Living Apartment Buildings in Ankara and Their Relation with the City

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Abstract: Innovative buildings, with their design aspects, functions and environmental relations, can enrich urban areas spatially and functionally. This study explores inner-city apartment buildings in Ankara that adapted a similar approach to Le Corbusier's Unité d'Habitation (dwelling unit), and analyzes how they have contributed to their surrounding area. Le Corbusier's approach to city planning involved geometric forms. In his works on city planning, dwelling is the fundamental element. One of his well-known contributions in this regard is Unité d'Habitation. Besides its architectural features, a remarkable aspect of this model is its communal spaces. It is more than an apartment building; where he emphasized a communal lifestyle along interior streets and on the roof. The emptied ground floor and roof garden allow a social environment for users, and these spaces interconnect with nature. A similar approach was adapted by a few cooperative housing initiatives in Ankara during the 1950s-1960s period. It was a period when cooperative housing was largely implemented to respond the housing need of working population. The examples in Ankara are still well-known with their architectural styles and functional aspects. This study focuses on some of them, designed and constructed in the same period. It analyzes the morphological and functional features at street-scale. The study does not propose this approach or similar ones as a solution to all contexts, but it highlights how an architectural approach can interrelate to the urban level with its communal spaces, and open areas at ground and roof levels, and contribute to urban life in spatial and functional terms.

Keywords: apartment building, morphology, street-scale analysis

Introduction

Physical volumes, open areas and ensemble of relationship between them are the main elements of urban morphology. Such volumes, or architectural elements, can sometimes act as significant landmarks, images or nodes in cities: Some regular functional buildings, such as residential buildings, may become a landmark or part of the urban image, as they have strong visual or functional relations with the surrounding urban setting with their design qualities. Their layout, orientation, position on the plot, and architectural features can enrich the urban setting.

This study focuses on some apartment buildings built in Ankara in the 1950s and 1960s, which followed a similar approach to Le Corbusier's "Unité d'Habitation" (dwelling unit), with the aim of displaying their roles in the city and representing their design connections with the surrounding physical setting through a street-scale analysis.

The cases undertaken in this study, as Unité d'Habitation, are elevated from the ground on columns (pilotis) and comprise open common spaces both at ground and roof levels. They are worth analyzing, as they are interacting with the urban environment with their open and semi-open spaces, which are perceivable from outside. These spaces are walkable and livable and act as common places for residents. Moreover, the architectural style of these residential buildings gives them a distinguishing effect. The examples that resemble the Unité d'Habitation model in Ankara are

mainly cooperative housing initiatives, as this model allows users to socialize in common spaces. The study portrays the design aspects of these initiatives basically with regard to their street-scale perception, and analyzes how they have gradually contributed to their surrounding urban setting aesthetically and functionally.

Housing Morphology in Ankara

Spatial organizations of dwellings can be quite different in different periods, cultures and societies. Societies reflect their characters in their dwellings. Different dwelling layouts produce diverse morphologies in cities (Sungur and Çağdaş, 2003). In addition, façades of dwellings also identify the quality of urban environments to a great extent. The aesthetic and innovative approach to façades can raise the quality of urban environment (Basa and Şenyapılı, 2006).

With regard to different dwelling types, Gökçe and Chen (2017) identify five morphological periods in Ankara:

- *1923–1950s: The Early Republic Period*
  There was a housing shortage after the 1st World War. Garden City dwelling type was seen as the ideal style for the city. Apartment buildings emerged, too.
- *1950s-1980s: Modernization Period*
  With rapid migration to the city, construction of informal houses remarkably increased. Meanwhile, apartment buildings became widespread and replaced the garden houses. The apartment lifestyle was widely adopted by the community.
- *1980s–2000: The Liberalization Period*
  Housing production declined. Besides, there was a significant decline in the ratio of slums. Housing cooperatives were established. Gated communities were launched.
- *2000 to date: The Contemporary Period*
  Urban regeneration was introduced and became widespread. Gated communities have increased. Mixed-use housing developments are also widely constructed at present.

