



# An Analysis of Architectural Characteristics of Durham & Gloucester Court Designed by Alison Brooks as a Sustainable Urban Regeneration Project

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## ABSTRACT

**Purpose:** This study was conducted to investigate the planning of an urban regeneration project for South Kilburn in London and whether new buildings are planned by considering the architectural characteristics of existing housing in the community. Our analysis is expected to serve as a case study for Korea's urban development policy and public housing planning. **Method:** This study is limited to the Durham & Gloucester Court in South Kilburn, situated in North West London. The complex constructed by Alison Brooks Architects has a different appearance from other complexes designed by the same architect within the area, while also reflecting the characteristics of the area and topology. As the area is located near a historic preservation zone, establishing a relationship with historical architecture within the area is an important element. First, the South Kilburn Regeneration Project and Alison Brooks Architects are investigated. Subsequently, the architectural characteristics of Durham & Gloucester Court are analyzed in terms of the arrangement, unit plan, and elevation. **Results:** According to the results obtained through an analysis of actual housing, the architect's urban and community landscape planning complied with the detailed standard of the South Kilburn Urban Regeneration Project Masterplan. The analysis of South Kilburn Urban Regeneration Project and Durham & Gloucester Court is expected to produce various alternative approaches to realize appropriate sizes and forms of housing within a detached house site in a city, and establish an architectural system that will help maintain a stable residential environment.

## KEYWORD

Durham & Gloucester Court  
Alison Brooks  
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## 1. Introduction

### 1.1. Research Background and Purpose

Housing in the Republic of Korea have mainly been developed in the form of high-rise, large-scale apartment buildings. During an entire reconstruction, local communities are dismantled and reorganized, creating new urban structures and contributing to the disappearance of residences. In contrast to the situation in the Republic of Korea, where the focus is on the provision of new housing, the United Kingdom (UK) implemented measures to create sustainable urban environments in the late 1950s. After World War II, numerous houses in cities were damaged and demolished, leading to the creation of new houses and implementation of urban redevelopment to clean up urban slum areas[1]. In this process, residents became actively involved in determining urban policies by being proactive in local communities and voicing their requirement of physical facilities. Since the 1980s, the focus has been on residents and their communities rather than on housing and physical facilities, and development no longer spreads to the outskirts of cities. The

revitalization of existing urban centers has been the main goal, and until recently, there have been comprehensive regeneration attempts of the local economy and culture.

Under existing circumstances, South Kilburn in London has been developed without dismantling the existing cityscape and physical structure to preserve the streets and some remaining traditional buildings. Moreover, the buildings are delicately adapted with a scale and form that are compatible with the surrounding environment and context, rather than being based on building a prominent object in the neighborhood. As the development plan has gradually been conducted over decades, there is no abrupt change in the landscape, ensuring a stable environment and urban structure; deprived communities are recovered, influencing the stable lives of residents. Alison Brooks is the architect responsible for planning public housing in South Kilburn, and Alison Brooks Architects (ABA) has been recognized for its efforts to architecturally embrace the urban community in the neighborhood.

Based on this background, in this study, we aim to identify architectural characteristics of existing housing in the community based on the understanding of the urban regeneration project site of South Kilburn, and analyze how planning considerations have been achieved to ensure that new buildings adapt to the existing

urban context. Considering the surrounding environment during planning and the method to implement social mixing are expected to serve as a prior case for Korea’s urban development policy and method of housing planning that aim for overall redevelopment, along with the analysis of the characteristics of the internal space of the unit.

### 1.2. Research Method and Scope

In this study, we focus on the Durham & Gloucester Court housing located within the South Kilburn urban regeneration project site in northwest London. The complex designed by ABA is slightly different from other complexes designed by the same architect within the area, and attempts to maintain the traits of the South Kilburn neighborhood and features of the target site for planning. As it is adjacent to a historic preservation zone, and setting the relationship with the historic buildings within the area is important, there may be relevant planning considerations. An overview of Durham & Gloucester Court is presented in Table 1. Our study begins with an overview of the South Kilburn regeneration project, its master plan, and a review of the historic preservation zone (Historic Quarter), wherein the target site is located. We also aim to gain a basic understanding of the architect, ABA, and provide a general overview of the target site.

