The Exemplificational Use of Perspective in the Late Joseon Dynasty

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Abstract

A predominant view among Korean art historians and scholars is the employment of transparent methods concerning Western perspective, while opaque methods were employed concerning Eastern oblique. Accordingly, many researchers have reached dichotomous conclusions on the corresponding use of perspective. This study, however, is an attempt to rethink such dichotomous conclusions that rely on the said views through the showcasing of interesting instances where, using the terms of Nelson Goodman, perspective enhanced both the depictive and exemplificational qualities of the architectural drawings of the late Joseon Period. During this period, it appears that the Western perspectival conventions gradually permeated Joseon culture and society including the commencement of their employment in art and architecture; however, the Eastern oblique conventions remained the dominant methods of artists and architects regarding their building representations. They noticed that, over time, perspective was used not only for depicting the actual appearance of a building, but also for exemplifying its significance. Therefore, this study examines the visual qualities and symbolic significance of the architectural drawings of the *Hwaseong-sungyeok Uigwe* and the *Jeongni Uigwe*, published in the late Joseon Period, and then explains the exemplificational role of perspective used in these two uigwes.

Keywords: *Hwaseong-sungyeok Uigwe*; perspective; oblique; exemplificational; drawing convention

1. Introduction

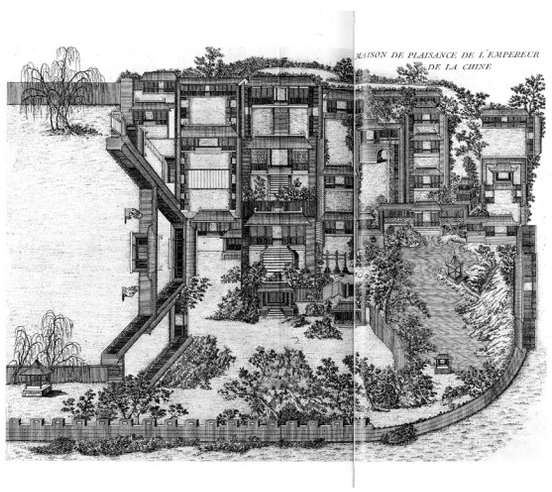

Fig.1. *Maison de Plaisance de L'Empereur de la Chine*, 15th Century (Bibliothèque Nationale, Paris, France)

As shown in Fig.1., an encounter occurred between European perspective and East Asian oblique in the 15th century. In his book entitled *Oblique Drawing: A History of Anti-Perspective*, Massimo Scolari (2012) introduced this drawing by presenting his perspective on the Chinese method of architectural representation—"a consolidated method of oblique parallel projection" (p. 341)—through anecdotes that are associated with the Jesuit-missionary works of the Ming Dynasty of old China. According to his description, the drawing conventions using oblique views had already become the dominant architectural conventions during the Ming period, and the initial encounter between the perspectival and oblique drawing conventions caused an "insuperable contradiction" (p. 342) in terms of drawing, as follows:

> For Chinese culture, parallel projection was a sort of symbolic form, profoundly rooted in a pictorial experience that knew almost no interruption until the recent past. Changing the way of seeing, and therefore of representing, meant changing the mode of thinking, which was a futile exercise as long as it was conceived in terms of a conversion from the outside. Additionally, the attempt to institute a single viewpoint contradicted the very roots of Chinese thought … (Scolari, 2012, p. 348)

This contradiction between the two drawing conventions has led to changes in Chinese painting, whereby perspective apparently spread throughout the neighboring countries at that time. Most Korean art

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(Received April 5, 2017 ; accepted March 19, 2018)
DOI http://doi.org/10.3130/jaabe.17.261

historians, however, have suggested that the influence of perspective in Joseon paintings began to appear a century later than those in Ming paintings. Over a century-long time frame, particularly the 18th century, the relationship between the new perspective and the traditional oblique changed and evolved regarding the depiction of historical events and buildings, diplomatic tours, and government constructions. Thus, several questions have arisen regarding the way in which the perspectival drawing conventions contributed to changes in representation, how these conventions were associated with the oblique ones, and the nature of their role in the architectural drawings of the late Joseon Dynasty. To respond to these questions, this study attempts to examine the emergence and influence of perspective in the architectural drawings of the *Hwaseong-sungyeok Uigwe*, the *Jeongni Uigwe*, and other uigwes that were published in the late Joseon Period. Prior to the performance of a detailed examination of these architectural drawings, it is worthwhile to first review the previous studies on traditional drawings wherein the emphasis on the differences between the East and the West is greater.

