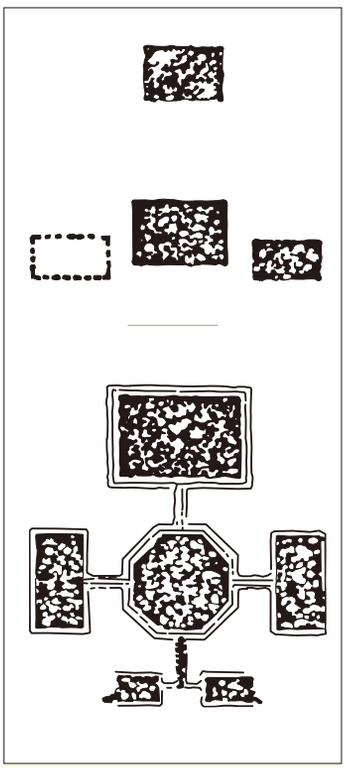
No definitive evidence distinguishing the name and date of the temple at the Cheongam-ri temple site has been found, but most scholars agree that it is Geumgangsa (金剛寺: temple),[3] built during the reign of Munjawang (文咨王, r. 491-516) of Goguryeo.[4] The basis for this consensus is threefold, namely that the reported location of this temple is the same as the location of the Cheongam-ri temple site;[5] that remains that bear the word "Geumgang (金剛)" are found around the site;[6] and, finally, that according to *Goryeosa* (高麗史: *History of Goryeo*), King Sukjong (肅宗, r. 1095-1105) visited Geumgangsa and viewed the remains of the old pagoda.[7] It has also been found that each side of the stylobate or pillar foundation for the wooden octagonal pagoda measured about 9.5 meters while the temple's eastern and western buildings each measured about 13 by 23.5 meters. In addition, an entrance site or *munji* was found south of the pagoda site.

Although there is as yet no conclusive evidence of a corridor surrounding the pagoda and the three golden halls, it is almost certain that it did exist. The remains of a separate building were discovered north of the three golden halls,[8] and there was a large enough space for a corridor between that building and the golden halls.

A separate temple site called Wono-ri Temple was also surveyed around the same time as the Cheongam-ri temple site. However, since not even an outline of the ground plan could be determined from this particular site, it is not useful for the purpose of this paper to elaborate on it.[9]

Another temple site surveyed by the Japanese is Sango-ri Temple (Plate 2), but unlike the Cheongam-ri temple site, it did not undergo formal excavation and analysis. The site lay in limbo after an initial survey and it was only later that a sketch plan of it was produced.[10]

The Sango-ri temple site is located at Imwon-myeon (林原面), Daedong-gun (大同郡), northeast of Pyeongyang, and about two kilometers northwest of the Cheongam-ri temple site. The name of the temple and the date of its construction remain unknown. An octagonal pagoda and the foundations of buildings to the east and west of the pagoda have been discovered, but whether or not there existed a building to the north of the pagoda is uncertain. Each side of the stylobate of this pagoda measured about 8 meters and the buildings east and west of the pagoda each measured 12.6 by 25.8 meters. Compared with the Cheongam-ri temple site, the pagoda is slightly smaller while the eastern and western buildings are longer. The most significant difference between the two sites, however, is the distance between the pagoda and the eastern and western buildings. At Cheongam-ri temple site this is 10 meters while at Sango-ri temple site

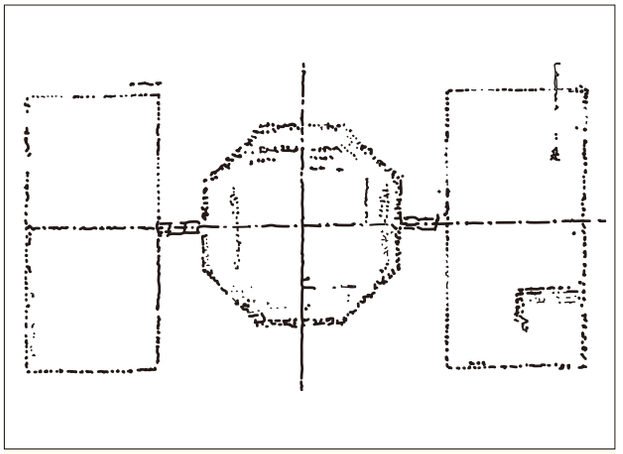


(Plate 2)
Sango-ri temple site

it is 4 meters, less than half.