Based on the aforementioned aspects, the architectural characteristics of the Durham & Gloucester Court housing are analyzed in terms of the arrangement, unit plan, and elevation. In

particular, the unit plan is mainly analyzed using J-graph analysis to identify its spatial features, and the accumulation of such data will enable intercomparisons between housing built in different regions and designed by different architects.

The scholars conducted a field trip to the target site and surrounding areas in July 2022 to conduct this study.

## 2. South Kilburn Urban Regeneration Project

### 2.1. Overview

Modern British housing supply policy is more focused on the regeneration of deprived areas than urban expansion to suburban areas: the government has implemented housing redevelopment projects by approaching the projects from the perspective of social policy, rather than merely relying on the private sector. The regeneration project of these disadvantaged areas is aimed at maintaining a stable and sustainable community that preserves the culture and history of local communities and existing residences. Thus, urban regeneration projects in the UK rely on the active support of the central government’s subsidy programs, such as the New Deal for Communities (NDC).

South Kilburn is located in the northwest region of London, bordered by the boroughs of Brent in the west, Camden in the east, and Westminster in the south. It is primarily a residential area, and has various ethnicities, cultures, and religions: thus, its communities are historically and culturally affluent. However, the constant redevelopment of the surrounding areas has led to population movement, and the area has become increasingly dilapidated, resulting in social issues, such as poor housing conditions and high crime rates. Additionally, the surroundings of the area are not considered in the scale and design of buildings, traditional street patterns have been disregarded, and buildings with non-residential purposes have been restricted, clearly indicating urban structural limitations to revitalize local communities[2]<sup>1)</sup>. Owing to the need for structural solutions to these problems as well as the intention of revitalizing the area through the preservation of Victorian-style buildings within the area, South Kilburn was designated as a strong urban regeneration area by the central government and city council in the late 1990s. Moreover, planning has been conducted with the participation of local residents. In particular, by providing well-planned and high-quality housing, the project has been conducted to provide sustainable urban housing, create a safe community with a sense of belonging, improve the quality of education, retail, health, and community facilities, mix existing and new residents, improve educational and employment opportunities within the community, and completely integrate



Fig. 1. Location of South Kilburn

Table 1. Overview of Durham & Gloucester Court in South Kilburn

Durham & Gloucester Court Designed by Alison Brooks Architects	
Client: London Borough of Brent	
Location: North Maida Vale, London NW6 5AW	
Site Area: 13,100m <sup>2</sup>	
Dwellings: 84	
Floor Area: 7,700m <sup>2</sup>	
Status: completion	
Year: 2014-ongoing	

(Source: <https://www.alisonbrooksarchitects.com/project/south-kilburn-estate-regeneration-durham-gloucester/>)

South Kilburn with the surrounding neighborhoods[2]<sup>2)</sup>. It was selected for the Community New Deal funding in 2001. The planning process began in partnership with the Greater London Authority, Brent Council, and a local resident organization called South Kilburn Community; a phased plan was established with a deadline of 2029. The first master plan was created in 2004, and the master plan of 2005 was completed in the following year. In the early stages of the project, the economic recession of the late 2000s hampered the progress of the plan, and Brent Borough Council became the developer of some of the redevelopment sites.

Through the project, the council decided to provide council housing in the area for the existing low-income residents of South Kilburn, with a plan to provide a minimum of 2,400 quality unit dwellings and a proposal to increase this number up to 3,600 units. The council also proposed to demolish the 1960s- and 1970s-styled high-rise flat buildings and rebuild the street environment with human-scale buildings in accordance with traditional urban design principles. This was expected to enable more people from various classes to settle in the South Kilburn neighborhood and ensure that it would become a model urban

community.

## 2.2. Project Masterplan

The project area has good access to Queens Park Station in the east, Kilburn High Road Station in the northwest, and Kilburn Park Station within the project site. Considering the characteristics of the location, the project area was zoned according to the characteristics of the street or block. At the time of initial planning, four zones were set up: historic, urban, village, and artisan quarters. In consideration of the features, guides related to land use, urban structure and circulation system, scale and density, building regulations, and public spaces are suggested.