2. Review of Previous Studies

From the 1980s onward, the three Korean magazines such as *Space*, *Architecture and Culture*, and *Architecture and Environment* reflected a global phenomenon of that decade, where an upsurge of thinking and writing on architectural drawings and their conventions that were employed by architects emerged (Kim & Bafna, 2018, p. 112). Korean students, academics, and professionals in the field of architecture began to take a great interest in these topics, and it appeared that the global phenomenon also began to gain traction also in academic circles that were versed in and knowledgeable regarding traditional Korean architecture.

In a 1992 essay entitled "A study on the architectural drawings of the Young-Gun-Eui-Gue in the Chosun Dynasty," Ik-Soo Park carried out a fundamental analysis of traditional Korean drawings based on projection systems and pictorial effects.[1] In his follow-up studies, he examined the architectural drawings and the corresponding conventions that were employed for the Yeonggeon-dogam Uigwe via an architectural point of view, as distinguished from a painterly point of view. Unfortunately, his architectural viewpoint, which is heavily dependent upon the type of projection system that is subject to mathematical rules, fails to completely explain the characteristics of the architectural drawings.[2]

Another approach for the reading of architectural drawings was derived from a book by art historian Hwi-Joon Ahn, titled *Yet Gunggwol Geurim* (*Paintings of Old Palaces*; 1997). In this seminal book, Ahn classified the traditional drawing conventions that were adopted for the depiction of the palaces of the Joseon Dynasty into the following two types: *Jeongmyeon-bugam-gudo* (a frontal view mixed with an elevated view) and *Pyeonghaeng-saseon-gudo* (an oblique view). Around the same time, the September 1997 issue of *Architecture and Culture* published a special feature on the architectural drawings of old Korea. As the curator of the special feature, Inho Song underlined the necessity of the exploration of the Eastern drawing conventions that can best represent the architectural composition and beauty of traditional Korean architecture, distinguishing them from the Western approaches.

In an essay titled "A study on the drawing method and thought of the architectural site plan in the Chosun Dynasty," Wang Jik Kim (1998) attempted to suggest new terms and definitions for the drawing conventions that were employed in the architectural drawings of old Korea, especially those of the Joseon Dynasty, pointing out that the existing ones that were built on previous studies have not been properly chosen and fully reviewed in previous studies. He asserted that specific drawing conventions reflect not only the dominant thought of the corresponding time periods, but also the corresponding sociocultural understanding of architecture. In his essay, however, Kim appears quite confused about the difference between projected views and drawing conventions,[3] and he even took the projected views for the Western conventions. Around the same time, in his journal papers, Dong-cheol Shin intended to explain, in his journal papers, the characteristics of the representational conventions (or techniques) to depict the architectural space, and analyzed the *doseol*s (explanatory diagrams) included in the Yeonggeon- dogam Uigwe and the Sannung-dogam Uigwe for this purpose.[4]

Since the early 2000s onward, Professor Song and his graduate students working in the Research Studio in Architecture of the Historic City have led studies on architectural drawings and their conventions of the Joseon Dynasty, and have continued to make steady progress with them. In a master's thesis, Young Ki Kang (2000) analyzed the characteristics of the architectural drawings represented by *Jeongae-dobeob*, which combines the elevation and site-plan views. Two years later, Song (2002) wrote an essay on his analysis and explanation of the characteristics of *Sabang-jeondo-myobeob*, which he observed in eight drawings of Sukcheon-je-a-do. In 2007, Jae Young Jeon published a master's thesis titled "A study on the characteristics of the architectural drawings in *Hwaseong-sungyeok Uigwe Doseol*," which is based on the accomplishments of the Research Studio in Architecture of the Historic City during previous years. Besides, it appears that, during their study of historical architectural drawings, Song and his pupils referred to Iain Fraser and Rod Henmi's *Envisioning architecture: An analysis of drawing* (1994), which distinguishes the types of projected views, such as

orthographic, axonometric, and perspective, and also those of constructed drawings, including referential, diagram, design, presentation, and visionary drawings. Unfortunately, as shown in their studies, the distinction drawn by the coauthors may not be clearly noticed by readers. That is, architectural drawings are not merely *projected* but are instead selectively *constructed* by the various choices that are available to the architects (or painters)—the several projective systems and the parameters of each projective system, such as the location and orientation of the viewpoints, can vary for the observer; furthermore, the types of marks that are employed in a drawing can be of different kinds.