In addition to the two temple sites of Cheongam-ri and Sango-ri surveyed by Japanese scholars sometime around 1940, two other Goguryeo temple sites investigated by North Korean scholars have come to light in more recent years. One is the Jeongneung temple site and the other is Toseong-ri temple site.

The Jeongneung temple site is located at Jinpa-ri (眞坡里), Jeonghwa-gun (中和郡). The contours of the entire temple site have been confirmed by excavation (Plate 3). The octagonal pagoda in the center has the same features as those of other temple sites, the scale of the stylobate being also similar to those of others (the outer row of pillars measuring 8.4 meters on each side and the inner row 7.3 meters). The most significant difference here is that while the pagoda was also flanked on its east and west by buildings, unlike in other temple sites, these adjacent buildings are not symmetrically aligned. Moreover, the pagoda is located to the east of the center of the ground plan and a corridor that surrounds only the pagoda and the eastern and the western building remains. To the north, the remains of three separate buildings surrounded by another corridor were found, and still further north are the foundations of three other buildings: the ones at either side, to judge from the plans of the pillar bases, are almost certainly a bell tower (鐘樓, *jongnu*: a tower or a two-storey structure) and a sutra pavilion (經樓, *gyeongnu*); it is less clear what the one in the center may have been, although the site plan suggests that it is a golden hall.[11]



(Plate 3)
Jeongneung temple site

The temple name is inscribed on tiles discovered at the site. The tomb of Dongmyeongwang (東明王陵: Dongmyeong wangneung) is located to the north of Jeongneungsa. Concerning this location, scholars take the view that when Jangsuwang (長壽王, r. 413-497) transferred the capital from Tonggu (通溝) to Pyeongyang, he had the tomb of the founder of the dynasty, Dongmyeongwang (r. 37–19 BC), moved from Ji'an (輯安), Manzhou (滿洲) to the new capital and built Jeongneungsa as a prayer hall (願刹, *wonchal*: a hall to pray for the well-being of the royal household) for his own longevity and the peace and security of his nation. Thus, the date of the construction of Jeongneungsa is considered to be circa 427, the year that Jangsuwang moved the capital. In short, Jeongneungsa is a temple of the early fifth century, built some seventy years earlier than Cheongam-ri Temple.

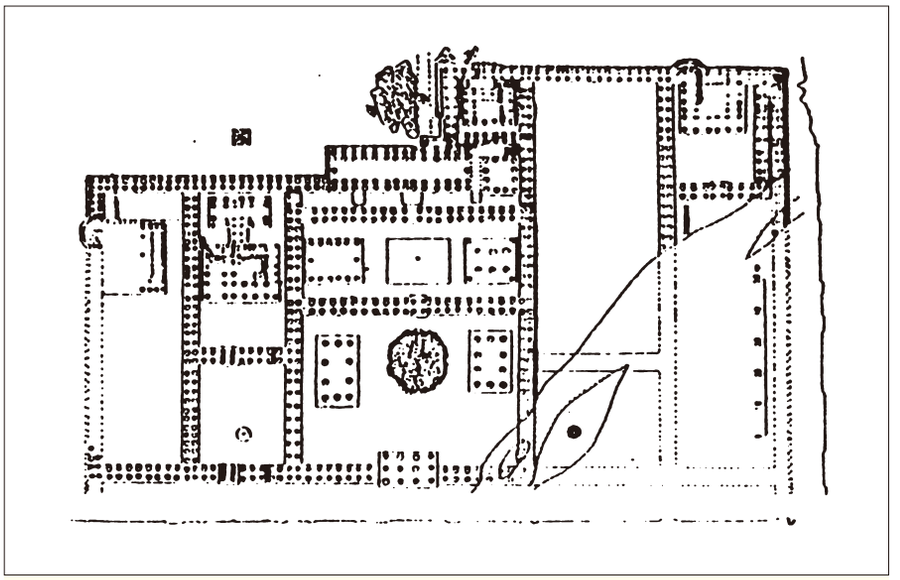
The most recently excavated temple site is Toseong-ri (Plate 4). While other temple sites are in the vicinity of Pyeongyang, the Toseong-ri temple site is located at Toseong-ri, Bongsan-gun (鳳山郡), Hwanghae-do, to the south of the city. The scale of the stylobate of the octagonal pagoda is similar to those mentioned above (the outer row of pillars measuring 9.1 meters on each side and the inner row 7.7 meters). The foundations of the western building measure 18 by 9 meters and stands 7.4 meters away from the pagoda. The ground plan of the eastern building is assumed to be aligned symmetrically with that of the western building, although the disturbed conditions of the ground surface do not allow for this to be verified. The foundations of another building are located north of the pagoda, but information on it exists only to the extent that the building's southern stylobate has been identified. It is noteworthy that that the latter is located 27.3 meters away from the center of the pagoda. The date of construction and the name of the temple are as yet unknown.