Fig. 2. shows the status of the buildings, street system, and public spaces in South Kilburn before the planning of the South Kilburn Urban Regeneration Project in the early 2000s. There is a clear linear pattern of the connecting streets to the surrounding neighborhoods, but the streets in the rest of the neighborhood are disorganized and disconnected. The buildings are also characterized by their natural shape, scale, and location. Accordingly, the master plan is proposed, as shown in Fig. 3., wherein the buildings in the block are aimed to be consolidated and reorganized to ensure that the street system is clearly visible. High-rise buildings are restrictively allowed in the center of the district and are generally limited to four to six stories in height.

The council has called for more housing through the South Kilburn Urban Regeneration Project. Under the Greater London Authority's goal to increase the number of housing in Brent by a minimum of 13510 units, 9650 new residential units were planned to be developed, including 4800 low-cost rental housing in the district[3]<sup>3)</sup>. Additionally, residential buildings within the development target site must comprise units with one to four bedrooms, and studio-type units are not allowed. To ensure an appropriate residential environment, the minimum size of the units for low-cost rental housing is as follows: 53, 80, 98, and 120 m<sup>2</sup> for one-, two-, three-, and four-bedroom units, respectively. Family residence units are planned as ground floor or maisonette-type units to enable direct access to gardens, and residential units for the elderly and weak are arranged on the ground floor. Brent Council is also committed to providing council housing for existing residents in South Kilburn. Therefore, Brent Council has attempted to secure a minimum of 2,953 new houses through local development, including 1,534 low-cost rental housing and 1,419 houses for sale through installments. New rental housing must be provided to ensure that existing residents are satisfied with their homes. Notably, as of 2016, nearly half the existing tenants in rental housing (approximately 500 tenants) resided in the new units. As such, the master plan has a careful approach to preserve the urban



(Source: South Kilburn New Deal For Communities, Brent Council, South Kilburn Supplementary Planning Document, Brent Council, 2005, p. 5)

Fig. 2. Existing area plan of South Kilburn



(Source: South Kilburn New Deal For Communities, Brent Council, South Kilburn Supplementary Planning Document, Brent Council, 2005, p. 17)

Fig. 3. Masterplan of South Kilburn

environment and ensure the success of the project, as well as details to achieve policy goals for housing supply.

### 2.3. Historic Quarter

Durham & Gloucester Court, which is the target site of this study, is part of the historic quarter. Fig. 4. shows the location of the surviving historic buildings within the preservation zone. Considering that the houses and streets were created in the 19<sup>th</sup>-century Victorian era, there has been an attempt to preserve the architecture and streetscapes, while also ensuring a balance with new development. Residential buildings dominate the area but several non-residential buildings also exist.

The city council wants to attract a business incubation center to meet the needs of existing or future residents. It will also take measures to alter the current street system, open closed streets, connect disconnected streets, and create new streets. The form of the building is arranged to respect the cityscape, and the entrance to this historic quarter is planned to reinforce its features. New buildings should be designed to enable natural pedestrian access, and the master plan should ensure that pedestrian surveillance is enhanced through appropriate planning of the form and scale of buildings. Building forms and street widths should respect the

present condition and consider safety and access restrictions to existing buildings[3]<sup>4</sup>.

Durham & Gloucester Court is located near historic buildings and is slightly different from the mass form shown in the master plan as a guide: however, the street form is maintained.

## 3. Durham & Gloucester Court Housing

### 3.1. Alison Brooks Architects

Alison Brooks is a lesser-known architect but she is based in London and has gained attention for her designs that consider urban contexts. Born in 1962 in Ontario, Canada, she studied architecture at the University of Waterloo for her bachelor's and master's degrees, moved to London in 1989, and worked as a partner architect at Ron Arad Associates in 1991 before founding ABA in 1996.

ABA's designs in diverse projects, including urban regeneration, masterplans, public buildings, and housing, have been characterized by excellence and unique concepts. The resulting sculptural forms and application of unique details that make them possible have been recognized worldwide. With approaches toward buildings and cities through intensive research into the cultural, social, and environmental contexts of projects, ABA has provided more innovative designs and solutions.

"Housing and public spaces deteriorated under Thatcher's regime in the 1980s, and only in the last decade has there been a movement in London to start investing in the public realm, considering what has been neglected. New forms of housing, sustainable housing, urban design, and infrastructure are all aspects that have been used in the UK for a long time. That has been my big ambition"[4].

In the 2001 Architectural Review, she explained why she deeply participated in urban regeneration projects. In particular, under the South Kilburn Urban Regeneration project, she planned three housing, including Durham & Gloucester Court, and one of them, namely, Ely Court, won the Royal Institute of British Architects (RIBA) National Award in 2016.