3. Method and Framework

3.1 Methodological Approaches

The methodological approaches of this study fall into two categories. The first is the adoption of an analytical approach to the architectural drawings of the Hwaseong-sungyeok Uigwe and the Jeongni Uigwe, and the second is the employment of a historical approach through the historical literature that is available for these drawings and their related issues.

This study begins with the analytical approach, where the focus is on the way that the drawings performed their basic referential functions; that is, it focuses on the way that these drawings communicate various kinds of content. The analytical approach of this study, however, does not sufficiently highlight the rich cultural and disciplinary contexts within which the drawings operated. To provide adequate attention for the cultural and disciplinary contexts, this study considers the historical literature on the drawings and their related issues.

3.2 Intellectual Framework

An intellectual framework that is based on the reference notion that is central to Nelson Goodman's theory of symbols provides an effective explanation of how drawings work, and also a set of terms to distinguish the various ways in which the symbols can be made. That is, the core idea here is the consideration of drawings primarily as referential objects. A drawing is essentially marks on a two-dimensional surface (paper, screen, etc.), but in looking at it, the viewer sees or evaluates, or entertains thoughts about other things—a building, a scene with a specific emotional quality, a complex shape—not actually present. Goodman's framework allows the viewer to see that drawings may do this referential job in different ways, as follows: The marks may be recognized to help the viewer's natural visual propensity to see three-dimensional forms.

In his book, *Languages of Art: An Approach to a Theory of Symbols* (1976 [1968]), Goodman's analysis of the phenomenon of symbols presents the following four distinct modes: *depiction*, *description*, *exemplification*, and *expression*. Description involves the use of marks as parts of a symbol system or language—examples may include the symbols on a topographic map, musical notation, or the alphabet—where a discrete set of marks is defined as a set of characters, and where each of the read characters refers to a specific referent. Depiction involves the mapping of a character set of marks onto a referent domain, but it is different from a description as it does not comprise a discrete or finite set of characters; thus, in a portrait etching, the individual etched marks may not be interpretable, but a set of them may refer to a toned surface, and an etched line may represent the profile of a chin. Unlike the first two modes, in exemplification, particular referential properties are manifested in the referring work in such a way that the job of the referring work is to convey these properties. Sometimes the referential properties are metaphorically present, whereby it is not present for the senses. In Goodman's framework, the exemplified property is expressed; that is, the expression mode is metaphorical exemplification.

Despite several philosophical problems, Goodman's theory has become very useful in the addressing of a number of problems. First, it provides a very useful technical vocabulary. The differences between depictive, descriptive, exemplificational, and expressive mapping allow for the formulation of interesting distinctions in terms of the use of architectural drawings, as is shown later. Second, it helps to bring to light a very peculiar property of architectural drawings that are significant for the issues that are discussed in this study.

4. Encounter between Perspective and Oblique

Many Korean art historians have also studied the influence of Western drawing conventions on Joseon paintings. Following her 1998 study entitled "Western influence on the late Joseon Period painting," Song-mi Yi (2000) continued her investigation by distinguishing the Eastern drawing conventions in terms of linear perspective, atmospheric perspective, depictions of three-dimensionality, and realistic representations of figures and animals from the newly introduced Western drawing conventions of the 17th century that later influenced the styles of Joseon painting. The actual permeation of this influence in Joseon society occurred over time instead of rapidly, and Yi (2000) listed several reasons that underpin "the failure of Western influence to be firmly rooted in Korean" (p. 265), as follows:

> First of all, the commitment to values of traditional painting both in spirit and techniques, seemed an insurmountable barrier to most painters of the late Joseon period … Second … It was also about this time that the first large scale persecution of Christianity, known as Sinyubakhae took place in Korea, wiping out traces of Western art. Third, with the exception

> of a few, a majority of Korean literati who wrote of the wonders of Western painting they had seen were not themselves painters… Finally, many painters who initially showed positive responses to Western painting techniques were painters belonging to the court bureau of painting. Due to the fundamentally conservative nature of the court bureau, the painters, especially when they produced documentary paintings, had to adhere to the regulations of the court, which allowed them little freedom (Yi, 2000, pp.265-266).

Yi's passage implies that the dominant culture of late Joseon society, shaped by the scholar-gentry class, apparently exerted a strong influence on the closed attitude towards the Western drawing conventions. As time passed, many aspects of the late Joseon Dynasty began to change more widely. In particular, the interest in Western learning became fairly widespread from the 18th century onward through the influence of the *Silhak* scholars and painters who were closely associated with the Silhak movement. Their travel diaries and paintings show their curiosity for and connections to the Western drawing conventions. Several collections of paintings depicting the diplomatic visits of the Joseon envoys to the Qing also attest to the encounter between the perspectival and oblique approaches with respect to Joseon painting.