Before the 1950s, the common housing type in Ankara was single detached housing (Figure 1, Çalışkan, 2015). Two successive plans, namely the 1924 Plan by Karl Lörcher and the 1927 Plan by Herman Jansen, determined the development of the city in this period. The Jansen Plan, which was attained through an international planning competition, proposed low-storey, detached housing areas and low-density development for the city. Consequently, single or low-storey detached housing identified the urban image and morphology of the pre-1950 period in the city (Çalışkan, 2015).

Figure 1- Main housing morphology in Ankara before the 1950s (Çalışkan, 2015)

The years following the 1950s saw a remarkable increase of population in Ankara. As the city had grown more than predicted in the Jansen Plan, a new international planning competition was organized in 1955 to attain the new city plan. The winning plan was designed by Raşit Uybadin and Nihat Yücel, which proposed a homogenous city packed within the municipality boundaries (Günay, 1992, 34). The plan, like the previous one, maintained the growth of the

city towards the south of the existing city, namely towards the Kavaklıdere and Çankaya districts, and opened up the western corridor for growth.

The subsequent Law on Flat Ownership (1965) allowed more than one ownership within one single plot, which led to the dominant dwelling typology in Turkish cities, mainly composed of apartment buildings (Figure 2, Çalışkan, 2015). The Law, therefore, marks a turning point in terms of housing production that defines the new image of Ankara streets. Three- to five-floor apartment buildings were allowed in different districts. Low-storey garden houses of the early Republican era were largely replaced. The most common typology after 1950 was the reinforced concrete, multi-storey apartment building, which changed the city's traditional image (Ultav, 2019).

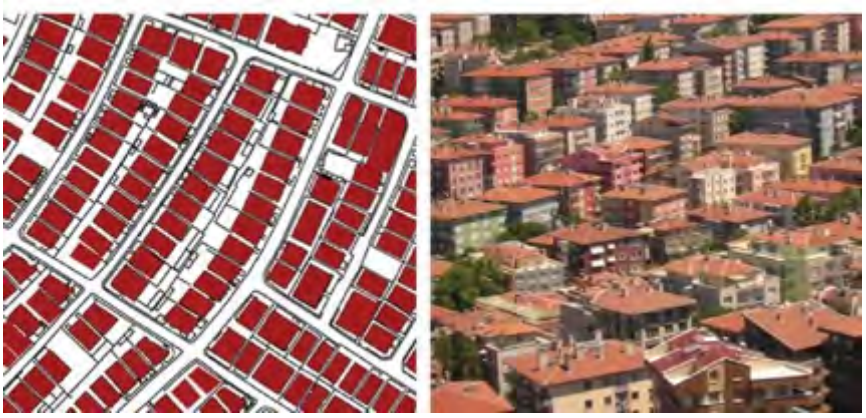

Figure 2- Main housing morphology in Ankara throughout the 1950s and 1980s (Çalışkan, 2015)

Actually, multi-storey apartment buildings were not new to urban dwellers in the midst of the 20th century. Particularly in Istanbul, the 19th and early 20th century apartment buildings in various styles were present. However, throughout the 1950s and 1960s, the above-mentioned Law led to widespread production of apartment buildings mainly by housing cooperatives, individual developers, and mass housing companies, parallel to the rapid population increase. This led to the repetitive production of this building type (Gürel, 2009).

The cases elaborated in this study were produced by housing cooperatives, when the apartment-type dwellings started to expand in Ankara. A study by Ürey (2012) indicates that between the years 1948 and 1962, housing production was mostly led by cooperatives in Ankara, which occupied 60% of total housing production. The total number of cooperatives were 391 in this period, 184 of which were in Ankara (Cengizkan, 2000, cited in Ürey, 2012). Meanwhile, the number of building permits given for apartment buildings raised gradually from the 1950s onwards, while those for single houses diminished (Table 1).

