

The Linear and the Planar

The spatial logic of Chongno and the morphology of its commercial architecture

Sung Hong Kim
University of Seoul, Korea

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Abstract

The paper presents a cultural analysis of the morphological development of Chongno, the oldest commercial street in Seoul. The spatial topology of Chongno is distinguished not only from the modern grid pattern cities, but also from cities of the neighboring countries, China and Japan. Three questions are formulated. First, how is street configuration related to land subdivision and land use? Second, how are socio-cultural changes related to urban morphology? Third, how are the changes of urban morphology related to building morphology? The arguments of the paper are based on a comparative analysis of the chosen area in two different periods, between the 1910s and the present. The paper points out that the juxtaposition of the space-dependent retail architecture and the transpatial residential architecture created the linear-planar duality in urban landscape. This social logic of space use has persisted for more than six centuries despite destruction and demolitions of architecture and it still functions as an underlying logic to generate building morphologies.

Introduction

The commercialization of urban center and residential development of urban periphery are one of the distinctive products of the modern transformation of the city. The separation of residential and commercial functions is more apparent in cities that have suffered from rapid transformation. Chongno, the oldest commercial street in Seoul, with more than six hundred years of history, is a striking example of this phenomenon. Buildings rise from the property line, which I will refer to as outside, in a continuous facade that conceals irregularities of layout behind the street, which I will refer to as inside. Outside, the signboards attached or hung on external walls represent extremely dense spatial organizations and highly mixed commercial uses. Inside, one-story traditional timber structures are still used for commercial purposes, primarily for nighttime entertainment facilities. The contrast between the inside and outside of Chongno is distinguished not only from the modern grid pattern cities, but also from cities of the neighboring countries, China and Japan. Yet this configuration has not been a rigorously studied subject for the history of Korean architecture and urbanism. The history has generally been the history of the architecture and urban artifacts of the ruling classes: the focus has been on the formal, constructional, and aesthetic aspects of palaces, and the cosmological and symbolic aspects of traditional urban planning. One of the consequences is that the commercial architecture has been understood in economic, legal and technical terms devoid of understanding of the relation between architecture and urbanism.

Keywords:
spatial topology,
linear-planar duality,
urban morphology,
retail architecture.

Dr. Sung Hong Kim
Assistant Professor,
Program in
Architecture,
University of Seoul,
90 Cheonnong-dong,
Tongdaemun-gu,
Seoul 139-743,
Korea.
tel: 82-2-2210-2617
fax: 82-2-2248-0382
shkim@uoscc.uos.ac.kr

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Before dealing with the problem of redevelopment or preservation, which is the most pressing urban issue facing Seoul, more global properties of urban spatial patterns must be examined. The question is to what extent we can understand the complex visual urban landscape in relation to the less complex spatial logic of urbanism. Three questions can be formulated. First, how is street configuration related to land subdivision and land use? Second, how are socio-cultural changes related to urban morphology? Third, how are the changes of urban morphology related to building morphology? The arguments of the paper are based on a comparative analysis of the chosen area in two different periods, between the 1910s and the present. The 1910s was a transitional time in the history of both Korea and Seoul. The period was punctuated by the Japanese seizure of the Korean peninsula and thus by the turning point of urban transformation. The 1980s and 1990s were characterized by the construction of massive high-rise buildings in the traditional urban areas. The studied area is one of the last renewal areas within the city. As the investigation is confined to the spatial aspects, only by theoretical implication will it expand to cover historical issues of the city. Space syntax is used to build a theoretical framework and the two space syntax techniques, axial and convex mapping, are used to analyze urban and architectural space respectively (Hillier, B. & Hanson, J., 1984; Hillier, B., Burdett, R., Peponis, J. & Penn, A., 1987; Hillier, B., 1989; Peponis, J., 1989; Peponis, J., Hadjinikolaou, E., Livieratos, C. & Fatouros, D.A., 1989). The discussion of space syntax theory and methods will be limited to the use of its basic concepts presented in a simplified form in this paper. The existing historical studies, research reports, maps, and photos also guide the argument to fill out the details.