Fig.2. Shanhaiguan-do, the 14th Leaf of Simyanggwando-cheop, 1761 (LG Yeonam Library, Myongji University, Korea)

Among the documentary-painting collections, a collection of drawings entitled Simyanggwando-cheop[5] includes the interesting example of "Shanhaiguan-do" that depicts the encounter between perspective and oblique; it was drawn by Pil-seong Lee, an 18th-century painter and one of the official embassies of the annual tribute to the Qing in the winters of 1760 and 1761 (Fig.2.). As shown in Fig.2., in Lee's depiction of the inside view of the Shanhai Pass (also known in Chinese as Shanhaiguan), which is located at the eastern end of the Great Wall, the two different types of projected views, perspective and oblique, have been combined. The perspectival views contribute to the overall composition of the painting, while the oblique ones sacrifice the local perspectival effects to depict individual houses. This combined composition of the two different projected views was already widespread in Chinese painting following the mid-Ming Dynasty. According to John Willats in *Art and Representation* (1997), "The use of oblique projection [view] for whole scenes is unusual in Chinese painting, however. More often, isolated houses or small groups of houses in oblique projection are set in rural landscapes in perspective" (p. 55). The main gate of Shanhaiguan with its wooden pavilion is also represented with the two types of projected views. It appears that the plaque on the main gate, engraved with the words "First Pass Under Heaven," serves as the symbolic central point of this painting. From this plaque downward, it is possible to imagine a vertical axis that overlaps with the centerline between the two sides of the symmetrical composition and toward which the rooflines of the individual houses that are arranged along the main road converge. But the vertical axis may be counterbalanced by the horizontal lines extending from the central pavilion to both ends of the painting, and partially from the rooflines of the houses that are arranged along the horizontal roads. Besides, for the third leaf and the fifth leaf of Simyanggwando-cheop, the perspectival views were partially employed to depict the three-dimensional depth of the buildings. The 18th-century encounter between perspective and oblique is a fascinating and significant moment in the history of Joseon painting.

Since the 18th century, or even earlier, Joseon painters had gradually mixed the traditional drawing conventions they acquired from their masters with the Western ones they learned from Europe via old China. Chaekga-do, an eight-panel screen for which Han-jong Jang completely employed perspective and shading, emerged in the early 19th century, and this painting is representative of the already widespread use of perspective at that time.

5. Reading the Roles of Perspective in the *Hwaseong-sungyeok Uigwe* and the *Jeongni Uigwe*

5.1 The Value of an Archive

In traditional Korean architecture, yeonggeon uigwes are an official document that was used to record government constructions such as the alteration, repair, remodeling, or maintenance of palaces and any of the other constructs that were related to the royal family of the Joseon Dynasty. Among the yeonggeon uigwes, the Hwaseong-sungyeok Uigwe has already been extensively used as a research material owing to its valuable and rich *doseol*s that describe the appearances of buildings.[6] Only appearing in the first volume of the Hwaseong-sungyeok Uigwe, the approximately 60 doseols about the main structures of Hwaseong Fortress showcase the acceptance of the

various types of projected views, such as the oblique, perspectival, and orthographic ones. This acceptance led to a groundbreaking change in the ways that drawings represented buildings. At around the same time, the drawings of the main structures of the doseols re-emerged in the 39th volume of the Jeongni Uigwe, which is known as the oldest *Hangeul* version of the Hwaseong-sungyeok Uigwe.[7] The volume under the Sungyeok-do title covers 79 full-color drawings, as follows: 68 drawings of structures, seven of devices, and four of events or ceremonies. Therefore, this study believes that a careful investigation of the drawings in the two previously mentioned uigwes will lead to an understanding of their visual qualities and significance, as influenced by the consolidation of the different drawing conventions that were developed in the East and the West, respectively.