Year	Single Houses	Apartment Buildings
1954	1500	279
1955	1049	341
1956	1037	330
1957	726	473
1958	440	846
1959	263	418
1960	89	622
1961	132	644
1962	66	799
1963	358	481
1964	85	575

Table 1-Number of Building Permits given for Single Houses and Apartment Buildings between 1954-1964 in Ankara (Akın, 2007)

Design Aspects of Apartment Buildings and Dwelling Morphology

In the 1950s and 1960s, the apartment signified modern living. Architects, following the socio-economic trends in larger cities, attempted new architectural styles in apartment buildings to support the modern lifestyles of families (Güney, 2008). Their plans were mainly for nuclear families. The new housing areas that started in the 1950s were remarkably different than the traditional parts of the city. It was a period when Turkish architects were impacted by international trends. They followed the international style, and formulated the plans of their buildings upon prismatic forms. Architects and builders embraced apartment buildings as integral to urbanization, modernization, and higher living standards. These buildings can be seen as outputs of architectural modernism, which regarded the simple look as a sign of civilization (Gürel, 2009). The design of apartment buildings depended on geometric forms, leading to a homogeneous morphology in housing areas (Aykut, 1998). Güney (2008) identifies that, like traditional Turkish houses, apartment buildings also have an outward-looking configuration.

The apartment buildings of the period, consequently, were largely characterized by multi-storey, rectangular masses. As plan layouts reflected geometric and orthogonal forms, the ensemble of these masses composed homogenous streetscapes in residential areas. These buildings, in a short time, constituted the main morphological style in the metropolitan cities (Güney, 2008). The façades of buildings produced throughout the 1950s and 1960s displayed simplicity and rationality (Tapan, 2007, cited in Suoğlu, 2009). Bozdoğan (2016) states that the façades of the period were treated as a form of modern decoration, an orthogonal grid to be filled with glaze, brick or plastered geometric elements.

Figure 3- Façade decoration example

Figure 4- Façade decoration example

The apartment buildings produced throughout the 1950-1980 period, i.e. the second morphological period as identified by Gökçe and Chen (2017), compose a repetitive streetscape in residential areas. The modernist approach to building design and identical setback distances in plot arrangements led to a homogenous solid-void relationship on residential streets.

Different Design Attempts for Common Living

The cases elaborated in this study are located in the Kavaklıdere and Çankaya districts, all of which were produced by housing cooperatives. They are Hayat Apartment Building (1957), Cinnah 19 Apartment Building (1957) and İş Bank Apartment Buildings (1962). The residential buildings produced via housing cooperatives assumed different typologies, either in the form of several apartment buildings on a block or one single apartment building on a plot. The examples in this study refer to both types. The cases investigated are almost aligned on a linear axis starting from Kavaklıdere, following a major inner-city boulevard to the south and ends up at Çankaya (Figure 5). The Uybadin-Yücel Plan, as mentioned before, supported the development of the city towards the south, i.e. towards the mentioned districts, and the morphology of these districts developed with this plan.

Figure 5- Location of the cases (Google Earth image)

Residential areas and buildings are significant components of the urban image. Different housing typologies compose different streetscapes and urban patterns. The relation of a residential building with the surrounding urban area can be described with regard to its own design features (its form, its façade, its entrance, its open/semi-open components), its position and orientation on the plot (the relation with the plot), and its relation with the masses and open spaces that surround it.

The design approaches followed in all three examples are similar to Le Corbusier's approach to dwellings. As known, Le Corbusier's approach to city planning involved geometric forms, regularity and standardization. In his works on city planning, dwelling is always the fundamental element. His well-known research and practical contribution in this regard is Unité d'Habitation. Besides its architectural features, a remarkable aspect of this model is its communal spaces. It is more than an apartment building; rather, a "vertical garden city", where he emphasized a communal lifestyle with public uses along interior streets and on the roof. The building is designed like a vertical neighborhood, with a rich community life, while still having privacy in apartments (https://www.archdaily.com/85971/ad-classics-unite-d-habitation-le-corbusier).