Alison Brooks gave a speech at the World Architecture Festival in Berlin in 2017.

"We should rethink how we explain architecture to people. Subsequently, they should understand that architects provide more than what the building owner/client demands"[5].

In particular, she believed that project execution is not just about creating new buildings but also about providing civic pride and social rejuvenation. "Social rejuvenation" in this context is achieved from an urban perspective, which is reflected in the



Fig. 4. Masterplan of the historic quarter in South Kilburn

value of her architecture in the city. She also insisted that ideas have no gender, that gender identity is not a subject of art, and that she identified herself as a mere architect, rather than as a woman. When people found her buildings, she faced people’s doubt—“Did a woman plan this?”—and recognized that this was an indication of society’s low expectations of women. She argued that regardless of an architect’s gender, architecture can improve lives, bring people together, and have a profound impact on individual and collective identity, belonging, and life experience<sup>[6]</sup>. Her attitude toward architecture can be clearly observed in the housing complexes in the South Kilburn neighborhood. ABA planned and implemented three complexes within the area: Elycourt, Bronte & Fielding House and Durham & Gloucester Court. Alison Brooks is the only architect to have won three of the UK’s most prestigious awards, such as the RIBA Stirling Prize, Manser Medal, and Stephen Lawrence Prize. In 2013, she was

selected as Woman Architect of the Year of Architect’s Journal for her unique work in housing, regeneration, and education. In 2016, she was awarded an honorary doctorate by her alma mater, the University of Waterloo.

### 3.2. Durham & Gloucester Court

Durham & Gloucester Court was planned as a collaboration project between three architects, including ABA. The London Borough of Brent was the client, and ABA was responsible for planning the housing on the north side of the target site.

Considering Durham & Gloucester Court, the planning stage began in 2014; it broke ground in 2016 and was completed in 2020. The entire complex accommodates 236 units, and ABA planned 84 houses<sup>[7]</sup>. The complex is located on the eastern boundary of South Kilburn, bordering the Historic Quarter in the west and facing Victorian-style houses. Around the target site, there is a sports center in the north and new residential development is ongoing in the south. The site does not have separate access for vehicles as it shares a parking lot with the complex in the south, and the vehicle entrance and exit are located at the southern complex, which is relatively spacious. Considering the flow of human traffic, there is a connection to the subway station 100 m north of the site and bus stop on Rudolf Road in the east, serving as an important visual landscape for nearby residents. The complex is divided into three buildings to create a courtyard within the block with the sports center in the north, and shares a children’s playground and pedestrian green spaces with the complex in the south. The green space is intended to be utilized as a pedestrian space to connect the existing disconnected T-shaped Granville Road in the historic quarter with Rudolf Road–Kilburn Park Road on the east side of the complex.

Fig. 8. shows a three-story floor plan of ABA’s Durham & Gloucester Court. The floor plan shows that there are 14-unit plans on a single floor, creating 17 units. The Garden Villa has two units sharing a single staircase. The Park Terrace Block comprises five units accessed by two cores. The Mansion Terrace Block is a combination of seven-unit plans with 10 units on one floor. There are six one-bedroom units, six two-bedroom units, and two three-bedroom units, which are mixed together. Although identifying the exact location of the units from the available data is impossible, many units correspond to rental housing. Each unit is accessed by three cores, and the core space is minimized to provide a small amount of common space.

Each unit has a terrace, and the intention is to have as many terraces as possible, which is an important elevation element. The main building conforms to the horizontal axis of the street, and bold diagonal lines are applied to the courtyard to create a variety of landscapes. These free diagonal lines also affect the unit floor



(Source: <https://theculturetrip.com/europe/united-kingdom/england/london/articles/architect-alison-brooks-on-being-an-industry-leader-female-or-not/>)  
 Fig. 5. Alison Brooks & The Smile in London