The Linear and the Planar Configuration

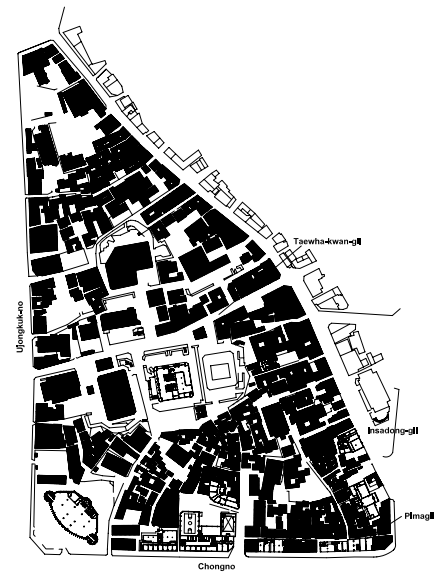
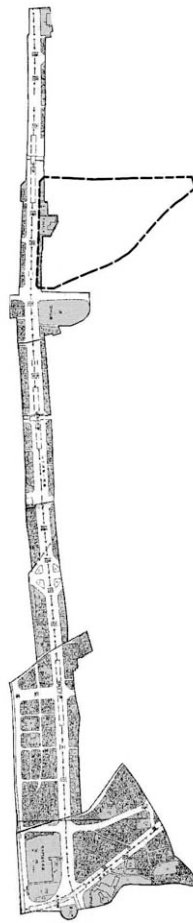
Chongno is an east-west spine at the heart of Seoul, about 40 meters wide and 7 kilometers long. In Korean, the word ‘chong’ designates bell tower, and ‘no’ denotes street. From the west end, Chongno begins with one layer of lots on one side, but includes several layers of lots in the middle. To the east end, it extends to several blocks on both sides (Figure 1). To the west, an address refers to a parcel’s location within a consecutive order along the street, like grid plan cities, but to the east, it refers to the lot number assigned to the property according to its date of land subdivision. A high number thus does not necessarily mean a long street, but a densely packed area. In this paper, therefore, Chongno has a double meaning: it refers to a street with adjacent lots on the one hand, and refers to an area behind the street on the other hand. The first property has a ‘linear’ formation: it has a strong sense of direction towards the front because of its collective and street-dependent nature. The second property, by contrast, has a ‘planar’ configuration: it does not have a coherent orientation because of its independence from streets and adjacent lots.

The studied area forms a trapezoid whose largest dimensions are 540 meters long in the north-south direction and 380 meters long in the east-west direction. It includes a 20-meter deep commercial strip facing Chongno (Figure 2). The area is close to the two major palaces: Kyongbok Palace to the northwest and Ch’angdok Palace to the northeast. When Seoul was founded as the capital of Chosun, the layout of the city, though constructed on the cannons of Chinese cities, did not embody the strict principles. The principles were limited to the main streets, palaces, royal shrines, and governmental buildings: the geometrical regularity and symmetry are only applied to the major buildings in the palaces. Behind the major streets, the city was not organized as a grid plan. The high-ranking officials built their houses at ideal sites first, most often deep from main streets, and improved the roads connecting

them to the main streets. The size of land parcels was assigned on the basis of an official's position in the hierarchy. Alleys were produced as other houses were built later to fill remaining areas. The map published in 1914 shows large parcels in the middle of the block, where the residences of high-ranking officials were located.

By contrast, one layer of shallow-lots is aligned along Chongno. This type of urban parcel is sharply distinguished from the narrow-frontage and deep-lot pattern that is generally found in grid-pattern cities. This was the site where the court established shops in the late fourteenth century, called shijon, whose function was limited to the supply of goods to the government and upper classes. In a painting published in 1770, mountains, creeks, wall, gatehouses, major palaces, Confucian shrines, and shijons were diagrammatically described. Among these city elements, the configuration of palaces and shijons are distinct. While the former is surrounded by rectangular walls, the latter is aligned from the east gate to the west gate (Figure 3). The shijon buildings were under the direct control of the government: it was obligatory to seek permission to open a shop. The shop was a one-story timber structure with a tile-roof and its interior was not deeper than 20 meters. The shijon building was also called haeng-lang, the rough equivalent of a portico in Western architecture.

The size of buildings was described in terms of a unit called kan, which is the space between supporting columns. In the late fourteenth century, the government built 1,360-kan shijon buildings along Chongno and the two other major streets. If we assume one kan is about 3 meters, the total length would be about 400 meters. However, not all haeng-lang buildings were used for commercial purpose; some sections were used for government purposes such as storage and lodging. Towards the eighteenth century, commercial activities were no longer restricted to the shijon buildings, and extended to the street itself. The government's attempts to crack down on irregular commercial activities were frequently recorded. The period between the 1930s and 1940s was a time when modern urban planning was exercised by Japan. Narrow medieval streets were destroyed and replaced by straight spacious thoroughfares well suited to colonial management and control. Urban transformation continued



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Figure 1 (left): District of Chongno with the Studied Area

Figure 2: The Studied Area

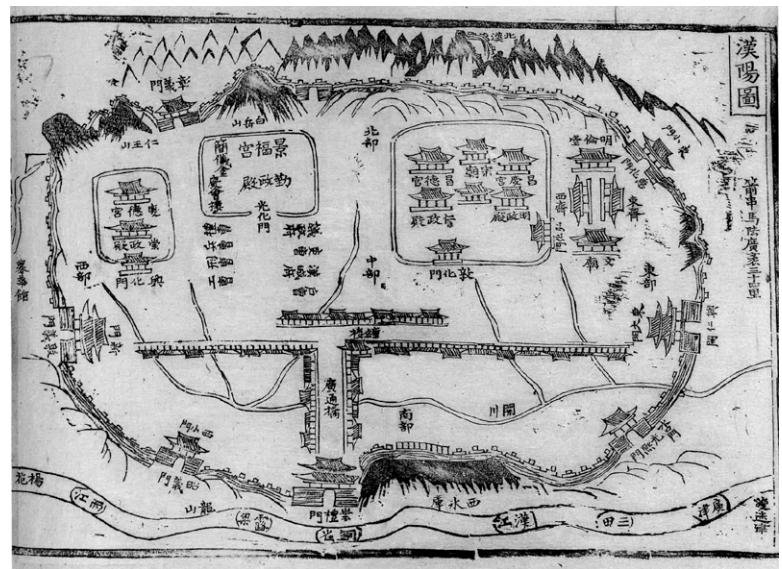


Figure 3: Hanyang-do (Map of Seoul), 1770. Source: Lee C, Yang B K, 1995, Old Maps of Seoul (University of Seoul: The Institute of Seoul Studies)