This study notes to the model's ability to provide a social environment for its users and interconnect with the surrounding urban setting: The open plan and free façade aspects of the model, the open ground level, and the roof

garden can be seen as components of Unité d'Habitation that provide these interactions. The freed ground and roof garden are places for both communal uses and connection to nature. Obviously, there are many other design approaches to dwellings that emphasize communal life, and provide connections to the surrounding urban space. The study focuses on this model and illustrates it in the Ankara case, as they are well-known architectural examples in the city.

A Street-Scale Analysis of the Cases

Residential buildings comprise private realms, but when they are aligned along a street, they compose a streetscape for the eyes and perception of the public. A streetscape is, therefore, a transition space between the private and public realms. Public and private spaces cannot work independently, rather, they complement each other (Bentley et al, 1985, cited in Songülen 2012). The transition space that they compose together is an interface between internal and external areas. As the public have the right to look at buildings and share some symbolic possession, the owner of a dwelling has some right to view the external realm and exert their influence on the common space. Consequently, the relation between the public and private spaces in a streetscape is an important determinant of its character (Tucker et al., 2005).

To evaluate how the chosen apartment buildings contribute to the townscape and urban image, a street-scale analysis is conducted with regard to the dominant features of the residential streetscape. Plot is one of the fundamental elements of urban form, the pattern of which depends on property boundaries. The individual plot, together with its building or buildings and open spaces, is the smallest unit in a city. The characteristics of this unit define the urban form, its shape and density, as well as its actual and potential function over time (Moudon, 1997). A row of plots, placed next to each other along the same street-line forms a plot series (Conzen, 1960). This series is the matter of street-scale analysis. The street-scale analysis in this study first focuses on the plot arrangement, arrangement of buildings in the plots and access patterns from the street to the private entrances as adapted from Gökçe and Chen (2017). Additionally, housing type, number of stories, building codes and façade view are also analyzed.

Hayat Apartment Block

Hayat Apartment Building was designed by Emin Halid Onat, one of the pioneers of modern architecture in Turkey. He designed it through an inclusive approach, where the cultural, artistic and social needs of a family could be met within one building, i.e. similar to the Unité d'Habitation model. It was constructed on a 5000 sqm-land by the Hayat Building Cooperative in 1957 (Şumnu, 2017).

The building is taller compared to the other residential buildings in the block it located on. Originally, the building was designed with a roof garden that would contain a cinema and a club. However, this level could not be built due to inadequate budget. The ground level is freed and the building is elevated on pilotis (Figure 6). It consisted of four shops, a patisserie, a hairdresser's shop, an office and a nightclub (Şumnu, 2017). The nightclub was active throughout the 1960s and 1970s, which attracted many citizens of Ankara (Resuloğlu, 2014).

Figure 6- The Hayat Building lifted from the ground on pilotis
(Source: Social media page for the building)

Hayat Apartment Building is still a residential building. Its central location at the junction of a major commercial street and an urban park gives it a distinctive effect in the city. In its vicinity there are some landmarks of the city, together with which it contributes to the urban silhouette (Figure 7).

Figure 7- Hayat Apartment Building in the urban view with other landmarks

Street-Scale Analysis

The Hayat Apartment Building is located along a major boulevard of the city, which accommodates commercial and business uses. The plots on the building block are not at same sizes as they host buildings for different functions. Nevertheless, buildings are located on these plots with respect to identified minimum setback distances. Hayat Building, meanwhile, is located in the midst of its plot. Five plots were merged and the building is settled towards the middle of the merged area, allowing a large public open space at the front and back (Figure 8-9). The access to the private realm is not directly from the street, but after this open public space.