Fig. 6. Perspective of the Durham & Gloucester Court

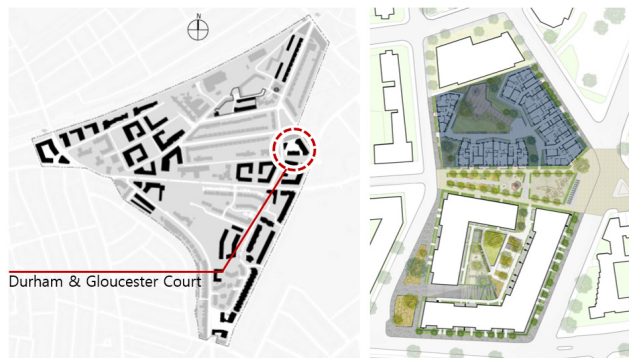
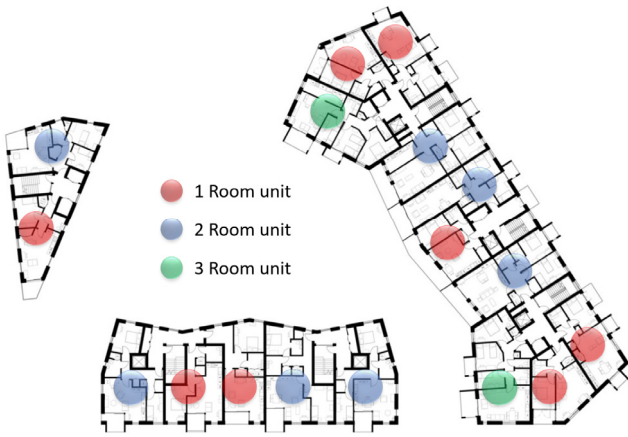


Fig. 7. Master plan of South Kilburn & site plan of Durham & Gloucester Court



(Source: <https://www.alisonbrooksarchitects.com/project/south-Kilburn-estate-regeneration-durham-gloucester/>)

Fig. 8. Finished-floor level (FFL) plan of Durham & Gloucester Court



A: Garden Villa; B: Park Terrace Block; C: Mansion Terrace Block

Fig. 9. Analysis of the site plan of Durham & Gloucester Court



(Source: <https://www.alisonbrooksarchitects.com/project/south-Kilburn-estate-regeneration-durham-gloucester/>)

Fig. 10. Mass process of Durham & Gloucester Court

plan, creating typical spaces, such as living rooms and bedrooms.

## 4. Analysis of Architectural Characteristics

### 4.1. Arrangement Features

The main building of Durham & Gloucester Court was arranged to correspond to its challenging surroundings. The Garden Ville building, which faces the historic quarter in the west, was planned to have four stories by considering the scale of the houses across the road, whereas the courtyard facing the sports center was arranged to provide residents with privacy. The southern mass was bent for daylighting compared with the

courtyard provided by the existing urban block housing, enabling the courtyard of Durham & Gloucester Court to maintain a healthy environment; it was also considered to be utilized as a community center for residents in connection with the open space in the south.

The core is accessed from the street but is also open to the courtyard on the opposite side. Although the courtyard is open, the flow of human traffic was considered to make access for residents easier. Such an approach is similar to the back-to-back houses[8] of the industrial revolution, with the narrow passageways of the back-to-back houses that enables courtyard access to units facing the road and access to the units facing the courtyard. In particular, the plan reflects a passageway with a conceptual connection, even though it is not related to the functional necessity of the historic building. Additionally, except for the Garden Villa, access to the ground floor units in the remaining buildings is possible through the core but some parts enable direct access from the street, which is not different from the access method of the back-to-back or Victorian houses. The Garden Villa building is accessed through the core owing to the relatively narrow width of the adjacent road, which hinders the creation of appropriate exterior spaces for access to the outside. Conversely, the Park Terrace and Mansion Terrace blocks have relatively wide roads or green spaces nearby, enabling some ground floor units to be accessed directly from the road; the remaining units can be accessed through the core. The exterior space is naturally configured with curved lines, and the spatial inflexibility is also relieved as the main building can be freely arranged with respect to vehicle access.

The Garden Villa, Park Terrace Block, and Mansion Terrace Block have four, five, and six floors, respectively. Among them, the Park Terrace Block faces the complex on the south side and shares open spaces for residents, while also connecting the east and west roads. As it has a relatively large road width and good location with vacant land on the other side of the road, it can accommodate the largest number of units with six floors.

