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Article

Social Hierarchy Materialized: Korean Vernacular Houses as a Medium to Transfer Confucian Ideology

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Abstract: Buildings reveal the social values of a society through their forms and configuration. During the Choseon dynasty, Confucianism was the national ideology and basis for governing principles. Consequently, houses for the ruling class were built to conform to the principle of separating domains for men, women, servants, and ancestors. This hierarchical social system persisted for hundreds of years, but from the 19th century, various social movements gradually delegitimized many inequalities between sexes and classes. Mysteriously, even after this series of radical political and social changes, vernacular houses still adhered to the same hierarchical spatial order until the mid-20th century. This paper analyzes the houses built from the 15th century to the mid-20th century to show how Confucian principles were translated into the design to control social interactions. The paper concludes with a discussion of how Confucianism has been passed on through the medium of housing until today and how they have influenced people's perception of different gender roles in contemporary Korean society.

Keywords: Confucianism; social hierarchy; Korean vernacular house; gender roles; spatial segregation

1. Introduction

1.1. Confucian Ideology in Choseon

From the beginning, the Choseon Dynasty (1392–1910) proclaimed that Confucianism would be the basis for all institutional and human relations. The transition from Buddhism to Confucianism was fast and systematic as the founder of the dynasty, Yi Song-gye (1335–1408), was strongly supported by Neo-Confucian scholars who were involved in the establishment of the structure and legislation of the new kingdom. In particular, what was emphasized was the feudal hierarchical relation between the monarch and their retinue, the structure of which trickled down to every individual social relationship such as father and son, husband and wife, and master and servants [1,2].

Neo-Confucianism placed great importance on morality in people's relationships. The high and low status based on this morality would have been observed in every aspect of social life, and housing was regarded as a spatial device to mold this. Thus, the size of the compound was determined differently according to the owner's status, and there were restrictions on the size and decoration of buildings in it [3]. Differentiation of sexes was another strong axiom maintaining the stability of society. From the Confucian perspective, this was to repress sexual indulgence that would eventually lead to the disorder of society. Thus masculinity took precedence over femininity just as "heaven (*yang*) dominates earth (*yin*)" [4]. This idea was reflected in defining the territory of family members, where women were bound in the inner sphere, while men in the outer public sphere [4]. It was against

the law that a gentry woman had contact with those outside her closest kin, and the wives of the officials of higher ranks in the government could not go around in “open palanquins” [4]. Compared with the preceding Koryo Dynasty, the hierarchical differences based on status were more strictly applied to women. Being considered an inferior human, she had to obey her father as a daughter, her husband as a wife, and her son as a widow, which is called *Sam Jong*, the three submissions [5]. She was confined to the domestic realm where she could live, work, and control familial businesses.

All these moral values were strengthened and disseminated by various publications of Neo-Confucian scholars, but their principles were deeply rooted in the classics of Confucius. For example, *Liji* (禮記; the Classic of Rites), is one of Five Classics of Confucianism based on the words of Confucius (551-479 BCE). In book 12 (內則; the Internal Rules), it predicates the gender separation in the house where the female zone is located on the inner side while the male zone on the outer side (禮始於謹夫婦 爲宮室 辦外內 男子居外 女子居內 深宮固門 閨寺守之 南不入 女不出) [6]. It also states that familial business should not be told to outsiders, and external business should not be talked about inside the house. In the same way, it states that men ought not to interfere with domestic affairs and women not with external business [1].

Dictated by the Confucian principles, two clear social dichotomies developed. First, men and women should be separated in every aspect of social life. Second, members of the ruling class should be separated from members of the common classes or servants. Based on these two essential conceptual divisions, house planning in Choseon was developed in a way to materialize the Confucian philosophy to regulate and control household members’ behavior. Confucian principles were established and disseminated during the 15th and 16th centuries and fully institutionalized during the 17th and 18th centuries to control every aspect of life. For example, women were able inherit their parents’ assets and properties until the 16th century, but they were no longer legitimate heirs from the 17th century [7].

1.2. Confucianism and Domestic Space

Typically, vernacular Korean houses are constructed as post and lintel structures using timber. These timber structures stand on stone foundations, and the houses of the affluent have tile roofs. Each building has a depth of one room and grows linearly by adding rooms sideways to make a block of a single-row of housing. When the building becomes too long, it is angled to form a L-shape, a U-shape, or a rectangular shape with a central courtyard to fit the household’s needs and topographic conditions. Ruling class houses, which were called literati houses, normally consist of several building blocks generating small and large yards as in Figure 1. Thus, access from the main gate to the deeper side of the house provides a sequence of experiences, passing through a series of yards and building blocks.

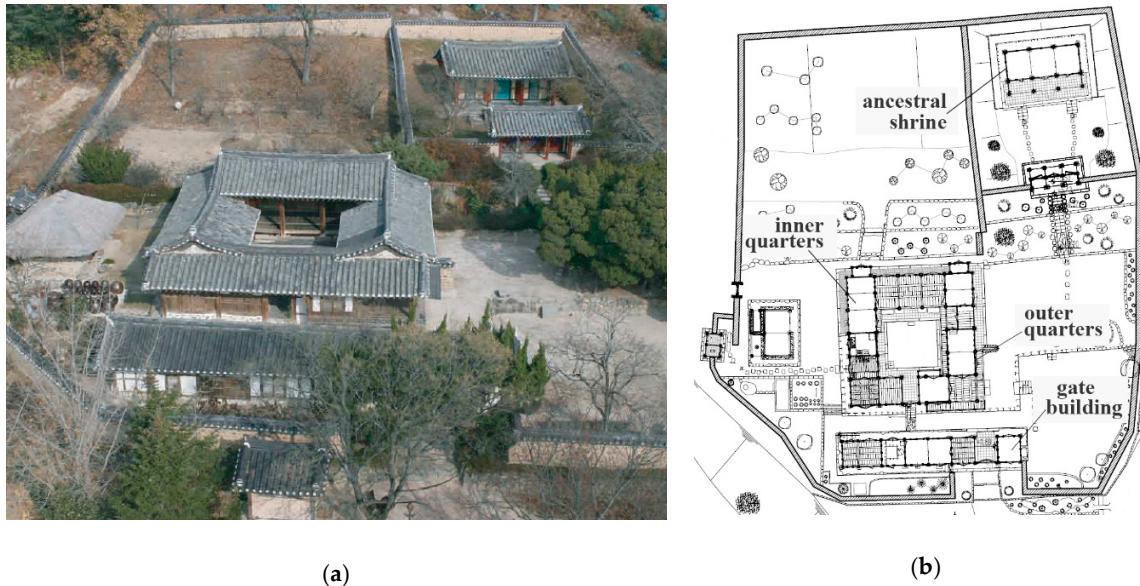


Figure 1. The perspective and the site plan of Seobaekdang, a literati house built in 1460 in Yangdong (a) Bird's eyes view; (b) Site plan with floor plans. (Source: [8]).