Figure 4 (left): Axial Representation of Chongno, 1914 (The 10% integration core is shown in thick lines, the 25% segregation core in dotted lines.)

Figure 5: Axial Representation of Chongno Revised to Approximate the Space Pattern of the 14th Century. (The 10% integration core is shown in thick lines, the 25% segregation core in dotted lines.)

during the Korean War (1950-53), and the construction booms of the 1970s. Despite the continual development and redevelopment, however, the urban fabric of Chongno remained relatively stable and without significant changes across six centuries until recently. It is to a greater consideration of this character that we now turn.

Horizontal Juxtaposition, 1914

To describe the spatial relation between commercial architecture and the city, the first step is to draw an axial map on the map published in 1914, which is known to be the most accurate and oldest preserved map on record. Most maps before this period are diagrammatic, but this map represented geometrical characteristics that are suitable for axial analysis. Figure 4 shows the axial organization of the area. The 10% integration core of 1914 map shows two distinct features: first, it is concentrated on the peripheral streets of the area, and second, it is more biased towards the site of shijon on the south. Chongno appears the most integrated street and Insadong-gil, which surrounds the studied area on the southeast corner, becomes the second. Several streets diverging from Chongno tend to penetrate into the inner fabric, yet they do not reach to the large plots of land in the middle. An alley running parallel to shijon is included in the core. On the one hand, the 25% segregation core coincides almost with dead-end alleys inside the block, and they are near the large parcels. The average integration value as a whole is slightly over 1, resulting from the high degree of street fragmentations and dead ends (Table 1). The inspection of the integration and segregation cores reveals the integrated-commercial and segregated-residential relations, which were already reported by previous researches using space syntax. The commercial facilities tend to be shallower and thus they are more generally accessible than more secluded, deeper, quiet residential areas of high-ranking officials. The internal labyrinthine alleys keep strangers out by making it difficult to get through, while conversely the external streets are within convenient reach from other spaces of the area.

Period	No. of Sp.	Integration	Integration r3	Connectivity	Intelligibility
1914	111	1.015	1.271	2.505	0.674
1914 Revised	110	1.068	1.322	2.545	0.675
1999	93	1.201	1.43	2.731	0.668

Table 1: Chongno Study Area in Two Periods: Main Syntactic Profile

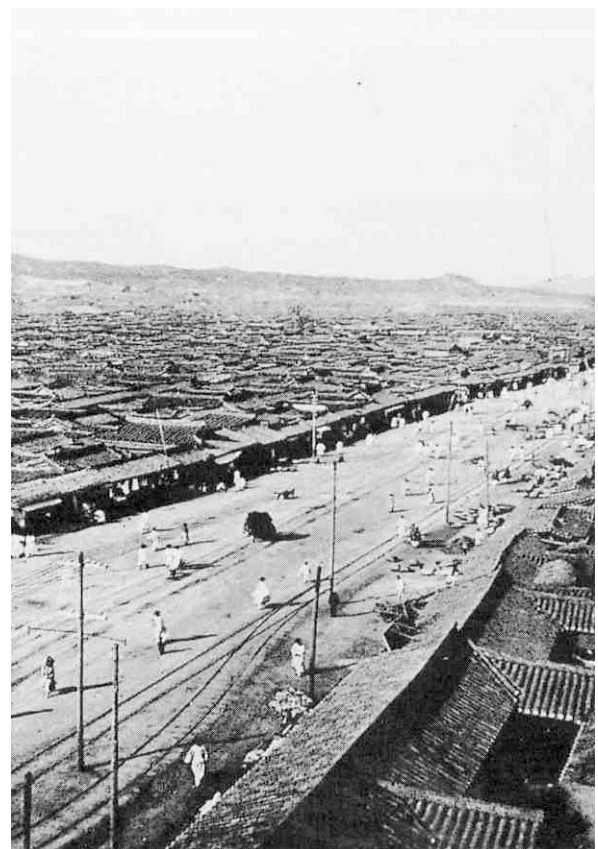
What must be noticed is that the way residential and commercial spaces are combined. The integration core is carried by peripheral streets both on the east and west side, but it tends to make a 'long-narrow grid' on the south, where the alley is partly broken by the few larger lots in the middle. The integration would be much higher, had the broken alley been connected as of the fourteenth century. Historical records document that the alley, Pima-gil, as being parallel to Chongno almost 1.5 kilometers long. The width of the path is not more than 3 meters. The next step of analysis is to straighten an axial segment of Pima-gil and recalculate integration to approximate the space pattern in the earlier Chosun period. Figure 5 shows the results. The segregation core appears almost identical to that of 1914, but the integration core supports the claim that the area has a combination of two distinct morphologies: 'external' and 'long-narrow grid' core.