In the planned housing complexes in South Kilburn, the courtyards are arranged as much as possible, and the Durham & Gloucester Court has a similar layout. However, owing to the different axes of the roads on the three sides and sports center on the north side, the most important challenge was to create a stable courtyard that reflects this feature. The solution is illustrated in the diagram of ABA's planning concept, as shown in Fig. 10., which indicates the process when considering this feature. In particular, to create a courtyard facing the enclosed sports center in the north, a new single mass is assumed, bordered by roads to the east and west and planned open space to the south. The Park Terrace Block in the south is aligned to create a visual connection

Table 2. Analysis of the unit plan and J-graph

Type	Plan
R1	
R2	
R3	

R: Room; H: Hall; B: Bathroom; T: Terrace; L: Living Room; D: Dining Room; K: Kitchen  
 G: Garden Villa ; M: Mansion Terrace Block; P: Park Terrace Block

between the historic quarter in the west and Kilburn Church in the east. While separating along the axis of mass to ensure light and movement to the courtyard, the mass is separated by the axis of the neighboring road. This approach not only ensures light but also creates a smooth connection with the exterior space. The sharp end of the mass is cut, and the mass line toward the

courtyard is bent to alleviate interference between masses. Such an approach enables the buildings to conform to the context of the road and surrounding buildings in terms of exterior spaces, and possess forms with a sense of change in terms of interior spaces.

#### 4.2. Unit Plan Characteristics

As described in Section 2, the plan for the site of the South Kilburn Urban Regeneration Project was to discourage the development of studio-type units by providing sufficient rental housing and minimum residential area standards to ensure an appropriate living environment. By employing such a feature, Durham & Gloucester Court also comprises various floor plans, but there were six one-room units. However, by excluding the studio-type units, the living room and bedrooms must be separated, and the number of rooms in the unit ranges from a minimum of five to a maximum of seven, including the terrace. Moreover, the architect's intention to pursue efficient spatial configuration by focusing on public spaces is obvious, as the separation of LD and K is only evident in M4' and M1'. The common feature of the unit plan is the arrangement of terraces across all units with diverse sizes and shapes. M3, which has one room, has three terraces, and M5 has the largest terrace area, indicating that the architects did not consider the even distribution of exterior space within each unit.

In J-graph analysis, the living room (or LDK) is arranged as an independent space with the same depth as the rooms and is always connected to the terrace. There is no access to the rooms through the living room, and except for the kitchen, the bathroom can be accessed through the hall. The maximum depth of a room, regardless of the number of rooms, is the same, namely, 3, in the entire unit plan; the spaces belonging to a depth value of 3 are the terrace and bathroom, showing a simple overall spatial structure. Although the depth is shallow as the unit plan has a single-story structure, it is characteristic of this housing, in that it has the same spatial depth of 3 regardless of the number of rooms, namely, the number of residents. Furthermore, the average depth should vary depending on the number of rooms; however, in Durham & Gloucester Court, the average depth (of the unit plan) is distributed in the range of 2–2.28, indicating that the variation is not large. The plan of six one-room units comprises five unit spaces, except for M3 with three terraces; the plan of six two-room units comprises unit spaces between 6 and 8; the plan of two three-room units comprises ten unit spaces. Although there are diverse distributions of room numbers, the average depth ranges from 2 to 2.28; despite the completely heterogeneous plan in terms of the morphology, ABA ensured utmost consistency with the living conditions in terms of the

Table 3. J-graph analysis of the Durham & Gloucester Court

	R 1						R 2						R 3	
	G2	P2	P3	M2	M3	M5	G1	P1	M4'	M6	P4	M4	M1	M1'
No. of bathrooms	1	1	1	1	1	1	1	1	2	1	2	2	3	2
No. of terraces	1	1	1	1	3	1	1	1	2	2	1	2	2	2
LDK type	LDK	LDK	LDK	LDK	LDK	LDK	LDK	LDK	LD/K	LDK	LDK	LDK	LDK	LD/K
Hall shape	Hall	Co	Hall	Hall	Hall	Co	Co	Co	Hall	Hall	Co	Co	Co	Co
Depth	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Total depth	10	10	10	10	16	10	12	12	17	15	15	15	22	25
K (No. of nodes)	5	5	5	5	7	5	6	6	8	7	7	7	10	10
Mean depth	2	2	2	2	2.28	2	2	2	2.12	2.14	2.14	2.14	2.2	2.27
RA	0.5	0.5	0.5	0.5	0.4286	0.5	0.4	0.4	0.3214	0.3810	0.3810	0.3571	0.2667	0.2667
RA-L	0.3333	0.3333	0.3333	0.3333	0.2667	0.3333	0.3	0.3	0.2857	0.3333	0.3333	0.3333	0.25	0.1945
RRA	1.4327	1.4327	1.4327	1.4327	1.3067	1.4327	1.1765	1.1765	1.0139	1.1616	1.1616	1.1265	0.9041	0.9041
RRA-L	0.9469	0.9469	0.9469	0.9469	0.7844	0.9469	0.8596	0.8596	0.8710	0.9803	0.9803	1.0162	0.8170	0.6356