Regardless of the date of construction, most literati houses in the Choseon share the same Confucian logic of separating sexes by splitting the main living space into two living quarters: the inner quarters (*an-chae*) for women and the outer quarters (*sarang-chae*) for men. The outer quarters for men were located at the front side of the compound while the inner quarters for women at the back. It is assumed that this strict spatial division by sexes must have been a radical change from the preceding Koryo Dynasty (918–1392), although we cannot find any remaining houses in their original form from that period [9]. This assumption is based on the fact that the social status of women in Koryo was not inferior to men. It was a society of gender equality and it even had a marital custom that a bridegroom moves into his bride's house to live with her family [10].

There exists a wide variety of ways to allocate building blocks within the compound, but in general, literati houses in Choseon actively adopted the Confucian hierarchy to separate sexes and classes to inform the layout. Thus, the spatial order of “servant quarters–outer quarters–inner quarters” are found in most of the remaining houses. From the 17th century, when it was enforced by law that the ruling class must build ancestral shrines as part of their homes [11], many houses followed the extended order of “servant quarters–outer quarters–inner quarters–ancestral shrine”.

The inner quarters are the most important pivotal center of the compound. It is the main living space for the family and is always constructed first before other buildings are added in following construction phases. It consists of various spaces that include, most importantly, the inner room (*an-bang*), which is the largest room used by the mistress but also functions as a gathering space for women and sometimes for the whole family. Almost as a rule, this inner room is flanked by a kitchen on one side and a wood-floored hall (*maru*) on the other. The adjacency of the kitchen allows the mistress to access and supervise the activities in it, while the heat generated from the cooking stove can warm the inner room during winter. The wood-floored hall, called *maru*, is a living space for daytime activities, always accompanying sleeping rooms. The inner *maru* that belongs to the inner quarters is usually the biggest living space in the whole residence for entertainment and house chores, and sometimes for ancestral ceremonies in cases where there is no separate ancestral shrine in the compound. The linear sequence of “kitchen–inner room–inner *maru*” in the inner quarters is one of the main defining features of a Korean house that started as early as the beginning of the Choseon dynasty and continued for hundreds of years.

The outer quarters represent the superiority of men, and thus, its size and decoration communicate the degree of male dominance of the household as well as the influence of Confucian principles. The outer quarters normally consist of the outer room and a wooden-floored hall (the

outer *maru*) for the master male to live, sleep, study, and receive guests. During the early period of the Choseon dynasty, this male domain was a part of the inner quarters, but its rooms were treated differently from the other female rooms. While the rooms of the inner quarters were inward-looking, and thus accessed from the central courtyard, the male domain that includes the outer room and *maru* was outward-looking and was not easily accessible from the central courtyard to minimize contact between males and females.

1.3. Confucian Decline and Domestic Transformation

Confucianism in the Choseon dynasty emerged as an influence from the 15th century and became strongest between the 17th and 18th centuries. From the 19th century, however, its power slowly diminished following a series of social movements combined with political instability. The corruption of aristocrats, the introduction of egalitarianism by Christianity, and small and large uprisings from the common classes led to the Donghak Peasant Rebellion in 1894. This historic event was immediately followed by the Gabo Reform by the government from 1894 to 1896. Most importantly, the declarations of the reform included the abolishment of the class system and permitted the marriage of divorced women. These changes represent, at least at the level of the legal system, that the inequality between classes and sexes was no longer in action as it had been until the 19th century [12]. It can be said that the Confucian social structure of the Choseon dynasty, which lasted at least for four hundred years, was challenged and destabilized through the course of the 19th century [13]. In 1910, Korea was colonized by Japan, bringing an end to the dynasty that was firmly based on Confucian philosophy. This raises the question of whether the spatial order of the houses in the Choseon dynasty, which had been set up based on the strict hierarchy between classes and sexes, would be maintained after this series of radical political and social changes.

To answer this question, this paper will first analyze 10 literati houses built between the 15th and 18th centuries to define the spatial logic of Confucian principles reflected in their layout. We will then measure to what degree these principles were passed on to the next generation of housing in the early 20th century. There is a plethora of research on the characteristics of traditional Korean houses, but most of their approaches are descriptive rather than analytical, portraying observations of material appearances of the houses. This research aims to filter out the core values of their spatial sequence that represent the social hierarchy of the Choseon dynasty and how it has been maintained or changed through the course of social reform in the 19th and 20th centuries.

2. Samples and Methods

2.1. Samples

Ten houses in Yangdong town in Figure 2 were chosen as sample houses that have been preserved well for hundreds of years [14]. Yangdong is an old village in Gyeongsang Province which is in the south-eastern part of the Korean peninsula. The village sits amid the mild valleys between parallel ridges on the foot of Seolchang mountain, overlooking a wide agricultural field. This type of geographic condition, backed by mountains in the north and nearing rivers in the south, has been regarded by fengshui theory as the best location for settlements [2]. Yangdong has been a hometown to two prominent ruling class families, Son and Yi, for over 500 years from the 15th century onwards. The village preserves the original form of the townscape, and houses for affluent upper and common classes. For this, the entire village has been listed as UNESCO World Heritage site in 2010. The emergence of villages dominated by extended families was also influenced by Neo-Confucianism, where patriarchal order and ancestral worship were emphasized and strengthened. For our analysis, we selected 10 houses which were built between the 15th century and 18th century during the Choseon dynasty. Names and dates of construction of the 10 houses are in Table 1 and diagrams of their layouts are in Figure 3. Figure 2 shows their locations in the village. The numbers on the map follow the order in Table 1. As the town contains a rare collection of well-preserved houses built over 400 years, it is believed to provide the best sample that can reveal the principles of Confucianism and the changing trend of it.