5.2 Visual Qualities and Symbolic Significance

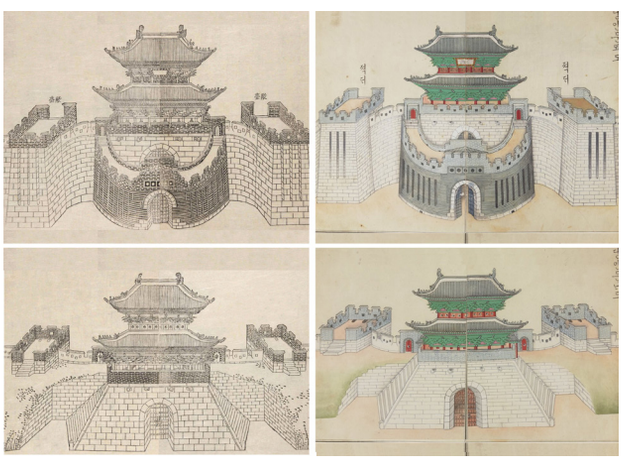

Fig.3. 1) Two Left Drawings of the Hwaseong-sungyeok Uigwe, Showing the Outside and Inside Views of Janganmun Gate (National Museum of Korea). 2) Two Right Drawings of the Jeongni Uigwe Showing the Same Views (Bibliothèque Nationale, Paris, France)

A review of the Hwaseong-sungyeok Uigwe and the Jeongni Uigwe showed that the oblique views dominate the architectural drawings of the main structures of Hwaseong Fortress. The most eye-catching aspects of the two uigwes, however, are several drawings for which a combination of the two different projected views is employed (Fig.3.). In these drawings, equivalent perspectival and oblique views were employed to represent the outside and inside views of Janganmun Gate and Paldalmun Gate, which serve as not only the southern and northern gates of Hwaseong Fortress, but also as its main entrances. Until now, the previously mentioned studies have shown the subsumption of the perspectival views under the existing Korean classification for those traditional drawings that contain multiple viewpoints and drawing conventions. However, without being limited to the existing classification, this study examines the visual qualities and symbolic significance of the views from the inside and outside of Janganmun Gate.

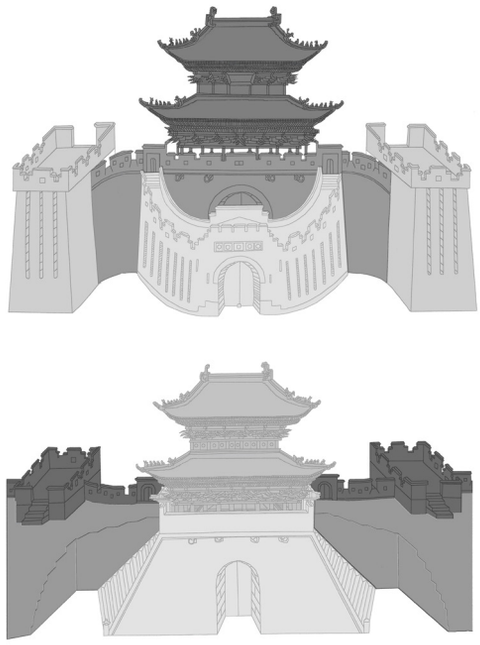

Fig.4. Visual Experiment I Showing Several Layers by Different Types of Projective Mapping Used in Two Drawings that Represent the Outside and Inside Views of Janganmun Gate

5.2.1 Mixture of the Different Projected Views

It is noticeable that the two drawings of Janganmun Gate, as the main northern gate, are described across four full pages in the uigwes. Let us consider these drawings (Fig.4.). The first drawing is a depiction of the outside view of the main northern gate, and it consists of a half-circle barbican in the middle, two wall towers on both sides, and the gate's body including a pavilion, stone walls, an arch gate, and a battlement, as well as their appendages. The second drawing depicts the inside view with a lower structure that supports the upper pavilion, and it includes an arch gate, stone stairs, and stone walls instead of the barbican. At first sight, the outside-view drawing could be divided into three sequential layers, as follows: the foreground of the barbican, the mid-ground of the two wall towers and the stone walls, and the background of the pavilion. The inside-view drawing may also be divided into two layers, as follows: the foreground of the pavilion and its lower structure, and the background of the two wall towers and the stone walls. It appears that the layers of both drawings comprise their corresponding viewpoints and mixed views that have been created by the oblique and perspectival mappings. In this way, the previous researchers studying the drawings of the Hwaseong-sungyeok Uigwe may have concluded that the drawings of Janganmun Gate were primarily regulated by the oblique views and were additionally depicted by the perspectival ones, because in the other drawings for the other gates of Hwaseong Fortress that comprise similar architectural elements, the oblique views have mainly been employed. However, the present study suggests

that, unlike the previous conclusions, a new type of architectural drawing convention, where a balance was maintained between the oblique and perspectival views, is established in the drawings of Janganmun Gate.