The commercial space in fourteenth century Seoul can be compared to two medieval Chinese cities, Chang'an in the ancient Sui (581-618) and Tang dynasties (618-906) and Kaifeng in the Northern Song dynasty (960-1127), whose planning principles had major influences on the foundation of Seoul. While the capital of Chang'an was a controlled, highly disciplined city with restricted commercial activity, Song Kaifeng established a new urban structure with pluralistic streets. In Chang'an, the main streets were devoid of commercial activities, which were restricted to fortress-like grid pattern wards. By contrast, in Kaifeng shops expanded beyond the wards and lined and encroached upon the streets (Heng, 1994). Chosun was dominated by a ruling class of literate officials, educated in the knowledge and virtues of Confucianism, and thus much closely resembling the Sui and Tang dynasties than the Northern Song dynasty. Conversely, the commercial spaces were very different from the markets in Chang'an and more similar to Kaifeng's streets. In the map of 1914, Chongno was about 40 meters wide and we would not imagine that intimate commercial activities took place there. An aerial photo from the early 1900s shows that the street is so wide that the shop's interior is almost invisible from the other side (Figure 6). It is presumed that the one-story shijon facades on each side were at least 18 meters apart and they were not tall enough to close in the immense boulevard and give an impression of immediate unity.

It could be interpreted that the street of Chongno in the early Chosun period was not distinctively 'commercial' either from the perspective of medieval European or Chinese cities. It was the setting for stately display. The commoners receded from the main street and took their places as spectators rather than participants in everyday urban life. When the king and his royal entourage passed on sedan chairs carried by man-bearers, commoners knelt along Chongno. A narrow path, Pima-gil, was provided behind the shijon to facilitate more convenient pedestrian traffic. The shijon was an architectural facade of the city: it was the only type of architecture that depended on streets, while palaces, royal shrines, government buildings, and residences are positioned

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Figure 6: Aerial View of Chongno, 1900ca. Source: The Institute of Seoul Studies, 1995, Old Images of Seoul (University of Seoul)



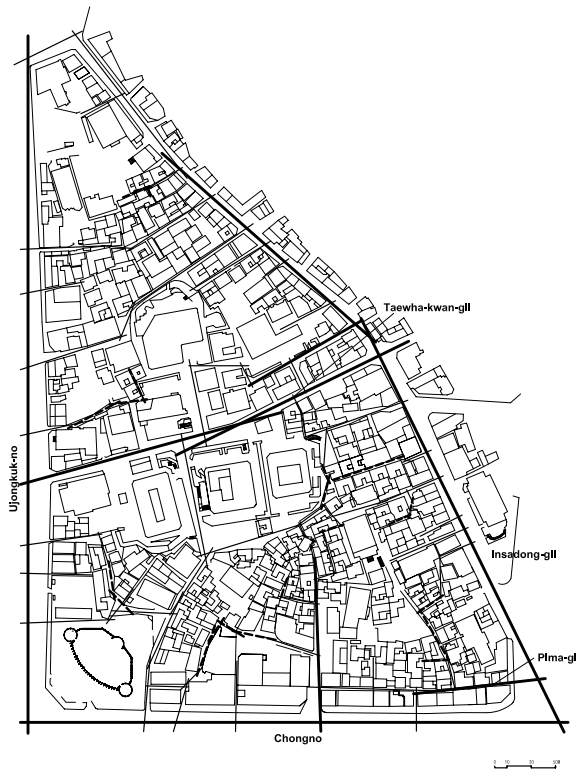


Figure 7: Axial Representation of Chongno, 1999.
(The 10% integration core is shown in thick lines, the 25% segregation core in dotted lines.)

according to the cosmological and natural orientation independent to the urban spatial structure. Confucian philosophy as the state's ruling ideology during the Chosun dynasty was closely related to prevalent anti-urbanism. While the vertical combination of commercial-residential use was already developed in the medieval European cities, it was not suitable to the capital of Chosun. Instead, Seoul created the horizontal juxtaposition of commercial and residential use, shijon buildings to the front and houses to the back in the linear and planar configuration. Whether this spatial juxtaposition changes and affects the architecture becomes an all the more intriguing question.

Chongno Transformed, 1999

Recent changes in the urban fabric have been subtle but significant. Of the many developments in the area, two stand out as being of particular importance. First, the straight thoroughfare, Taewha-kwan-gil, traverses the east-west direction. Along this new street, four high-rise office buildings have emerged. Second, many of

the dead ends were eliminated. A new street, Taewha-kwan-gil, is included in the 10% integration core, therefore, 'one external core' of the previous period was transformed into 'two external cores'. The fragmentation of internal streets was not improved, although dead ends were significantly reduced. Several streets were eliminated or privatized by the increased scale of lots. Insadong-gil, a street with art galleries, art shops, art institutions and traditional gift shops, has become the most integrated street. The 25% segregation core is still dispersed inside the area (Figure 7).