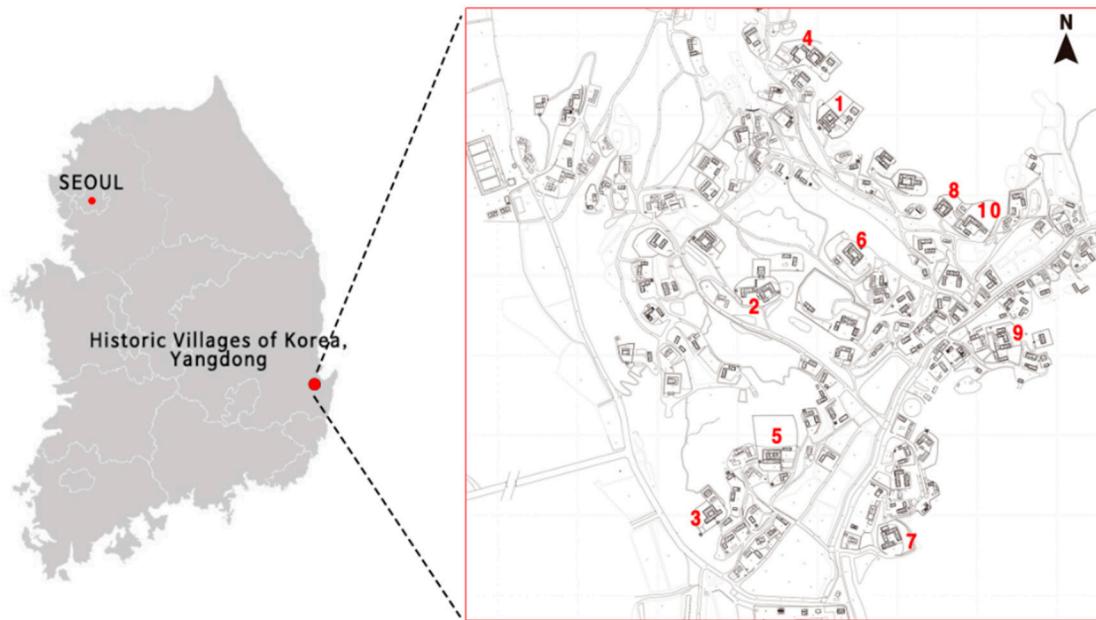


Figure 2. Location of Yangdong in South Korea and sample house locations in the village. (Source: drawn by the author).

Second, for the analysis of how the old Confucian pattern of residential layouts has influenced the design of 20th-century housing, where different political and social systems were operating, an upper-class house in Seoul was chosen for detailed investigation. Hong's house was built in 1934 in Pirun-dong, the old town in central Seoul for a government official, and it is one of the best-preserved vernacular houses of that era, with a clear record of land registry, ownership, and dates of construction. It was built by Geonik Hong, the house owner, in the vernacular style of Gyeonggi province but adopted new features of the early 20th century, and therefore can reveal how social change has influenced architectural changes. The house was abandoned after the 1970s, but after it became a listed building of Seoul in 2013, restoration was undertaken until 2015 [15]. Its site has an area of 740.5 m² with a total floor area of 154.63 m². Figure 5 shows the site plan and internal views.

Third, at the end of the analysis, to find out how the Confucian residential pattern for the upper-class has infiltrated into commoners' houses, two representative middle-class houses in the early and the mid-20th century were investigated. Whereas the upper-class vernacular houses lost their popularity and were quickly replaced by modern style houses after the Korean War (1950–1953), middle-class vernacular houses were still built until the 1960s. Therefore, they are the last generation of vernacular houses that were transmitted into the republic era of Korea, which is not founded on Confucian principles but on a democratic constitution. This will allow us to measure the degree to which the Confucianism-based layout pattern of the house was accepted by new users in a politically and socially different context.

Figure 3 shows all sample houses plotted along the timeline. The first ten houses (1 to 10) belong to the Choseon dynasty and their numbers follow the order in Table 1. As discussed in Section 1.2, there are no houses remaining before the Choseon era that can provide evolutionary clues to these houses. House 11 is Hong's house, an upper-class house in Seoul built during the Japanese Colonial period. Houses 12 and 13 are middle-class houses built in Seoul in 1934–1945 and 1956, respectively. All sample houses are aligned along the four rows of the figure that represent the changing status of the outer quarters—whether it is attached to inner quarters, articulated while still attached, detached from it, or completely separated from the inner quarters cluster. Their formal analysis will be discussed in detail in Chapter 3.

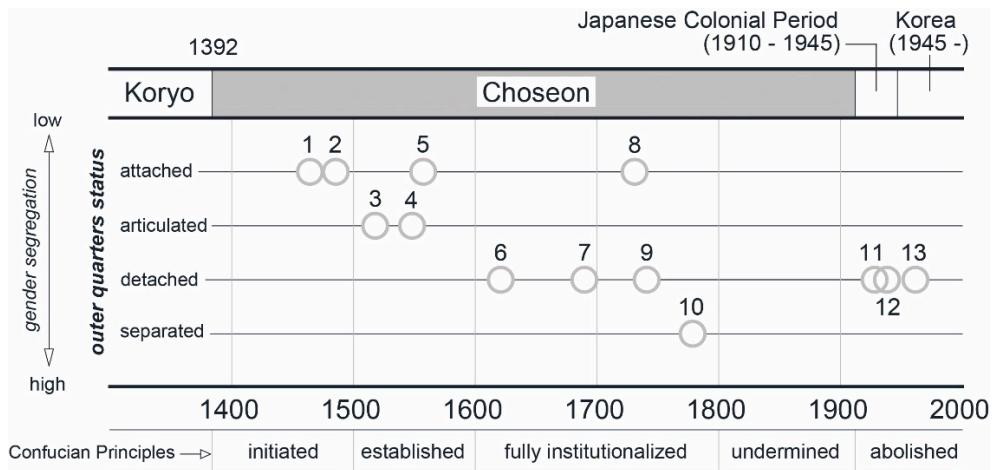


Figure 3. Chronological plotting of sample houses and the level of gender segregation measured by the status of outer quarters (Houses 1 to 10 from Table 1; House 11 from Figure 6; 12 and 13 from Figure 7; source: drawn by the author).