III ANALYSIS OF CHANGING PATTERNS OF SITE PLANS

All the ground plans for the four temple sites discussed above are different from one another. On the one hand, this makes it challenging to understand the characteristics of Goguryeo Buddhist temples. On the other hand, the differences point to certain historical processes of change in the construction of Goguryeo Buddhist temples.

Among the four temple sites, the Cheongam-ri and Jeongneung sites are the only ones for which we have approximate dates of construction. The differences in layout between Jeongneung and Cheongam-ri provide evidence for the evolution of temple plans from the early fifth century to the late fifth century. The next task is to place the Sango-ri temple site and Toseong-ri temple site within a time frame in relation to the Jeongneung temple site and Cheongam-ri temple site. Such a chronological framework for all four sites will enable us to discern patterns of change in Goguryeo temple layouts over time.

The most important elements of a Buddhist temple are naturally the pagoda and the golden halls. Among the four temple sites there are no distinguishing differences in the features of the pagoda stylobates. They are all octagonal and their construction methods are quite similar to each other. The pagodas are also generally similar in size with only slight variations of scale: the outer measurement of each side of the octagonal stylobate of the Cheongam-ri temple site measures 9.5 meters; that of the Sango-ri temple site 8 meters; that of the Jeongneung temple site 8.4 meters; and the Tosheong-ri temple site 9.1



(Plate 4)
Toseong-ri temple site

meters. A pattern of gradual increase in the dimensions of the stylobates emerges from the Sango-ri temple site to Jeongneung, to Toseongri, and to Cheongam-ri, although any minor difference is possibly due to differing points of reference in measuring them.

The dimensions of the eastern and western golden halls of the Sango-ri temple site are 12.6 by 25.8 meters whereas Toseong-ri measures 9.1 by 18 meters and Cheongam-ri 12 by 21 meters. The dimensions of the Jeongneung temple site's eastern golden hall are 13.4 by 20.5 meters, and those of the western golden hall are 13.8 by 22.8 meters.[12] Since the eastern and western golden halls of the Jeongneung temple site are different from each other in size, it is not useful to compare them with the dimensions of the golden halls at the other three sites. What is discernible among the three remaining sites, excluding the Jeongneung temple site, is the decreasing size of the foundations of the eastern and western buildings: from Sango-ri (325 m^2) to Cheongam-ri (252 m^2), and to Toseong-ri (163 m^2). Furthermore, a decreasing order in the ratio of length and width (longer side/shorter side) is also found from Sango-ri (2:1) to Toseong-ri (1.97:1), and to Cheongam-ri (1.75:1). In other words, the structure of the eastern and western golden halls has gradually changed from a long and narrow rectangle to a shorter and broader rectangle. A comparison between Jeongneungsa and the others shows that the scales of both the eastern and western golden halls of Jeongneung lie between those of Sango-ri and Cheongam-ri, and that the ratio between length and width of the buildings at Jeongneung temple site is smaller than that of Cheongam-ri.

The four sites also demonstrate considerable variation in the distance between the pagodas and the eastern and western golden halls. The distance at the Sango-ri temple site is 4 meters; at Toseong-ri it is 7.4 meters; and at Cheongam-ri 10 meters. The distance from the pagoda of the Jeongneungsa to the foundations of its eastern golden hall is 5.5 meters, and to the foundations of the western hall it is 9.2 meters. Taking into account only the distance between the eastern golden hall and the pagoda at the Jeongneung temple site, the following increasing order of distance appears: Sango-ri – Jeongneung – Toseong-ri – Cheongam-ri. The rate of increase in distance from one site to the next is also relatively constant.

The distance between the pagoda and the golden halls at Cheongam-ri is more than twice that of Sango-ri. If we are to assume that the Sango-ri temple site also had the same structure of three golden halls as the Cheongam-ri temple site, then the eastern and western golden halls in the former would be clustered so close to the pagoda that there would not be sufficient space for a northern golden hall. Therefore, it is more reasonable to assume that only the pagoda and the two golden halls of the Sango-ri temple site were surrounded by a corridor, especially considering the fact that, in the case of the Jeongneung temple site, its pagoda and eastern and western golden halls are also cordoned off by a corridor. This structural pattern is also present in the Toseong-ri temple site. The eastern and western golden halls of the temple are very close to the pagoda, indicating an intimate flow of worshippers between the two halls, but the temple's northern golden hall is so far removed from the pagoda as to give the impression of being a structure altogether separate from the golden halls. On the other hand, the three golden halls and the pagoda of the Cheongam-ri temple site are placed within an integrated ground plan. This layout seems to have developed from the ground plan of the Sango-ri temple site.