The syntactic analysis shows that the area has become compartmentalized into larger chunks of urban blocks. What is more important is the elimination of the long-narrow grid in the southern front section of the studied area. Pima-gil was interrupted at the west corner by the construction of a commercial tower and thus it merely serves as a detour. The result is that Chongno has become the second most integrated street in the studied area. However, the integration values of Chongno and Taewhakwan-gil would be much higher, had spatial layouts of commercial buildings been included in the analysis or larger urban areas been considered in the analysis. In such cases, the syntactic gap between inside and outside would be much sharper (Table 2). It is important to note that Chongno carries the highest volume of traffic in the northern part of Seoul today. This supports previous findings that there is a strong correlation between the density of vehicular movement and the spatial configuration of the urban fabric (Peponis et al., 1991).

Table 2: Chongno Study Area in Two Periods: Average Syntactic Profile of Integration and Segregation Core

	Avg. Integration	Avg. Integration r3	Avg. Connectivity
1914 10% Integration Core	1.514	2.107	5
1914 25% Segregation Core	0.728	0.729	1.607
1999 10% Integration Core	1.783	2.333	6.778
1999 25% Segregation Core	0.884	0.896	1.957

Reversed Spatial Logic

The comparison of the two periods reveals that there has been a complete reversal of locational priority. One is a period that is still influenced by a society controlled by strong aristocratic power with a highly hierarchical social structure; the other period is shaped by a society managed by commercial capital. In Chosun, the retailer was considered the lowest among the four hierarchical professions: literate official, farmer, artisan, and merchant. It is not surprising that the residences of high-ranking officials occupy the most privileged space in the city, whereas the merchants the least privileged one. The residences were close to the royal space, but concealed from the space of the merchants. The horizontal juxtaposition inscribed a division between the upper and the lower ranks of society by commanding the privileged space while consigning merchants to an extremely limited territory adjacent to, but never within the sacred. The unpredictable interactions were in stark opposition to the hierarchy of the aristocratic society. The large-scale houses were consciously and deliberately anti-street: the purposeful negation of street-related architectural values was fundamental to planning and design. Interpersonal relations are unnecessary at the street level; the street was not meant to be a shopping district for the upper class, but for their servants and the mean retailers. Buying and selling at the roadside shops and markets did not make the functioning of the city's economy a public event yet. From the angle of the upper class, there was no need to articulate or differentiate retail space, since it was merely a visual covering of the city. The architecture of shopping was considered something to be controlled, managed, embellished, and to be seen, but not to be in.

After the collapse of the Chosun dynasty, the Japanese occupation, and the Korean War, Chongno has become the commercial and cultural center with more private capital and with less government control and power. Land has become a commodity that can be bought and sold. The state and other public bodies sold their property, and the land on which public buildings stood passed into the hands of private individuals. As far as the problem of urban planning was concerned, however, state intervention has been organized more systematically only during the last two decades. In densely commercialized areas, capital pays much closer attention to relative locational advantages, that is, syntactically integrated urban spaces. At the condition of polarized space pattern, however, the pressure of spatial intensification entails uneven development: it shifts towards vertical spread profiles that reverse the previous tendency towards horizontal juxtaposition. The peripheral verticalization is coupled with the degradation of the inside of the block. A commercial guide map of the 1950s shows how sharply the inside and outside of the area becomes polarized. The phenomenon of a dense periphery and a non-dense inside is still maintained today. Inside, there are one-story traditional houses turned into areas of relatively inexpensive inns, drinking places, karaoke shops and other nighttime entertainment facilities. Outside, one-story shops turned into multi-story retail and commercial structures that range in height from two to five-stories dominate. Apparel, accessory, jewelry, and shoe stores, bars and restaurants, bookstores, travel agencies, private educational institutes, lawyer's offices, and medical clinics reside in the same building complex. Uneven spatial development was also evident in the land prices. A contour map of land values examined in 1980 is evidence. The most expensive location was the southwest corner, where the first department store in Korea was built in 1936 and a 36-story tower was