2.2. Methods

This research uses a syntactic approach to analyze and evaluate house plans [16]. Since we are mainly concerned about the spatial ordering of social hierarchy, it is important to find out how discrete spatial units, i.e., buildings and yards, are connected to each other and how they generate a meaningful sequence of spatial journeys. To enable this, we reduced the complexity of the layout of each compound to a simple diagram to highlight the spatial ordering between building blocks. By tracking the sequence of visitors' movements, from the main entrance to the deeper side of the house, it is revealed how particular types of spatial patterning have been reproduced and how hundreds of years' of social changes have re-configured them. This method of treating built environment as a set of connected spaces or a network has been explored by geographers, urban planners, and architects with various labels such as graph theory, network theory, and space syntax. In this paper, we do not use their quantitative methodologies but follow the same approach in a broad sense.

The ten houses in Yandong have different plot sizes and layout patterns of building blocks. To achieve our objectives of understanding their spatial patterning, we focus on the link between four building blocks, "servant quarters-uter quarters-inner quarters-ancestral shrine", defined in the introduction as a physical manifestation of Confucian social values. By excluding auxiliary buildings such as mills, granaries, and privies, they enable a quick and easy comparison between major spaces. By scrutinizing how visitors navigate through the compound and how they visually interact with these key building blocks, the continuity and change of the hierarchical spatial order will be examined. Then the findings from the examination of ten literati houses in Yandong will be compared with the 20th century upper-class and middle-class residences. As they represent new housing types from a politically and socio-culturally different context, by looking into their domestic life and spatial use, we can illuminate to what degree Confucian norms of the Choseon era have been inherited or abandoned.

3. Results

3.1. Extracting Social Order Embedded in House Plans

Ten houses from Yangdong town were diagrammed as Figure 4. They were built from the 15th century up to 18th century using the same vernacular style of the region, but still generated meaningful variations and thus no two houses look the same. The diagrams only highlighted three key building blocks, i.e., inner quarters, outer quarters, and gate houses (servants' quarters), to show how visitors progress from the main entrance to the most central space of the house, the inner room (mistress's room) within the inner quarters. The line-hatch indicates the inner room and the solid-hatch the outer quarters for the master. The orientation of each house was adjusted to locate the main

gate (two parallel bars) at the bottom of each plan. The thick arrows illustrate how one takes the journey of going into the inner room from the main gate.

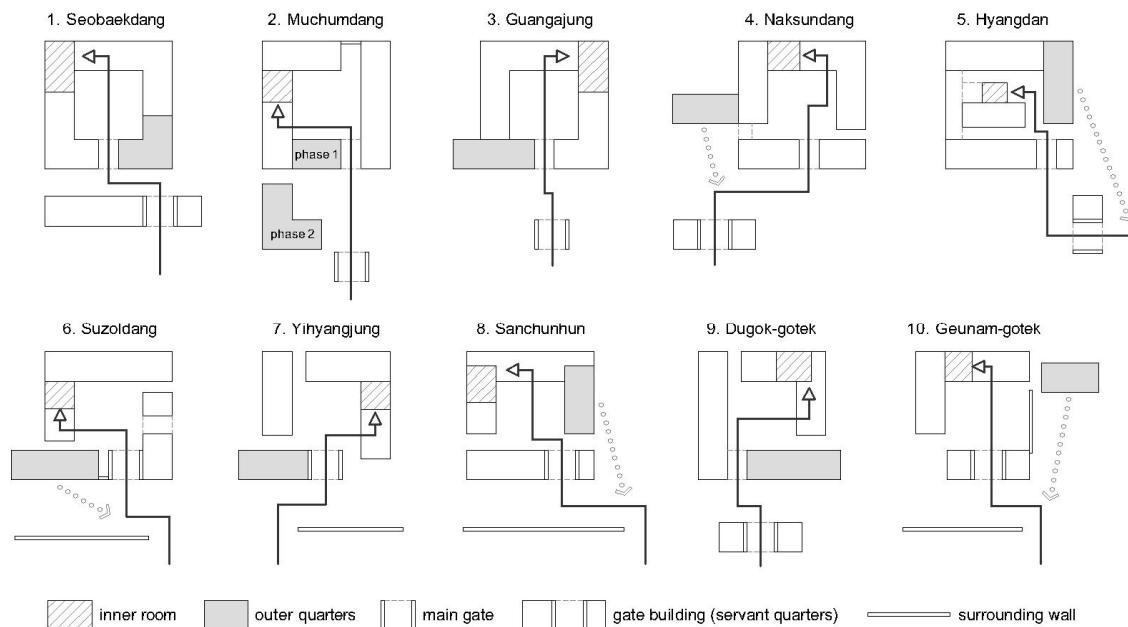


Figure 4. Layout variations for 10 literati houses in Yangdong (Source: drawn by the author).

The first diagram is Seobaekdang, which was featured in Figure 1. It is the earliest house found in Yandong, built in 1460. A visitor goes through the main gate first to start their journey. In this house, the gate forms part of the gate building that includes servants' rooms. As discussed in the introduction, the gate building can be regarded as a type of servant quarters. Passing the gate, one encounters the outer quarters immediately, and thus make a left, then a right turn to proceed into the inner quarters' courtyard. Finally, they need to step up to the *maru*, a wood-floored hall to enter into the inner room. Put simply, the visitor passes the sequence of “gate house (servant quarters)-outer quarters-inner quarters”, the order of which physically embodies the social hierarchy between classes and sexes.