5.2.2 Frontal-Plane Perspective with Vanishing Points

As mentioned in the introduction of this study, since the Renaissance, the perspectival convention has been gradually spread throughout Northeast Asia. Over time, the understanding of the Renaissance perspectives has been narrowed down to a modern one in which the linear perspective dominates the Western world. Currently, some Korean scholars consider the modern linear perspective and the Renaissance perspective(s) to be the same; however, the former is only a part of the latter. According to Dalibor Vesely in an essay entitled "Architecture and the conflict of representation (1985)," while the linear perspective had been instrumentally developed by modern science and technology, a swaying or discarding of the transcendental and symbolic understandings of the Renaissance perspectives began to take place. It is presumed here that, during the Renaissance, other perspectives that are equivalent to the linear perspective of that time existed. In *Changing Images of Pictorial Space*, William V. Dunning (1991) listed the frontal-plane, aerial, and color perspectives alongside the linear perspective. Particularly, although it has been considered as a kind of linear perspective, the frequent use of the frontal-plane perspective at that time provides a helpful tool in terms of the reading of the architectural drawings of the main gates of Hwaseong Fortress.

Another modern understanding of the Renaissance perspectives leads us to think of the "vanishing point" as a single, rigid point where every line converges, but this modern understanding is refuted by James Elkins in his book titled *The Poetics of Perspective* (1994). Elkins provides Masaccio's *The Holy Trinity, with the Virgin and Saint John and donors* as a key example wherein the lines of every represented object are not converged on one single point, but rather are converged on a vertical axis at the center of the picture (Fig.5.); this is the so-called "herringbone" or "fishbone" perspective that comprises a myriad of perspectives. Elkins (1994) notes that, as an example of the herringbone/fishbone perspective, Masaccio's *The Holy Trinity* "tended to be isolated showpieces rather than coherent spaces" (p. 55). He continues to suggest that the Renaissance perspectives can balance and harmonize the components of a painting, while the modern perspective can organize and unify an entire painting.

5.2.3 Two Different Roles of the Perspectival Views

Based upon a close reading of perspective, the author has identified that the drawings from the inside and outside of *Janganmun Gate* include not only a frontal-plane perspective as well as a kind of linear perspective, but also a herringbone/fishbone

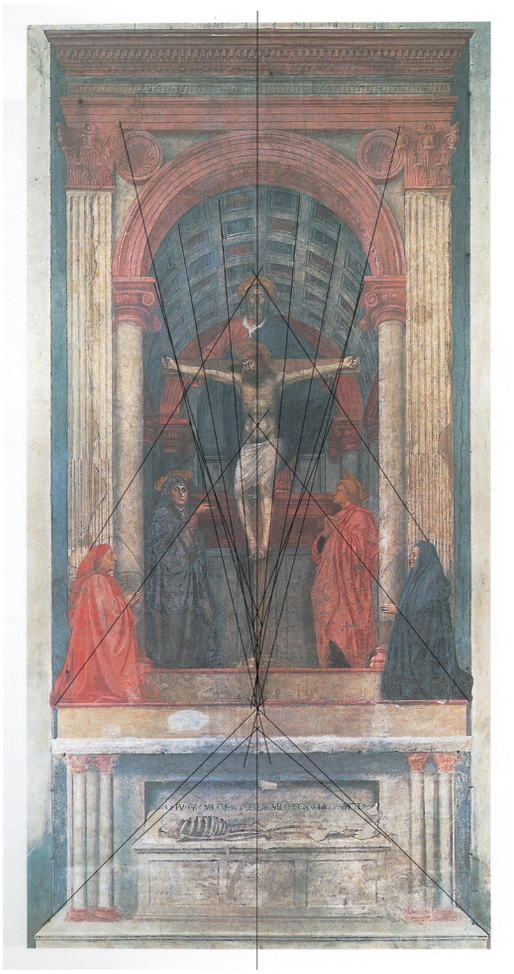

Fig.5. Masaccio's *The Holy Trinity, with the Virgin and Saint John and Donors* (1425), Located in the Dominican Church of Santa Maria Novella, Italy