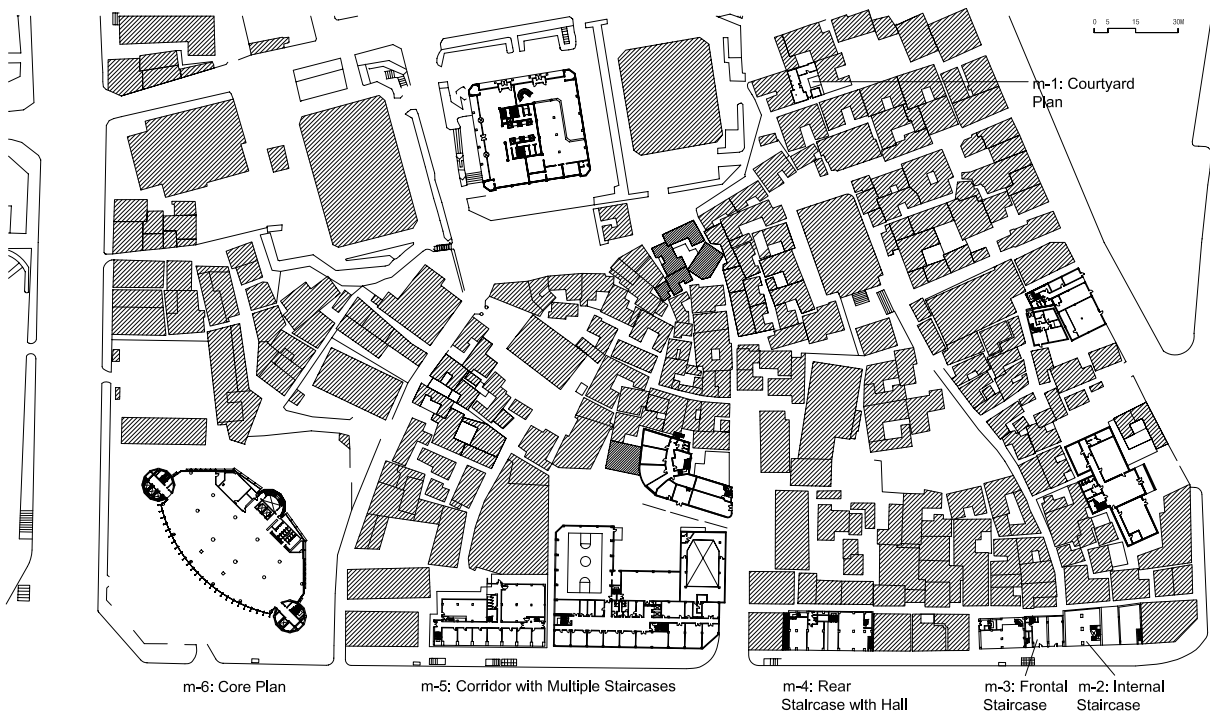


Figure 8: Six Morphological Variations of the Commercial Architecture in the Studied Area

completed in 1999. The rates decrease as one goes further inside: the least expensive lots are where the official residences were located and those today occupied by the nighttime entertainment facilities.

The transformation of Chongno implies the social logic of space refined by Hillier and Hanson in two social paradigms of space: spatial and transpatial (Hillier and Hanson, 1984). The ministers and high-ranking officials are more related to the royal family members, court officials and the clan than to their neighbors. Most of them moved to Seoul through the system of official examination and after retirement they returned to their hometowns and enjoyed the lives of recluses and often taught young scholars. They belong to the group that is defined by the abstract bonds of members regardless of spatial proximity, and by the conceptual cohesion rather than spatial contiguity. In this sense, we might call them the transpatial group. The most privileged lands occupied by this transpatial group were surrounded by strong spatial boundaries. The retailers belonged to a similar socio-spatial formation: they depended more on the transpatial group and other retailers, middlemen and traders than the high degree of mutual interactions with casual customers on street.

The aristocratic solidarity completely collapsed in the process of colonization, war, and industrialization. The urban center fell into the hands of private speculators; the system of market values led to the shifts in the spatial configuration of buildings. In the past, groups of private houses would form self-contained quarters or islands, with the building disposed without relation to the public ways outside. But today, it would be the other way about: every building tends to be oriented to the street. Now the space of the transpatial group was degraded into the least preferable land from the perspective of commercial interests. By contrast, the boundaries of the transpatial group became the most profitable retail spaces, as shops capitalized on the street by placing a premium upon intense pedestrian flow. The juxtaposition of the space-dependent daytime architecture and the transpatial nighttime architecture retains and stabilizes the linear-planar duality in the urban landscape.

Morphological Variations of Commercial Architecture

It would be an error to imagine that building morphologies are in any sense caused by urban spatial structure and vice versa. Yet it is also a mistake to argue that they are not mutually generative. The spatial logic exists prior to an architectural form, but also comes to constitute the form in a new way. Chongno is a mosaic of different urban spatial morphologies, and at the same time of myriad morphological variations of commercial architecture. At least six morphological variations of commercial architecture stand out in the studied area. Figure 8 shows representative samples for each of six morphological variations. Although such morphologies are not exhaustive and its categories are neither mutually exclusive nor static, it is helpful to get a broad picture of the relation between commercial architecture and urbanism. The first can be found in an inside-planar fabric and the last five variations in an outside-linear fabric. The most important analytic category is the ways in which rental spaces are connected to the halls, staircases and streets. Based on convex analysis, the integration values of five morphologies are calculated. The results are summarized in Table 3.