The second house, Muchumdang, has two outer quarters. In its first phase of construction, the outer quarters were accommodated within the inner quarters, but in the second phase, a separate building was added to make the master's space more independent. This house, nevertheless, has a similar sequence of “gate-outer quarters 2—outer quarters 1—inner quarters”. In the third house, Guangajung, it is noticeable that the outer quarters become more prominent by sticking out of the inner quarters while they are still attached to it. In the fourth house, this becomes even more prominent. Many scholars agree that this reflects the increasing authority of Confucianism in the 16th century when the government announced regulations about separating different sexes and emphasized male dominance in the domestic space.

The fourth house, Naksundang, has a more complicated layout of building blocks. Between the gate building and the inner quarters, one has to pass the auxiliary building with the middle gate, and the outer quarters are not on the route. As the dotted arrow indicates, however, the visitor will have visual interaction with the outer quarters immediately after passing the main gate. Including this visual interaction as a part of experiential sequence, the journey will be “gate building—outer quarters—auxiliary building—inner quarters”. There are 5 houses that have dotted arrows, meaning the visitors experience visual exposure to the outer quarters without walking directly adjacent to them. There are even more complicated cases such as Houses 5, 8, and 10 where the visitors' visual interaction with the outer quarters happens before they pass the gate building. Even in these cases, the deeper position of the outer quarters naturally generates the perception that the male space is hierarchically superior than the gate building.

House 6, Suzoldang, was built in the 17th century when the Confucian system was fully institutionalized in the Choseon dynasty. The 17th and 18th centuries were the time when there was a strong tendency of separating outer quarters to symbolize the status of the ruling male. Amongst those 5 houses built in this period (Houses 6 to 10), only House 8 is the exception where the outer quarters are conjoined with the inner quarters.

Table 1. Properties of the 10 houses in Yangdong.

House Name	Construction	Confucian Influence	Outer Quarters	Spatial Sequence (Visual Interaction)	Deepest Building
1. Seobaekdang	1460		attached	GB-O-I	shrine (1924)
2. Muchumdang	1490	Early Period	attached/detached	G-O2-O1-A-I	shrine (early 17C)
3. Guangajung	1514		attached (articulated)	G-O-I	shrine
4. Naksundang	1540	Established	attached (articulated)	GB-(O)-A-I	shrine
5. Hyangdan	1543		attached	(O)-GB-A-I	Inner quarters
6. Suzoldang	1616		detached	(O)-A-I	shrine
7. Yihyangjung	1695		detached	O-I	mill house
8. Sangchunhun	1730	Fully Institution- alized	attached	(O)-GB-I	shrine
9. Dugokgotek	1733		detached	G-O-A-I	granary
10. Geunamgotek	1780		detached (separated)	(O)-GB-I	granary

¹ G: main gate, GB: gate building, O: outer quarters, I: inner quarters (inner room), A: auxiliary building.

Overviewing all 10 houses built from the 15th to 18th centuries, it is recognized that there are variations within a certain level of formal unity. Also, there are gradual transformations through time reflecting socio-political changes. These typical houses in the Choseon dynasty consist of several building blocks, i.e., gate building (servants' quarters), outer quarters, inner quarters, and other auxiliary buildings. While each house has a different arrangement, the order of these blocks maintain an acceptable layout to conform to the Confucian principle of social hierarchy. Thus, the servants' space is located around the entrance area, typically accommodated in the gate building, or sometimes outside the territory, yet still near the main gate. Moving inside the house territory, the ruling-class living area appears. Almost as a rule, the outer quarters for males appear first while the inner quarters for females are hidden behind. As the outer quarters are always outward-looking, they allow a direct view over the main gate area, or sometimes outside the gate to easily interact with those approaching the house territory. This visually advantageous positioning of the male domain helps project its authority to the visitors, while spatially distancing itself from the servants' space.

Table 1 shows summarized information of the 10 houses. They are categorized into three periods of socio-political changes in Confucianism—the early period, the established period, and the fully-institutionalized period. What clearly reflects this change is the degree of connectedness of the outer quarters. It was predominantly attached to the inner quarters in the early period, but as Confucian principles are established, it becomes increasingly articulated by being protruded from the inner quarters. Once the principles are fully institutionalized by national regulations, it becomes predominantly detached from the inner quarters to be an independent building.

The fifth column in Table 1 shows the order of building blocks within the compound. In all 10 houses, the outer quarters (O) appear on route to the inner quarters (I), and thus the "O-I" sequence appears as a subset of all ten spatial sequences, proving the materialized social order by gender. As discussed earlier, there is a sequential pattern of "gate building-outer quarters-inner quarters" in the literati houses. There are, however, three houses that do not follow this order: Houses 5, 8, and 10 (bold text). Looking at Figure 4, it is evident that although the outer quarters are in fact located deeper to the side than the gate buildings, they can visually interact with visitors even before the visitors arrive at the gate, owing to the carefully calculated allocation of the outer quarters, walls, and access routes of the visitors.

The final column in Table 1 shows which building is located the furthest from the main gate within the compound. Shrines seem to be the predominant choice in 6 houses. It is known that from the 17th century, it was demanded by law that affluent households build an ancestral shrine within their compound. Hence, it can be said that the typical order of building blocks after the 17th century was firmly established for the sequence of “gate building–outer quarters–inner quarters–shrine”.

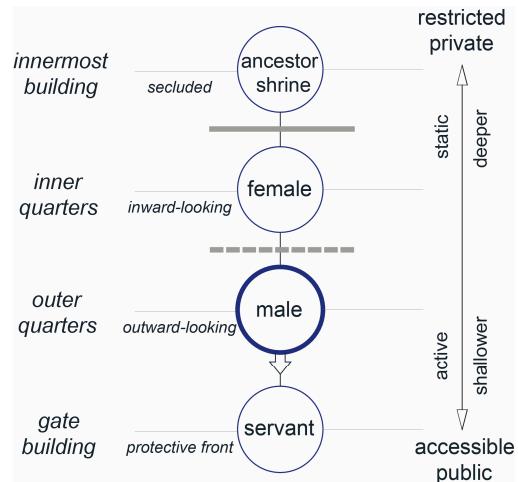


Figure 5. Spatial sequence of building blocks in the 17th and 18th centuries (Source: drawn by the author).