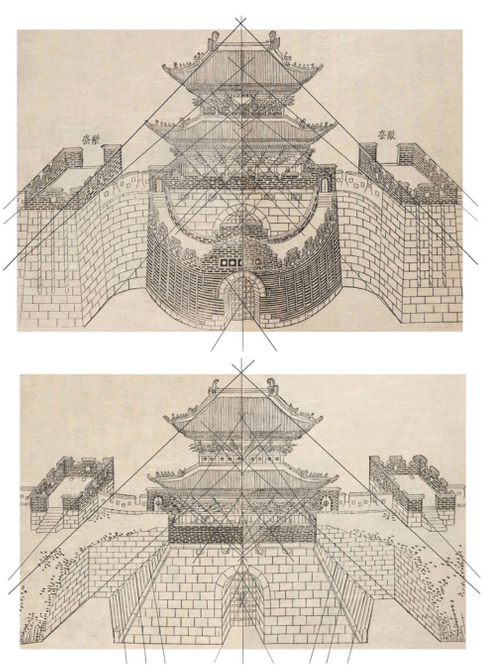

Fig.6. Visual Experiment II Showing Multiple Vanishing Points with Lines, which are Used in the Drawings Depicting the Two Views of Janganmun Gate

perspective (Fig.6.). Undoubtedly, some of the structural parts of the main gate are seemingly depicted in the oblique views that present them according to their true measurements, sizes, shapes, and proportions; this is because the oblique views preserve affine transformations, where the parallel lines remain parallel. In addition to their geometrical qualities, a heuristic usage of the oblique views according to the rule of thumb generally allowed the Joseon painters at that time to convey more information about buildings. As has already been observed in the drawings of Janganmun Gate, however, the perspectival views helped in the natural depiction of three-dimensional appearances.

Also, the author has started to recognize that the perspectival views in collaboration with the oblique ones exemplify other qualities of the main gate that transmit the intent that is reflected in its architectural drawings and evoke its symbolic significance. For example, the barbican exemplifies the quality of defense, and the central pavilion expresses the symbolic significance of the main gate. That is, the senses of splendidness and harmony arise from the perspectival views that are frontally represented by the main gate, not in the oblique views where, although the frontal planes are also depicted, the emphasis is on the geometric qualities of its individual appendages. Further, the usage difference between the two views also appears in the drawings of the main gates of Hwaseong Fortress and those of its subgates including Changnyongmun Gate and Hwaseomun Gate. Unlike the former, the latter for which only the oblique views have been used appears to lose the sense of splendidness. In this sense, the perspectival views not only depict the three-dimensional appearances of the main gates and their appendages, but they also exemplify their symbolic qualities; meanwhile, the oblique ones depict only the three-dimensional geometric qualities of other buildings. When colors are added as a secondary drawing convention, as in the Jeongni Uigwe, their exemplification qualities become more noticeable (Fig.3.).

6. Conclusions

This study has examined how the perspectival views are associated with the oblique ones, as well as how the former views contributed to changes and what kind of role they played, in terms of the architectural drawings of the late Joseon Dynasty. On the basis of this study, the following three conclusions have been drawn:

First, since the emergence of the Hwaseong- sungyeok Uigwe and the Jeongni Uigwe, published between 1796 and 1801, a new type of architectural drawing convention that uses the oblique and perspectival views in a balanced manner was established as part of the history of architectural drawing during the late Joseon Dynasty. In the architectural drawings of the time, while the oblique views were typically used to represent individual parts, the perspective ones were used to construct the whole as well as the individual parts. Also, this new type of drawing convention continued to develop, and examples are found in the architectural drawings of the subsequent uigwes.[8]

Second, the drawings that represent Janganmun Gate of Hwaseong Fortress should be defined as the fontal-plane perspective with vanishing points. From the previous standpoints, they have been read as a frontal elevation that is dependent upon parallel views like the oblique views. During the 18th century, however, when the gentry showed enthusiastic interest and actively participated in the Silhak movement, changes in the conservative culture and tradition of the Joseon Dynasty were witnessed. At the time, the use of the perspectival views became widespread among the Joseon painters.[9] Accordingly, the painters employed perspective, not only for the depiction of events or ceremonies, but also for the construction of buildings. They also appeared to understand and apply it, not in a "unilateral or mechanical" manner with a single vanishing point, but also in a "multilateral or symbolic" manner with vanishing points and along with frontal-plane, aerial and color elements. Therefore, for those painters, it appears that the role of perspective was a means of organizing and balancing the parts of their drawings.

Third, the exemplificational use of perspective, not its depictive one, in the drawings for Janganmun Gate reveals their symbolic significance. The visual qualities that were produced according to the perspectival views carry both information about buildings and the intent of the Joseon painters. The information about objects or scenes that are seen through a transparent frame comes from the depictive qualities of the drawings. The intent, read through the marks or patterns on an opaque surface, is evoked from their exemplificational qualities. Through such qualities, it appears that the Joseon painters underscored the symbolic significance of Janganmun Gate, as follows: main entrance, centrality, splendidness, harmony, and defense.