	Avg. Integration	Avg. Integration of Staircase	Integration of Street
m-1 Courtyard Plan	0.805	3.490(Courtyard)	0.499
m-2 Internal Staircase	0.493	0.591	0.328
m-3 Frontal Staircase	0.785	1.106	0.829
m-4 Rear Staircases with Hall	0.877	1.098	0.805
m-5 Corridor with Multiple Staircases	1.471	2.174	1.996
m-6 Core with Elevators	4.041	18.615(Elevators)	1.114

Table 3: Morphological Variations of Commercial Buildings: Integration Value

m-1: Courtyard Plan

One-story courtyard house of timber structure constructed between the 1920s and the 1930s by speculators is renovated into a traditional restaurant. Several rooms are united to accommodate a large restaurant space. There is a strong threshold in terms of accessibility and visibility.

m-2: Internal Staircase

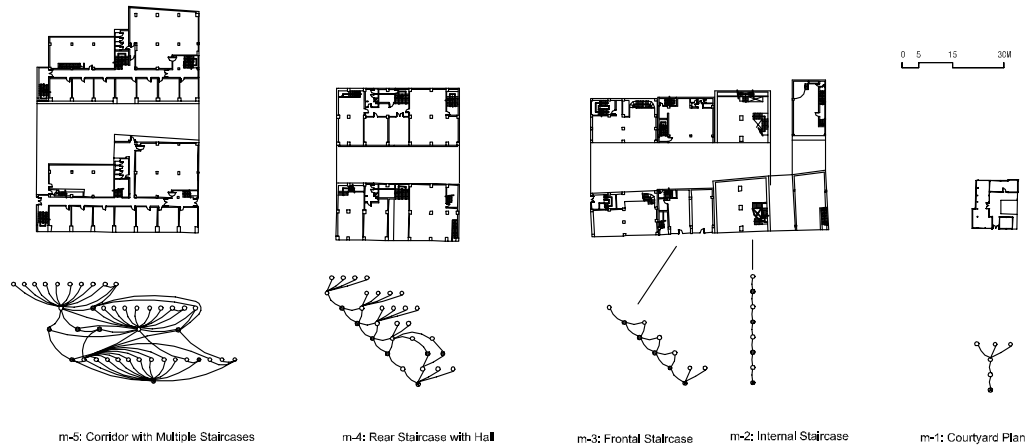
This morphology is limited in its height since the whole floor has to be rented by one retailer. In order to reach the fourth floor, the shopper must go through sales area on each level and two separate staircases. The internal spatial organization appears as a linear pattern.

m-3: Frontal Staircase

A wide frontage on ground level is subdivided into modules that often correspond to the structural grid. A module ranges in width from 2.5 meter and 4 meters; depending on the sizes of retail shops, the subdivision is flexibly decided. A staircase is pushed forward to the street and its pattern is repeated on upper levels. An emergency staircase is located parallel to the alley at the back, but it is clearly separated from the rental area. Unlike the ground level, the upper levels cannot be subdivided because of the uneasy accessibility from the staircase.

m-4: Rear Staircase with Hall

A staircase is located at the deepest space, from the point of view of a visitor, and is connected to the hall on each floor. The hall is not yet developed into a corridor because of shallow interior space. Unlike m-3, this morphology allows subdivision of space towards the street on the levels above the ground. Thus the spatial segregation is compensated by visual exposure to street. The hall acts as a space from which all rental spaces branch off. This helps to differentiate and arrange the rental spaces within the same depth from the street on the one hand, and allow all rental spaces to have windows towards the street.



m-5: Corridor with Multiple Staircases

m-4: Rear Staircase with Hall

m-3: Frontal Staircase

m-2: Internal Staircase

m-1: Courtyard Plan

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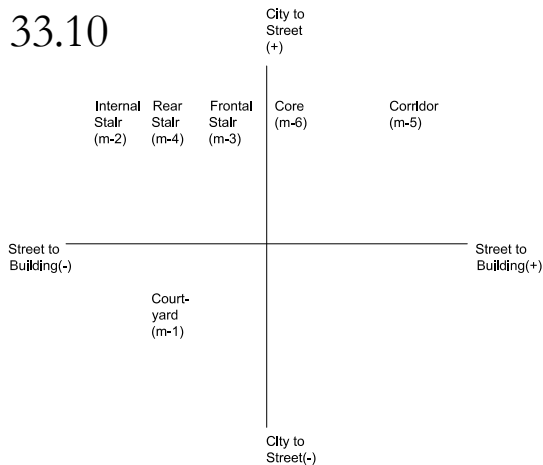


Figure 9: Justified Permeability Maps of Five Morphological Variations of the Commercial Architecture in the Studied Area (Staircase is shown in dark circles.)