Figure 5 shows this sequence where building blocks for different users are aligned in a vertical axis following the hierarchical order. The gate building accommodates servants and functions as a protective front of the compound. Some servants were living outside the compound but their houses were still located at the front side of their master's house for quick commuting and communication. The outer quarters were always designed to be outward-looking (the arrow attached to the circle indicates this) and this enabled active visual interaction with visitors and the outside world. By the 17th and 18th centuries, it became the most prestigious space in the compound due to its symbolic status and architectural presence (its thick-lined circle indicates this). The inner quarters, by contrast, were always inward-looking to prevent women's activities from being seen from the outside. Although the outer quarters and inner quarters are always close to each other, the physical and visual interaction between them was strictly controlled by making doors and windows open in opposite directions from each other and sometimes placing a barrier such as walls between them. The dotted bar between male and female domains in the diagram denotes this. Lastly, on the farthest side of the compound is the ancestral shrine. The inclusion of this space for the dead became a norm by the 17th century. The thick line between the female and the ancestral domains denotes that the access to it was strictly controlled for ceremonial occasions.

The arrows on the right-hand side of Figure 5 show symbolic polarities of spatial meaning in this sequence. The shallower position means a more accessible public realm while the deeper position a restricted private realm. All these meanings have been structured by Confucian principles for hundreds of years in the Choseon dynasty. When social values started to change radically from the end of the 19th century, this hierarchical ideal embedded in the house must have been challenged. By looking at vernacular houses built in the early 20th century, we can illuminate how this conflict was resolved.

3.2. Continuity and Change in House Design from the Early to Mid-20th Century

Figure 6 shows the site plan and serial views of Hong's house built in 1934 in Pirun-dong, Seoul. It was an affluent residence built during the Japanese colonial period (1910–1945) when the old Confucian principles lost their governing power, at least at the official level. The dotted line on the site plan (a) follows a visitor's journey from the gate building to the inner room (*an-bang*) which

became the most important room for the whole family by this time. By and large, Hong's house preserves the typical characteristics of the Korean vernacular style that prevailed for hundreds of years, although it adopted some new periodic features such as long corridors on the periphery of the inner quarters and the outer quarters. It is composed of 5 building blocks along the long plots oriented in the north-south direction.

From the gate building facing the street (Figure 6b), an interesting spatial sequence unfolds leading a visitor to the inner room. The whole layout was designed in a way to provide the visitor with a ritual journey in a controlled way. Once past the gate building, there appears the servants' courtyard (Figure 6c). Turning right, the middle gate appears as a second gateway (Figure 6d). This allows the penetration through the outer quarters to arrive at the inner courtyard (Figure 6e). The outer quarters, therefore, stand between the inner courtyard and the servants' courtyard. By stepping up to *maru*, the wooden-floored hall, one finally arrives at the front of the inner room (Figure 6f). As seen from the 10 houses in Yangdong, this mistress's room is always in the pivotal corner of the L-shaped inner quarters, between *maru* and the kitchen.

Overlooking the whole journey, the process of transition from the outside to the most important room in the house seems quite dynamic and visually stimulating. The recurring alternation between the inside and the outside makes the cognitive distance of the route feel much longer than the reality. Because the route is loaded with many physical features such as turns, intersections, and building facades, it tends to be experienced as being longer [17–20]. This ritual journey effectively emphasizes the hierarchical order of "gate building-outer quarters-inner quarters", exactly as it did for the 10 houses in Yangdong. There are, however, some changes that separate Hong's house from them.

The biggest change was the absence of the ancestral shrine. Once it became no longer obligatory to build one inside the house, families began to use the inner *maru*, the biggest hall in the house for the ancestral ceremonies. In the deepest part of the residence, where the ancestral shrine used to be, affluent families built other buildings, such as outhouses or auxiliary buildings depending on their needs. On the other hand, while the old sequence of "gate building-outer quarters-inner quarters" was preserved, the clear division between male and female domains became loose and flexible. It was even considered appropriate that males use the inner quarters and use the inner room as a master bedroom. One piece of architectural evidence for this is the orientation of the openings in the outer quarters. The windows and doors of these male quarters directly open towards the inner courtyard as in (Figure 6g), which is unprecedented until the late 19th century. In contrast, openings do not allow visual permeability towards the servants' courtyard with its double layers of non-transparent sliding doors (Figure 6c). For the first time, the male building turns its back against the outside world and instead faces the internal female domain. This subtle, yet meaningful change, happened without any radical architectural transformation, but by a slight change in fenestration, and this evidently testifies to a significant change in the attitude towards the Confucian principle of separating men and women.



Figure 6. Site plan (a) and serial views (from (b)–(g)) of Hong's house (source: drawing and photos by the author).

From the early to mid-20th century, as urban populations grew quickly, many speculative vernacular houses for the middle class were built in major cities. These houses were the compact version of vernacular houses and thus still inherited the old layout pattern of having inner quarters and outer quarters. The division of sexes, however, was not as strict as in the houses of the affluent ruling class since what was more important was to allocate a larger number of household members into a smaller number of rooms [21]. As in Figure 7, two basic building blocks were centered around the courtyard. Confined within an urban plot, abutting other neighbors, these houses naturally took the inward-looking layout pattern, but there were rare cases where the outer quarters maintained the old practice of looking outward, as in Figure 7a. In any case, the inner quarters were always located on the farthest side from the entrance, while the outer quarters took the near side.