Figure 8- The urban morphology of the area, with Hayat Apartment Building using the plot different than other residential buildings (Google Earth image)

Figure 9- Rear façade and garden

The residential buildings in the area are constructed as detached buildings. The Hayat Building is a prismatic apartment building with 7 stories and ground level. In accordance with the modernist approach, its façades reflect simplicity. The only decoration is at the back façade, i.e. gridded openings obeying the simplicity approach of modern architecture.

Figure 10-Façade decoration

Because of the budgetary limits, the roof level could not be built, which would provide a scenic relationship with the urban setting. Still, the ground level shops and open areas in front of them are interrelated to the public realm. Besides, the position of the building on the plot, its large façade and height contribute to the urban image in a strong way, which makes it one of the landmarks of the area.

Cinnah 19 Apartment Building

The Cinnah 19 Building, which was named after the Cinnah Boulevard, was constructed for the Workers' Cooperative of Directorate of Ports in 1957. It is treated as an experimental building even today. The Cooperative was established by the engineers and architects of the Directorate, and constructed through the loans provided by the Workers Insurance Institute. The architect paid attention to daily social practices, therefore aimed at creating gathering places in the building (https://www.arkitektuel.com/cinnah-19/). Like the other two cases, the building is also lifted from the ground with pilotis. There is a pool, a bar, a fireplace, sunbathing places, a shower bath, locker rooms, and toilet at the roof

level, and a garden at the ground level (Figures 11-12). The places at the roof level were conceived for interaction among neighbors and with the surrounding urban environment. This level is no longer in use.

Figure 11- Pool and fireplace at roof level

Figure 12- Garden at ground level

The architect Nejat Ersin mentions that what he aimed was to handle the project in a different way than the cooperative buildings that had been built so far in the city. He, himself, also worked in the same Directorate as the chief of the

Office of Architecture. The future residents of the building, his colleagues, encouraged him to design an unconventional apartment building, which should be different than the existing ones produced through housing cooperatives (Interview conducted with the architect, http://dergi.mo.org.tr/dergiler/4/553/8277.pdf).

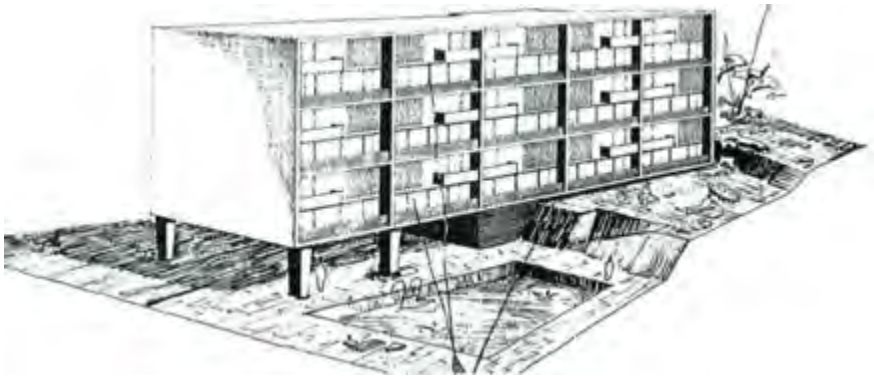

Figure 13- Cinnah 19 Apartment Building
(Source: https://www.arkitektuel.com/cinnah-19/)

Street-Scale Analysis

The plot arrangement on the Cinnah Boulevard has a rectangular form with almost identical sizes and identified setback distances. The buildings facing the boulevard were designed and built as residential apartment houses in prismatic forms. Ground floors of the buildings are for commercial purposes. The buildings have direct access to the sidewalk and they have private gardens behind them. They are purely aligned along the Boulevard.

The residential buildings in the area are all detached buildings. The height of Cinnah 19 is the same with the ones next to it, although there are 3 floors over the ground level, and 2 floors below it. Untypically, the façade of the Cinnah 19 was not oriented towards the main street, but to the adjacent plot. The idea was to integrate the semi-open places of the building with the urban view. The apartments have connections with the surrounding urban setting, since their doors open to these semi-open balcony-like corridors. (Figure 14-18).