R: Room; B: Bathroom; T: Terrace; L: Living Room; D: Dining room; K: Kitchen; Co: Corridor

G: Garden Villa; M: Mansion Terrace Block; P: Park Terrace Block

RA: Relative asymmetry; RRA: Real relative asymmetry; RA-L: Relative asymmetry of the living room; RRA-L: Real relative asymmetry of the living room

spatial aspects. In particular, ABA evaluated that the even distribution of required rooms without hierarchical organization was consistent with the planning objectives of the housing in South Kilburn, including social housing.

Relative asymmetry (RA) is used as an indicator of the tendency of a space to integrate[9], and real relative asymmetry (RRA), wherein a correction factor is applied according to the number of unit spaces, enables a relative comparison of the degree of spatial integration with other plans. Thus, we analyzed the degree of spatial integration with other plans.

When the unit plans are analyzed in terms of the RRA, the integration of the unit rooms had a minimum value of 0.9041. In particular, the RRA was found to be the highest when the number of rooms is 1, and its value became smaller as the number of rooms increased, confirming more tendencies of relative spatial integration. Additionally, when the number of rooms is 1, identical RRA was observed, except for M3, and the RA and RRA between M3 and other types were proportionally correlated. However, when the number of rooms was 2, RRA showed the highest values in G1 and P1, whereas the living room-centered RRA (RRA-L) had the highest value in M4 and the lowest values in G1 and P1. This confirmed that the unit plan is organized in a freer room configuration than that in the case of one-room units. When the number of rooms was 3, both RRA and RRA-L were lower than those in other cases, indicating that the overall integration tendency was strengthened throughout the interior space. This enabled the identification of the planning consideration of the role of the living room as a public space. Thus, M1' showed a large value of total depth (K) and average depth (MD); the RA and RRA values were the same as those in M1, and RA-L and

RRA-L showed more notable differences.

Overall, RA showed a strong integration between 0.5 and 0.2667, which is attributable to the fact that most rooms are connected through halls. This results in a shallower depth of space regardless of the number of rooms, and the integration becomes higher with increasing number of rooms. In the plan, the hall functions as the center of integrating unit spaces, namely, the center of flow.

### 4.3. Elevation Features

Preservation of the historic environment in a neighborhood is one of the crucial objectives of the South Kilburn Regeneration Project, which aims to maintain the significant Victorian landscape present within the project site. Thus, the planned proposals within the site necessitate the consideration of historic elements in terms of the streetscape.

The diversity of unit plans at the Durham & Gloucester Court is not noticeable in the elevations. There were more obvious attempts to consider the historic Victorian landscape immediately adjacent in the west, or to fully reflect historic elements into the elevations. First, masonry bricks were used as the main exterior finishing material to create an organic relationship with the neighboring historic buildings. Furthermore, the form of a mansard roof is applied to the elevation, with the walls of the upper two ground floors sloping, as in a mansard roof, and the terraces protruding vertically to create elevation. The terraces with regular spaces were designed to create a strong impression on the street but in a form that is familiar, while also reflecting traditional elements. The elevation of the five-story Park Terrace Block cross-repeats the elevation pattern of the third and fourth



and fourth and fifth floors, corresponding to the three-divided elevation of the Mansion Terrace Block. However, these altering and repeating elevations may be a planning solution that considers a lively streetscape while applying traditional elements, considering the external alignment of the different unit plans. Conversely, the four-story Garden Villa directly facing the historic quarter is not large in scale. However, the architect (s) refrained from expressing the elevation to ensure that it does not stand out in form, while not arranging terraces protruding toward the exterior and mansard roof. Thus, an elevation and cityscape that is compatible with the neighboring housing were achieved, as shown in Fig. 12.