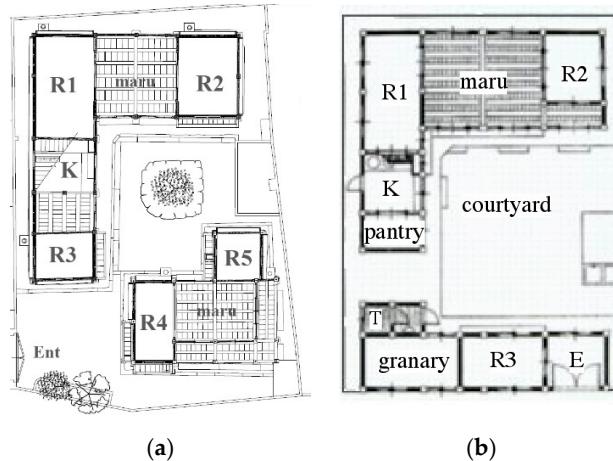


Figure 7. Floor plans of middle-class houses in early 20th century Seoul (Source: [22,23]). R1: inner room, R: floor-heated rooms, K: kitchen, E: entrance, T: toilet.

It was around this time that the outer quarters were used for various functions and occasions. Many houses used this block for tenants to generate income, while others used it for their family members or servants. Consequently, it was called by multiple names such as the gate building, servants' quarters, and outer quarters.

3.3. Spatial Sequence Compared by Periods

Figure 8 compares four different spatial orders in three different periods. The first column represents the spatial order in the 15th to 16th centuries when Confucian principles did not make a huge impact on the house layout. As evidenced in Table 1 and Figure 4, the female quarters tended to enclose the male quarters. Thus, two quarters were basically nested in the same building block. Internally, however, the male zone was clearly demarcated by setting their openings towards the outside, while the female zone was inward-looking onto the inner courtyard. This is graphically represented in the figure by using dotted circles for the female and male territories, and the thick solid circle for the single boundary of the building block. It can be said that in this early phase, the compound was bisected into the upper-class zone and the servant zone.

In the 17th and 18th centuries, when Confucian philosophy was in full operation, the spatial division became more complex and hierarchical, as in the second column. Increasingly, the male quarters became detached from the female quarters and took the role of communicating the status and wealth of the household. Every aspect of daily routines was separated by gender (hence the thick dotted line between female and male domains) and, therefore, males did almost all their activities, including sleep, study, eating, and receiving guests inside the outer quarters. By this time, the ancestral shrine became a norm in every affluent house and was usually built in the farthest side of the compound with access to it strictly controlled for special ceremonial occasions (hence the thick line under it in Figure 8).

From the late 19th century, when Confucian principles had been weakened by various social and political movements, the house configuration started to experiment with different ways of accommodating domestic culture, even though the spatial sequence of "servant–male–female" remained. The most important change is the shift in the emphasis from the male quarters to the female quarters. After the abolishment of discriminating laws in the late 19th century, the inner quarters regained its status as the central stage not just for the mistress but for the whole family. In this third phase of evolution, female and male zones re-defined their relationship by being integrated around the inner courtyard (hence the dotted circle around the two domains in Figure 8). What appears to be subtle but significant in its meaning, is that the outer quarters began to face towards the inner quarters. When the windows are open, it can have an immediate visual connection with the inner

quarters. Thus, the traditional way looking outward was reversed without any change in housing layout. In the figure, the upright arrow attached to the male domain indicates this.

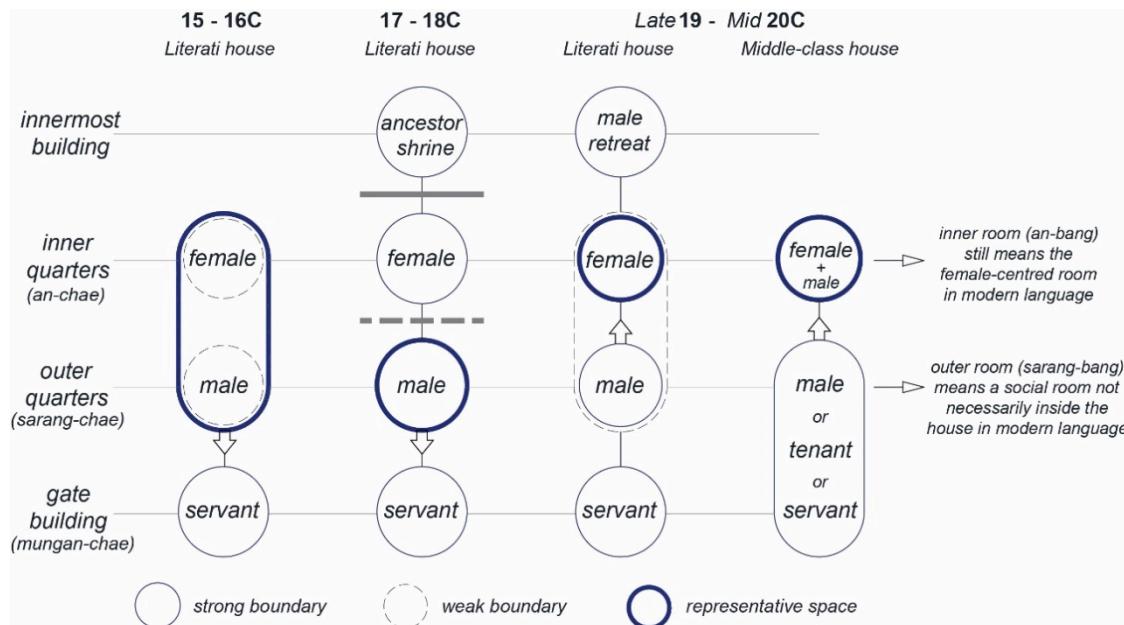


Figure 8. Comparing spatial sequence in three different periods (Source: drawn by the author).

The farthest side of the compound is now occupied by the outhouse for male retreat. It is the space for the master of the household to spend leisure time and receive guests. From the late 19th century, when there was no need to build a separate ancestral shrine, its ceremonial function was absorbed to the inner quarters, which has a large *maru*. Now the farthest side of the compound could be used for any additional uses, and Hong's house chose to build a space for male retreat amongst others. The old territorial barriers between males, females, and ancestors were discarded and the whole compound could be easily accessed by all members of the household.