Chronological changes in temple site plans are also found in the northern golden halls and corridors. In the case of the Sango-ri temple site, no remains of a northern golden hall have yet been found. At the Jeongneung temple site, on the other hand, a small-scale northern hall is located in the space between the bell tower and the sutra pavilion. At the Toseong-ri temple site, the northern golden hall is larger than the eastern and western halls and thereby can be considered to be a golden hall in its own right. However, because it is located further away from the pagoda than the eastern and western halls, visually it appears

isolated. On the other hand, at the Cheongam-ri temple site, the location of the northern golden hall is in natural harmony with the eastern and western halls as well as with the pagoda.

The structural form of the corridor may also be explained in this context. As discussed above, at the Sango-ri temple site, the pagoda and the eastern and western golden halls are assumed to have been surrounded by a corridor, as in the case of the Jeongneung temple site. Judging by the distance between the northern golden hall and the pagoda at the Toseong-ri temple site, it is fair to assume that, in keeping with the tradition of Jeongneungsa, a corridor was built between them. This distance is difficult to explain otherwise. Yet the large scale of the northern golden hall at Toseong-ri distinguishes it from that of Jeongneungsa.

If this analysis is valid, the Cheongam-ri temple site is the first to feature a single corridor surrounding all three golden halls and the pagoda. This hypothesis cannot be verified beyond doubt until a full excavation of the area surrounding the corridor is carried out, yet it seems highly probable when we consider the locations of the pagoda and the golden halls that have been discovered so far.

From the above analysis we can see a clear pattern of change in the Goguryeo temple form. First, there is a chronological correlation between the practice of constructing larger pagodas and the custom of extending the distance between the pagoda and the eastern and western golden halls, as evidenced in the following ascending order: Sango-ri temple site – Jeongneung temple site – Toseong-ri temple site – Cheongam-ri temple site. Secondly, this also coincides with the order of increasing size of northern golden halls, coupled with a corresponding order of decreasing size of eastern and western golden halls, as well as a decrease in the ratios of length and width of the latter. Rather than dismiss these patterns as a coincidence, therefore, we should understand them as a series of changes caused by clearly defined motives and aims.

Above all, this analysis offers a more plausible assessment of the construction dates of each temple. If the construction date of Jeongneungsa is set to 427, then Sango-ri Temple, which preceded Jeongneung, can be dated to be sometime in the early fifth century or the late fourth century, and an estimate of circa 400 appears to be reasonable. Moreover, since Toseongri Temple must have been built after Jeongneungsa and before Cheongam-ri Temple, its construction is assumed to have taken place in the middle or late fifth century.

Even if these estimated construction dates are not wholly accurate, with such clearly definable patterns of change discernible in the site plans, the chronological development of structural changes is irrefutable. Therefore,

the next task is to examine the causes behind such patterns of change. This may be a more challenging endeavor than the above analysis of structural changes, as it would require a more subjective interpretation of Buddhist history and aesthetics. It would, however, also impart more significance to the findings.

IV CONCLUSION: INTERPRETATION OF CHANGING PATTERNS

The practice of building larger pagodas should be considered the most central pattern of change to emerge in Goguryeo Buddhist temple designs. Considering that the pagoda was the main focus of Buddhist temples of that era, we can assume that the religious symbolism and relative importance of pagodas had been steadily on the rise throughout the Goguryeo period. We can also see from various records that from the earliest days of ancient Buddhist architecture represented in the form of pagoda temples (塔寺, *tapsa*), the pagoda was the sole structure inside the central cloister.[13]

The presence of eastern and western golden halls, located to the left and right of the central pagoda at the Sango-ri temple site is a dramatic departure from the previous pagoda-oriented temple plan. This new ground plan is thought to have been influenced by the contemporary style of palace architecture that placed eastern and western halls on the left and right of the "main hall of a palace" (正殿, *jeongjeon*: the central administrative building of the royal palace, used for formal occasions such as coronations).[14] Moreover, the demand for eastern and western golden halls probably arose from the need for space to install various Buddhist statues in line with the doctrines of Mahayana Buddhism at that time.