Figure 14- Orientation of the building (Google Earth image)

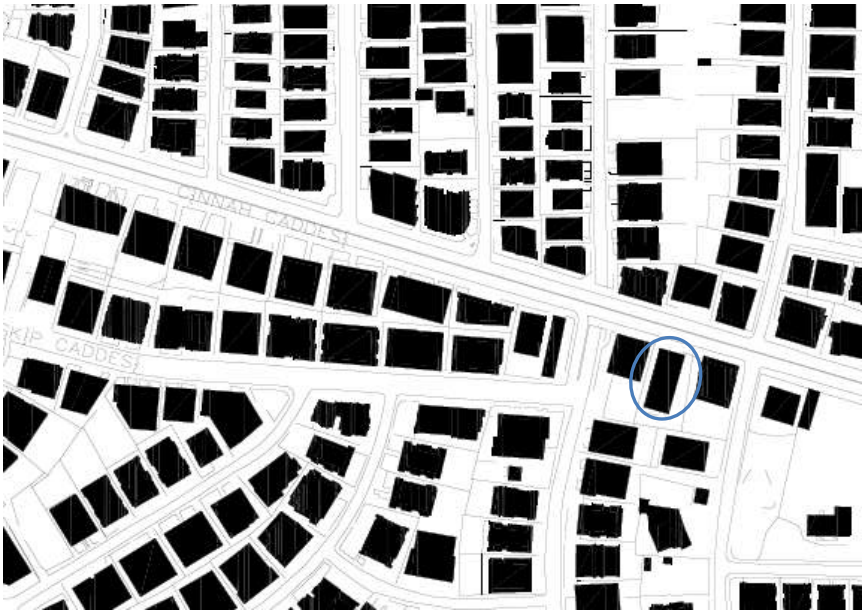

Figure 15- The residential morphology of the area, the main façade of Cinnah 19 converted to the side.

Figure 16- The main façade converted to the side

Figure 17- The rear façade, the roof garden

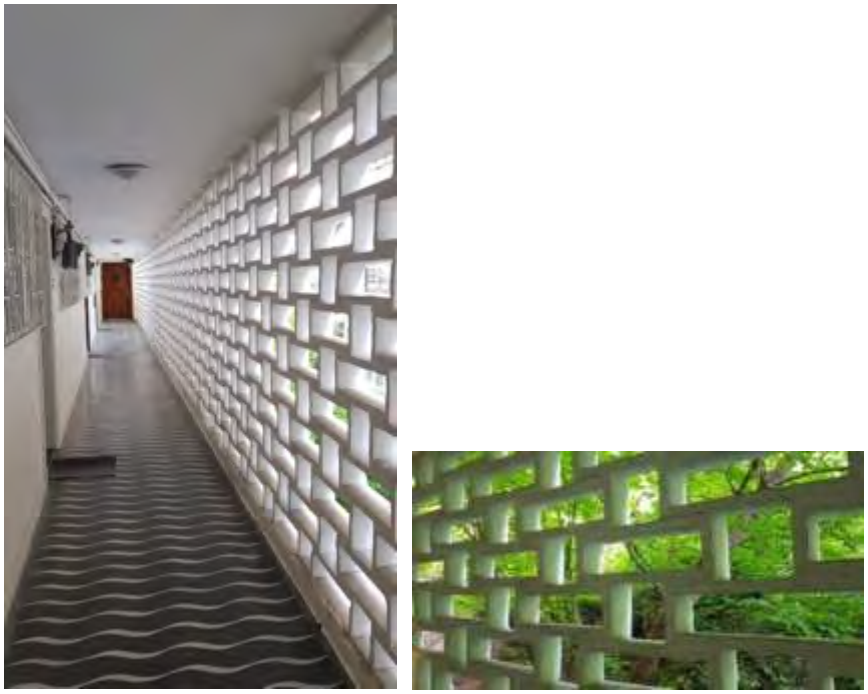

Figure 18- Semi-open corridors blending with the surrounding urban setting and nature