The last column in Figure 8 shows the spatial order of middle-class houses built between the late 19th and mid-20th centuries in major cities in Korea. They are not the houses of the ruling class but provide a meaningful insight into the last phase of vernacular house evolution. Unlike the upper-class houses that declined after the early 20th century, their compact urban typology enabled them to thrive from the early 20th century until as late as the 1960s. As discussed in Figure 7, the middle-class house normally has only two building blocks, i.e., the inner quarters and the outer quarters. While the former still retains its traditional function, the latter now has flexibility in its usage, accommodating tenants, servants or family members. Still, there were cases where it was used exclusively for males in the family, as shown in Figure 7b. When the outer quarters were used for tenants and servants, the inner quarters had to accommodate both males and females of the family. Consequently, the spatial division by gender became increasingly blurred [22]. Figure 8 shows this change by adding "male" to the female domain. The elongated circle below it is to show that the division between the outer quarters and the gate building has been blurred and integrated so as to accommodate various users and functions.

Overviewing the whole process of housing transformation, it is clear that the concept of separating building blocks into two, the inner and outer quarters, has persisted for hundreds of years from the 15th century until the mid-20th century. To adapt themselves to the social changes, Korean vernacular houses re-invented the way they were used. By re-thinking the way each building block was used, residents could maintain stability without radical change in housing morphology. Confucianism molded the spatial configuration of the house in the Choseon dynasty but the same setting could accommodate new lifestyles without conflict through creative re-distribution of activities.

4. Conclusion and Discussion

We have analyzed literati houses in the Choseon dynasty to show their changing layout pattern between the 15th and 18th centuries and compared their spatial hierarchy with those built between the late 19th and mid-20th centuries in a completely different context. Confucian philosophy was chosen as a governing value of the new kingdom in the late 14th century and reached its full strength in the 17th and 18th centuries. Its principles were formalized and imposed onto every subject in the kingdom, but it was the ruling class whose everyday life and behavior at all levels were controlled by them. Separation of sexes and classes was strictly applied to their housing layouts and as the authority of Confucianism became stronger, architectural forms and arrangements of building blocks became more articulated to emphasize it. Consequently, the male quarters became bigger and decorative to show the master's social status, while the female quarters were given less significance. In this high-Confucian era, ruling class literati houses followed the spatial order of "servant-male-female-ancestor" along the hierarchical axis that begins from the main gate. When the foundation of Confucian philosophy was faltering in the late 19th century, challenged by a series of social movements, these houses experienced another change. The division of male and female domains was blurred and the male quarters became less dominant.

Meanwhile, since the separation of building blocks by gender was so ingrained in people's minds, many commoners' houses followed the same arrangement of having the inner and outer quarters for hundreds of years, although the gender division was practiced not as strictly as in upper-class houses. The middle-class houses built after the late 19th century, especially in the city, began to show a changing pattern of space use. The female domain became a space for the whole family, and the outer quarters were increasingly used to accommodate various users, including tenants and servants as well as family members.

The whole process of housing evolution has been influenced by the Confucian ideal of harmonious human relationships, but it was thought that such harmony should be based on a clear hierarchy. This engendered the two distinctive building blocks of the inner quarters and the outer quarters. Over 500 years of history, the reciprocal relation between them has changed in response to Confucian influence. Surprisingly, however, the compositional logic between them remained almost the same until the mid-20th century. The L-shaped inner quarters were always on the farthest side from the entrance, while the outer quarters were on the near side of it.

It is not just the architectural legacy of the inner and outer quarters that has been preserved. Since the label of the inner quarters and the inner room came from "inner person" (*an-saram*) which literally means "mistress" or "housewife", their attached meaning of femininity has been deeply ingrained in people's minds for a half millennium. Even after the vernacular style houses were no longer built after the mid-20th century, some of their room labels persist today. The fact that even in modern apartment houses, residents predominantly call the main bedroom the "inner room" (*an-abang*) proves that the feminine origin of the space has not been lost or forgotten [24]. The label of the outer quarters and the outer room, on the other hand, has disappeared in modern houses that are mostly composed of a self-contained single dwelling unit. Today the name "outer quarters" and the "outer room" are still used to indicate social places in the neighborhood, somewhere outside the domain of the house. Hence, the semantic bipolarization of "inside women versus outside men" clearly operates in 21st century Korea, at least in the linguistic realm.

Even though Korean modern thinking in the 19th and 20th centuries has been established on the destruction of Confucianism, 500 years of comprehensive social programs and activities do not easily disappear but remain in a "tribal memory subliminally retained in mind and practice" [12]. Even amongst those countries that inherited the Confucian tradition, modern Korea is considered to have adhered to it more strictly than China and Japan [4]. This may not be a pure coincidence since Chinese and Japanese vernacular houses are known to have a lesser degree of gender segregation than their Korean counterparts [25]. Furthermore, the persistence of the inner quarters until the middle of the 20th century, well into the republic period of Korea, and the ongoing use of the word "inner room" in the 21st century, could have helped generate a certain degree of gender role fixation in Korean society [26]. Thus, some research has found that the sexual segregation in the previous era has been

“reconfigured” in the modern society, where “a husband works in the public sphere, while the wife devotes her time to support her husband and housekeeping activities” [21]. Even working married women in South Korea have been found to do more of the house work compared to other developed countries [13] while the labor market participation by educated women is relatively low compared to other OECD countries [27]. These findings can be supported by recent statistics where South Korea has the lowest female share of seats on boards of the largest companies (2.1% compared to 22.3% average) and of female employees who are managers (0.3% compared to 4.7% average), as well as the highest gender wage gap (34.6% compared to 13.5% average) amongst OECD countries in 2017 [28].

It is hard to prove that housing culture has influenced and reproduced the gender roles of today. What is certain, however, is that from the 15th century, vernacular houses were shaped to conform to Confucian ideology and even after it ceased to be a national philosophy at the end of the 19th century, their basic morphology survived and continued on to 20th century modern society. In addition, the verbal language attached to the spatial language of Confucian architecture transmitted even further into contemporary Korean society, influencing peoples’ perception of gender roles. In this vein, it is evident that vernacular Korean houses acted as a medium to transfer Confucian ideology in general, and gender roles in particular. A house is shaped by the social norms and values of the day, but once constructed it becomes a powerful vehicle to transport them to the next generation because it is a text that is “read” with the body [29,30].

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