The new structure with eastern and western golden halls would inevitably have impinged upon the space available on both sides of the central pagoda. They might have had the effect of reducing the scale and spatial boundaries of the pagoda of earlier times that occupied a large space and stood alone within the temple. However, the constant increase in the size of pagodas from the period of the Sango-ri temple site to that of the Cheongam-ri temple site illustrates the fact that the pagoda remained the central feature within a temple at least until the fifth century. In other words, the central importance of the pagoda increased rather than decreased during that period. However, from the sixth century on, this pagoda-centered layout began to change, with the size of the pagoda diminishing and the pagoda itself displaced from the central axis.[15] In the light of this we may assume that the centrality of the pagoda in the temple layout began to decline around the late fifth century or the early sixth century, and that the Cheongam-ri temple site marks a turning point in this decline).

In the sixth century, the eastern, western, and northern golden halls that had been introduced in the fifth century laid the basis for such a move away from the pagoda-centered layout. On the one hand, the eastern and western golden halls decreased in scale almost immediately after their very introduction, a pattern evidenced by their disappearance from the temple layout by the sixth century.[16] On the other hand, the northern golden hall started out small in scale, as seen in Jeongneungsa, and gradually increased in scale and importance. Despite such a trend, even by the time of the construction of Toseong-ri Temple, the northern golden hall still lay outside the corridor. However, by the time of Cheongam-ri Temple, the northern golden hall came to be situated within the corridor and became the central and largest of the golden halls. By the sixth century, the northern golden hall had become the only golden hall within the temple and the eastern and western halls had become obsolete. The northern golden hall came to occupy a position equal to that of the pagoda, and after the mid-sixth century the importance of the northern golden hall in the temple layout came to eclipse even that of the pagoda. This change in hierarchical placement toward a plan centered around a northern golden hall was already underway in the fifth century, as reflected in the gradual transition from Jeongneungsa to Toseong-ri

Temple, and to Cheongam-ri Temple, signaling the changes to come in the sixth century.

The Cheongam-ri temple site should be viewed less as a prototype of Goguryeo Buddhist temples, as has so far been the case, and rather as a transitional temple layout at a stage of development in the fifth century, built on a long process of evolutionary change. If the Jeongneung and Toseong-ri temple sites are viewed as developmental stages in that lengthy process, then the Sango-ri temple site might be taken as its starting point. Undoubtedly, the Chinese temple layout of a pagoda with surrounding corridors had already been in place long before Sango-ri Temple was built, and temple layouts in the Korean peninsula continued to change after the Goguryeo Cheongam-ri Temple.

When examining the specific changes in the architectural formation of Goguryeo Buddhist temples, it is possible to establish a chronological sequence according to the changing scale and location of the buildings and structures, and the proportional space between each structure. However, we should consider these structural changes in the context of a broader evolution of ancient Buddhist architecture. These changes mainly resulted from an ongoing conflict, a dynamic functional clash between the symbolic position that stupas in Indian Buddhism held as containers for sariras and the newly emerging function of Buddhist temples as a sanctuary for the worship of Buddhist statues. In effect, the temple sites of Goguryeo represent the last phase of the primary symbolism of the pagoda in Buddhist ideological and aesthetic thought. Even in the face of limited information from excavations, it can be argued that the Sango-ri temple site, Jeongneung temple site, Toseong-ri temple site, and Cheongam-ri temple site of Goguryeo each represents a developmental stage of Buddhism within the broader context of dynamic change in Buddhist ideology and aesthetics around the fifth century.

NOTES

1
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3
Samguksagi (三國史記: *Historical Records of the Three Kingdoms*), section of Munjawang (文咨王條) of Goguryeo "... built Geumgangsa in the seventh month (秋七月創金剛寺) ..."

4
In *Dongguk yeoji seungnam* (東國輿地勝覽: *Augmented Survey of the Geography of Korea*), the location of Geumgangsa is recorded as "8 *li* (1 *li* is about 0.393 km) northeastward from Pyeongyang," which is consistent with the location of the Cheongam-ri temple site. *Sinjeung Dongguk yeoji seungnam* (新增東國輿地勝覽: *Augmented Survey of the Geography of Korea*) vol. 51, section of Pyeongyang (平壤條), Classical Publications Association (古典刊行會) edition, Seoul: Donggukmunwhasa (東國文化史), 1958. 936.