Ersin explains that he was inspired by Le Corbusier, Oscar Niemeyer, Lucio Costa, Edward Durrel Stone, among which Corbusier's housing blocks particularly interested him with regard to duplex apartments in a residential building. He aimed at creating equal living conditions for the residents. He was motivated by the housing complex in Marseille, as the building provides the dweller cozy flats and a comfortable way of life. In the façade design, he was inspired by Stone, who used white concrete grills in his buildings. In a modernist simplistic way, Ersin applied this idea as rectangles on the façade (Interview with the architect in URL: http://dergi.mo.org.tr/dergiler/4/553/8277.pdf).

Figure 19- Façade design of the building

Figure 20- Relation with the street, entrance of the building

İş Bank Buildings

The İş Bank Apartment Buildings were led by the İş Bank Civil Servants Building Cooperative. They are composed of 10 blocks, which were designed in three different types in 9 stories, ground and roof levels. They were located in three building blocks next to to each other (Figure 21). The architect Kadri Erkman paid close attention to the solid&void relationship on the block, and the vacant area between the buildings was conceived as a common place to be used by dwellers (Şumnu, 2017).

Figure 21- İş Bank Apartment Buildings
(Source: http://sivilmimaribellekankara.com/YapiDetayi.aspx?anah=264)

Street-Scale Analysis

The plot arrangement of the neighborhood has a rectangular form linearly arranged along the streets. The rectangular plots have almost identical sizes to host buildings of similar sizes. The buildings are all apartment houses in prismatic

forms, located on the plots with respect to setback distances and leaving semi-public open spaces in front of and behind them. They are all detached buildings purely aligned along streets.

The plots of the İş Bank Aparment Buildings, however, were merged to attain a communal space for the entire buildings of the cooperative initiative. The 10 apartment buildings are gathered in 3 building blocks next to each other. The buildings are located in accordance with the setback distances in the neighborhood, however, the way buildings come together is quite different than the others in the neighborhood which creates a dynamic solid&void relationship. They are positioned in a way to create common open places in each building block (Figures 22-24).