Furthermore, from these conclusions, this study suggests that the roles of architectural drawing are not dependent on the drawing conventions themselves, but on their use. Thus, the Western perspective used in the Hwaseong-sungyeok Uigwe can be read as being both transparent or mechanical and opaque or symbolic.

Notes

1 Park borrowed the terms, "projection systems and pictorial effects" from a book titled *Graphics for Architecture* (1979) written by Kevin Forseth with David Vaughan. What Park referred to is not an original text, but a Korean version of *Graphics for Architecture* that was translated by In-Lyong Koh and Jong-Whan Kim.

2 When referring to *Graphics for Architecture*, Park did not distinguish between the *projected view* (as imagined in the schema of the actual projection of a real object onto a two-dimensional screen, or as actually produced in a photograph) and the *constructed drawing*, where the rules of mathematics are used to develop a two-dimensional figure close to the corresponding view, but may not actually match it.

[3] Drawing conventions come into play at the different levels of architectural drawings. For the ease of description, however, it is best to see them operating at two levels. At one level are the sets of conventions that relate to the choice of the projective system that is used. Since the projection of a three-dimensional view onto a two-dimensional surface necessarily entails some loss of information, and also some ambiguity that is created by the distortion of the forms, the choices here can play a role in the efficacy with which a drawing can communicate the different aspects of the three-dimensional form of the intended building—some projective systems lead to more reliable and accurate drawings, while others make it easier to visualize the intended building, but allow distortions that make it more difficult to judge the actual sizes, proportions, and alignments. At the second level are choices that are regarding the secondary information about the intended form such as the shadows, surface textures, colors, and the palette of marks (line thicknesses, tones, etc.) that can be used to describe choices.

[4] Several scholars showed an interest in the study of the architectural drawings of the Joseon Dynasty. They began to publish the results of their research on drawing conventions in architectural journals and for annual conferences. In 1998, shortly before completing his dissertation on the doseols of the Joseon Dynasty in December, Shin published two journal papers, "A Study on the Drawing Representation Methodology of Architectural Plans in Late Chosun Dynasty" in September and "A Study on the Architectural Drawing Titles of the Chosun Dynasty" in November.

[5] Simyanggwando-cheop, which includes 16 leaves about the Simyangguan Residence, Sanhai Pass, Confucius Temple, Temple to Successive Generations of Chinese Emperors, and Imperial College during the Yuan, Ming and Qing Dynasties, was made as a documentation of the recordings of the diplomatic visits of the Joseon envoys who paid an annual tribute to China from November 1760 to April 1761.

[6] According to the Association for Research on Yeonggeon Uigwe, which published a book titled *Yeonggeon Uigwe: The architecture of the Joseon era recorded in Uigwe (2010),* the Hwaseong-sungyeok Uigwe consists of 10 volumes, and it is a collection of documents that describe and depict the construction process of Hwaseong Fortress from January 1794 to September 1796. From the late 18th century onward, the value of the archive has been widely recognized by Korean scholars from many different fields, since it covers detailed descriptions and drawings about the design and construction of Hwaseong Fortress from the outset.

[7] The 39th volume of the Jeongni Uigwe was discovered in the Bibliothèque Nationale, Paris. In 2016, the Bibliothèque Nationale first opened the Hwaseong-sungyeok-do in the volume to the public.

[8] Examples are found in the subsequent uigwes such as *Injeong-jeon-do* of Injeong-jeon Yeonggeon- dogam Uigwe (1805), *Yoongbok-jeon-do* of Seogweol Yeonggeon-dogam Uigwe (1832), *Daejo-jeon-do* of Changdeok-gung Yeonggeon-dogam Uigwe (1834), *Joonghwa-jeon-do* of Joonghwa-jeon Yeonggeon-dogam Uigwe (1904), and *Joonghwa-jeon-do* of Gyeongun-gung Junggeon- dogam Uigwe (1906).

[9] The adaptation of the Western drawing convention in the Joseon Dynasty had been somewhat slower than that in the Ming and Qing Dynasties because the Joseon painters and the scholar gentry lived within a conservative culture and tradition. Burglind Jungmann (2013) provides us with a suitable testimony: "[Joseon painters] were curious about new ways of viewing and representing the world, but their traditions … prevented them from a wholesale acceptance of European painting" (p.84).

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