5
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6
Goryeosa (高麗史, *The History of Goryeo*) vol. 11, section of Sukjong (肅宗條), who "bestowed food on the monks at Geumgangsa, and saw the remains of the old pagoda ... (幸金剛寺飯僧, 遂觀舊塔遺址 ...)."

7
Ibid.; for other examples of the same assumption, see Saito Tadashi (齋勝忠), *Ancient Korean Culture and Japan*, trans. Son Daehu (孫大後), Seoul: Wonkwang UP, 1981. 54; Buddhist Research Institute of Korea, 1978 (note 5).

8
Koizumi, 1938 (note 2). He mentions only the foundations of the three golden halls in line, but his colleague Yoneda Miochi (米田美大治) who surveyed the site with him reports that the remains of another building was found in the north in addition to the three sites arranged in line. For details, see Yoneda Miochi, *Research on the Architecture of Ancient Korea* (韓國上代建築의 研究), Trans. Sin Yeonghun (申榮勳), Seoul: Dongsan munwhasa (東山文化史) 1976. 136.

9
Koizumi Akio, "Survey on the Ruined Temple Site at Wono-ri where a Clay Buddha was Excavated (泥佛出土址元五里廢寺址の調査)," *Report of a Survey on Historic Remains*, Kyoto: Research Association of Ancient Tombs of Joseon, 1937. 63-72.

10
Saito Tadashi, "Formation of Temples of Goguryeo as a Source of Temples of Asuka Period (飛鳥時代史院의 原流로서의 高句麗寺院의 形式)," *Research of Ancient Remains of Japan* (日本古代遺蹟研究), Tokyo: Yoshikawa Kobunkan (吉川弘文館), 1976. 128-37. For a report on the Sango-ri Temple site, see Saito, "Survey of the Foundations of the Goguryeo Building at Sango-ri, Imwon, Daedong, Pyeongyang (平壤大同郡林原面上五里高句麗建築地の照査)," *Kogougaku Jatsi* (考古學雜誌: *Journal of Archaeology*), vol. 30, no.1 (January 1940): 81. This is a short postscript report, but it was written close to the time that the site was surveyed.

11
The most comprehensive North Korean report on Jeongneung Temple is *The Tomb of Dongmyeongwang and Goguryeo Relics in its Vicinity* (동명왕릉과 그 부근의 고구려유적), Pyeongyang: Kim Il Sung UP, 1976. This book was also published in Japan under the title, *The Fifth Century Goguryeo Culture* (五世紀の高句麗文化), Tokyo: Yuzankaku (雄山閣), 1985. For papers on Jeongneung Temple, see Heo Cheoljun, "Some Questions concerning the Reconstruction of the Plan of Jeongneung Temple (정릉사의 평면복원과 관련하여 제기되는 몇 가지 고찰)," *Yeoksa gwahak* (역사과학: *Science of History*), vol. 4, Pyeongyang: Gwahak baekgwa sajeon chulpansa (과학백과사전출판사: Science Encyclopedia Press), 1986; Han Inho, "Concerning the Plan of Jeongneung Temple Construction (정릉사 건축의 평면구성에 대하여)," *Yeoksa gwahak*, vol. 2, Pyeongyang: Gwahak baekgwa sajeon chulpansa 1981.

12
Heo Cheol-jun argues in his paper (ibid, 14-8) that the asymmetrical feature of the Jeongneung temple site is because the temple was built not at one time but in two phases. However, his argument is not widely accepted.

13
See Kim Sung-woo, "The Initial Form of East Asian Buddhist Temples (東아시아 佛寺의 最初型式)," *Daehan geonchukhakhoi nonmunjip* (大韓建築學會論文集: *Journal of Architectural Institute of Korea*) (June 1987). For more detailed information, see Kim, *The History and Design of Early Buddhist Architecture in Korea*, Ann Arbor: U of Michigan Press, 1985. 8-59.

14
Kim Sung-woo, "The Origin of the Three Golden Halls (三金堂 型式의 起源)," *Daehan geonchukhakhoi nonmunjip* (February 1988).

15
Kim Sung-woo, "The Development of the Three Golden Halls (三金堂 型式의 展開)," *Daehan geonchukhakhoi nonmunjip* (February 1990); "The Development of the Form of the Single Pagoda and Single Golden Hall (一塔一金堂 型式의 發展)," *Daehan geonchukhakhoi nonmunjip* (December 1989).

16
The disappearance of eastern/western golden halls is confirmed in the temple sites of Baekje, especially in those of Buyeo, and their disappearance led to the appearance of the single golden hall. See Kim, ibid, 1990.