#### 4.4. Results and Discussions

The layout plan of the Durham & Gloucester Court sufficiently considers the access from neighboring streets and has a courtyard arranged for residents. Such a courtyard is commonly found in traditional block-type architecture, and its creation stemmed from the architect's intention to maintain the traditional urban structure along with the suggestion of a new housing. However, traditional courtyards were arranged in a closed structure, whereas the courtyard in this dwelling was planned to be partially open to urban dwellers, enabling visual interactions. Unit plans are not uniformly shaped but are more diverse in a free mass; rather than separating them according to the number of family members, an active social mixture, which allows different family types to coexist together, has been attempted. Considering the common feature, the depth of the space is shallow, and rooms are arranged around the hall, resulting in strong integration in terms of the RRA and RA. Owing to the careful consideration in the selection of materials and the shapes of windows and roofs to not be distinguishable from those of houses on traditional streets, the dwellings will be perceived as stable housing units by local residents both spatially and morphologically.

### 5. Conclusions

In this study, we targeted the area of the South Kilburn Urban Regeneration Project; it was implemented to provide new residential spaces and improve the deteriorated physical urban structure and environments in an area with the oldest modern city history, namely, London, UK. In particular, we focused on the actual proposed housing, namely, the Durham & Gloucester Court, for analysis. However, this study has some limitations; we could not analyze the relationship of the Durham & Gloucester Court with the immediately adjacent housing in the south, which were planned together but have not been constructed for unknown reasons. We confirmed the architect's careful planning



Fig. 11. Elevation analysis of the Durham & Gloucester Court



Fig. 12. Elevation of the Durham & Gloucester Court with respect to that of the adjacent apartment

of the city and local landscape, while also accommodating the specific criteria of the master plan of the South Kilburn Urban Regeneration Project based on the analysis of the actual housing. The findings of this study are as follows. First, the housing of the Durham & Gloucester Court, which was planned by ABA, follows the standards of the South Kilburn Urban Regeneration Project, which was finalized in 2005, and is satisfactorily arranged within the urban structure. Second, in terms of the creation of exterior space, the roads and public spaces for local residents, and common spaces for tenants/residents are organically planned. The axis of the mass is adjusted to visually connect the traditional church in the southwest and historic quarter. Even in the planning phases of individual buildings, the architects' active intention of maintaining the basis of the master plan can be identified, even if it is not included in the guideline. Such considerations for the surrounding environment can be a good case for the Republic of Korea, where housing are often planned as huge walls in the cityscape. Third, although the typical

unit plan of back-to-back houses, which is surrounded by walls on three sides and has an entrance/opening only on one side, was excluded, the architects still left traces of housing of that era by arranging a passage connecting the courtyard and outside road. Fourth, various types of family members are composed in the same flow, thus architecturally proposing the resolution of social disparities rather than their maintenance. Fifth, to respond to the complex axis of the mass, the interior spaces of the units have 14 different types with various forms; however, the spatial structure shown in the J-graph is the same for all floors, regardless of the number of internal rooms, and units have terraces that are external spaces within the units. Such an active arrangement of private exterior spaces can provide a different perspective of dwellings, as housing in the Republic of Korea secure only a minimal space for evacuation. Sixth, the spatial structure of the units in the RA analysis showed a strong tendency to be isolated, but the isolated nature is compensated by the shallow depth of the rooms in all units and the connection between spaces through halls. Seventh, from a visual perspective, such as building scale, finishing materials, and application of traditional elevation elements, the housing conform to the surrounding context, while simultaneously revitalizing the deprived streets. ABA's architectural attitude of creating a stable residential environment, while also respecting the long-standing identity of a deprived area has important implications for the current status in Korea, where large-scale urban redevelopment and reconstruction are often aimed at erasing the traces of the old city. In particular, housing is not only a functional space for living but also a component of life experience, including a family's private life, relating to neighbors, and revealing the identity and quality of a city.

The analysis of the South Kilburn Urban Regeneration Project and Durham & Gloucester Court, which is the housing in the project, showed a careful and gradual approach to achieving a sustainable city. More architecturally diverse alternatives must be explored in terms of the appropriate scale and form of housing in detached housing areas in Korean cities, which should be based on understanding the existing urban context. We aim to explore institutional measures that reflect the role of local governments in providing proactive planning guidance to create a city that is sustainable and can provide local residents with stable housing.

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