Diagram 1: Spatial Dimensions of Commercial Architecture in the Studied Area

m-5: Corridor with Multiple Staircases

A corridor is firmly established here. The lot is much larger than the other three morphologies. The front side is subdivided into as many shops as possible, while the back is divided into a few rental spaces. The first is a result from the strategy of compartmentalization and the second from reunification. Once inside it is necessary either to pass through the corridor to traverse the building or take the stairs to go to the upstairs.

m-6: Core with Elevators

As the stairs recede either to the central core or peripheral core, spaces above the ground level become deeper from the street. The deeper the rental spaces, the greater the incentive for them to be differentiated in ways attractive more to office uses than to retail uses. The integration value would be much lower than all other four morphologies, but the speed and convenience of elevators compensates the depth. The elevator is a kind of 'vertical street.' Although a building recedes from the property, the ground floor is open to the street without any spatial barrier. The uniform facade devoid of signboards creates a distinct image that is easily recognized in an

automobile setting. The result has been the emergence of new corporate environments dependent both on pedestrian and vehicular flow.

Chongno encompasses a wide array of commercial architecture from the traditional single-story shop, to the multiple-story complex with corridor, to the high-rise tower with a central core. The spatial layout of these buildings involves at least the two spatial dimensions: the one indicating a building's relation to neighboring streets, the other defining its relation to the city. We can define the first as a global index of a street, and the second as a local index of a building. This is indicated graphically by Diagram 1. If one divides the buildings by the vertical axis of the global spatial dimension, five selected buildings facing Chongno (m-2, m-3, m-4, m-5, m-6) are globally integrated in that Chongno is the integration core in the studied area as well as a spine at the heart of Seoul. A courtyard house (m-1) is globally segregated because the street in front of the house belongs to the segregation core. Yet, if one divides the buildings along the horizontal axis of local spatial dimension, there is divergence. If the average integration values of internal spaces and streets are considered, the corridor plan (m-5) and core plan (m-6) are included in the right side and the other three morphological types (m-2, m-3, m-4) in the left side.

Accessibility and visual exposure to the street are critical components to the success of retail and commercial architecture. This in turn develops a trend that tends to maximize frontage. The narrow frontage and deep rental space in the American shopping malls are strong indications of this trend. The opposite tends to be the case in Chongno. When syntactic properties of urban space conflict with geometric properties, such as size, shape and ratio of parcels, it seems that architectural space is arranged in a way to overcome the limitation. Chongno's spatial and visual characteristics are closely related to the extreme polarization of inside and outside. The shallow lot between Chongno and Pima-gil, not deeper than 20 meters, does not allow a spatial differentiation in the longitudinal direction. One way to meet the growing needs of the provision of commercial space is to expand a building in the latitudinal direction and create a wide frontage and shallow interior space (Figure 9). The result is the morphological types (m-2, m-3, m-4) that belong to the globally integrated but locally segregated quadrant. This unusual configuration of commercial architecture facing Chongno is a by-product of the shift from an aristocratic and hierarchical society to a pluralistic and mercantile society.

Since the 1980s, Chongno has been competing with other urban areas and losing its fame as the commercial and cultural center. While other commercial areas provide opportunities for architects to perform formal experimentations through medium-size commercial buildings, Chongno has been the subject of a dichotomic debate between preservation and massive redevelopment of high-rise buildings. It has been regarded that the dense visual characteristics are chaotic and they are the result of a lack of systematic building regulations and ordinances and a lack of government control. But the fact that Chongno's unique character is deeply rooted on more global properties of urban spatial structure has not been scrutinized. The street of Chongno is no longer a line of communication for pedestrians, and their utility for motor transport becomes primary. With these global and local pictures of Chongno, it is not too difficult to understand why the integration core does not maintain a cohesive pedestrian-oriented environment that has been continuously suggested by the theory of space syntax (Hillier et al. 1987). The problem is more on abuse and mal-use of space than under-use and non-use in this hyper-density city.

Conclusion

Though a fuller analysis of the social, cultural, political processes which shape and are themselves shaped by spaces would complement this study, this description of the characteristics of the urban and architectural spaces in the chosen area in Chongno, Seoul, has demonstrated that the particular aspects of architecture are closely related to the interaction between traditional urban spatial structure and commercial capital today. First, Chongno originally consisted of the juxtaposition between the inside-planar and the outside-linear morphologies: the former was constructed in a hierarchical order because it was related to the residential function of the aristocratic society, whereas the latter was constructed in an egalitarian basis because it was related to commercial function. Second, this topological juxtaposition has persisted for more than six centuries despite destruction and demolitions of architecture, and it still functions as an underlying logic to generate building morphologies. Third, in the process of transformation from the aristocratic center to the commercial hub, there has been a reversal in the pattern of land use: the most privileged residential area with the inside-planar configuration was overpowered by the commercial area with the outside-linear configuration.



Figure 10: Aerial View of Chongno, 1999.

Being threatened by other urban areas, however, it seems that the older Chongno could not survive without changes. The Seoul metropolitan government has recently forced innovation to make the old urban areas more attractive as cultural centers. Under this circumstance, one may argue that architecture and urban space must be preserved to guard its cultural values. Another could argue that a complete remedy would be possible only through the redevelopment of the entire area with a completely new land-use pattern. The dilemmas could not be resolved by any single urban paradigm or ideology. What is of significance is, however, the extent to which we can describe the spatio-formal aspects of architecture in the broader context, which could be a starting point for further debate and experimentation.

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