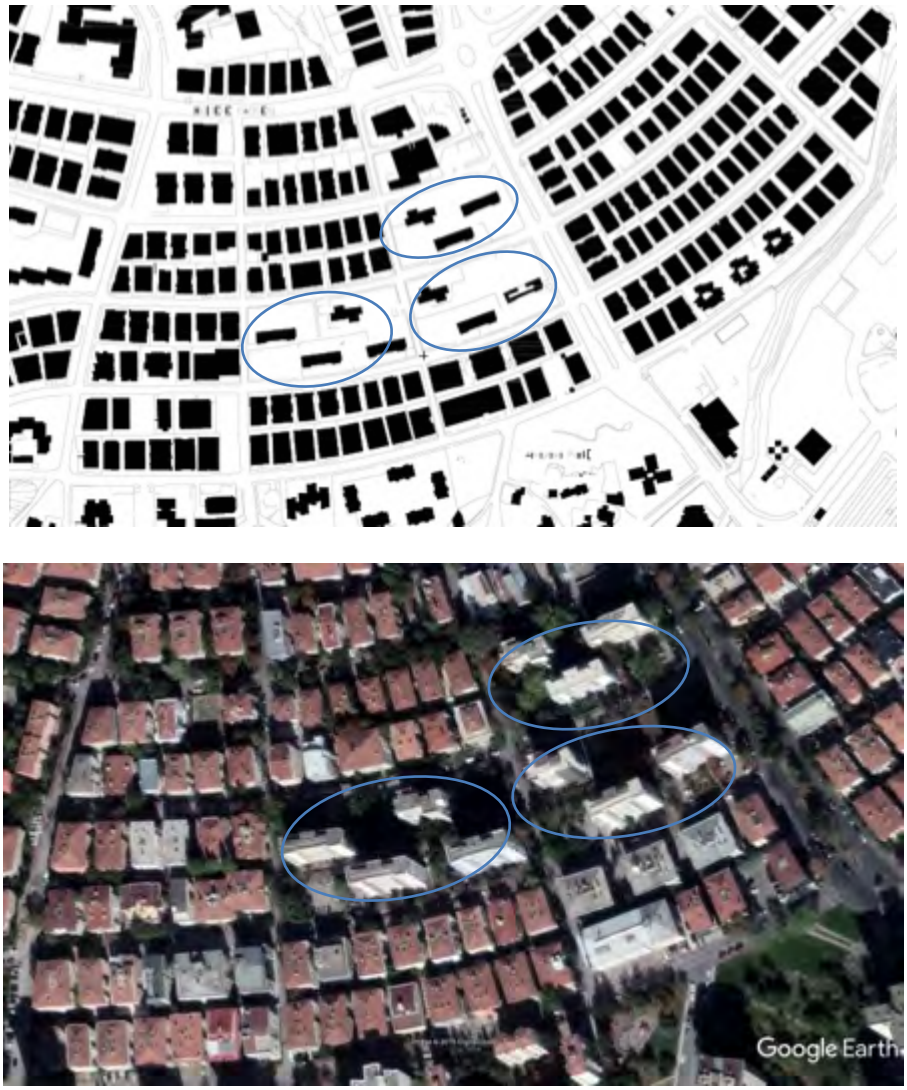

Figure 22- Plot and building arrangement (Google Earth image)

Figure 23- Open places for common use

Figure 24- Building entrance, relation with the street

Besides the green spaces between residential blocks, there are common places also for the dwellers in the individual blocks. Apart from being prismatic masses, the design of buildings is rather different than the others in the neighborhood following a Corbusian style. They are lifted from the ground as in the case of Unité d'Habitation, and ground levels are designed as open, semi-closed and closed common places (Figures 25-27). At the ground level, there is a closed area comprising a fireplace around which the dwellers could come together. The walls of the area are glass providing visual interaction with outdoors (Şumnu, 2017). At present, the ground levels of six of the blocks have been transformed to commercial spaces like patisserie, kindergarten and so on (Sudaş, 2010).

Figure 25-The buildings are lifted from the ground with pilotis.

Figure 26-Open space for common use at ground floor, creating visual continuity.

Figure 27- Open and closed social places at ground level, blending with the surrounding landscape.

Likewise, there are open, semi-closed and closed spaces at the roof level as common places. The roof gardens have been used for party organizations and sun-bathing purposes (Sudaş, 2010). The design of the roof garden comprises intensive use of greenery.

Figure 28- Roof level
(Source: Sudaş, 2010)

Figure 29- Silhouette of the apartments in the urban setting, roof gardens

Conclusion

Different dwelling layouts produce diverse morphologies in cities. This study has portrayed the development of apartment building typology in Ankara particularly after the 1950s, which were mainly characterized as multi-storey rectangular masses. These buildings, in a short time, constituted the main morphology of residential areas. The study has then discussed how different design approaches to housing within a streetscape can contribute to the urban image, and exemplified it in models similar to Unité d'Habitation. The study does not propose Unité d'Habitation or similar models as a solution for all contexts, however, as it inspired later generations in urban design and architecture, it portrayed the approach that the model has offered for communal life.

Plot is one of the basic elements in the overall morphology of cities, which are given definite urban codes in development plans, i.e. type of land-use, building codes, etc. This paper has illustrated how a design research on a residential plot can interconnect the internal and external spheres of a residential building, and contribute to the social life of its dwellers. The three cases are known as significant architectural elements in the city: Cinnah 19 is still a residential building, but it has also become a significant niche for artistic uses. There are art galleries, architecture and design offices in the building. Meanwhile, Hayat Building has become a landmark in the urban scene although it is a residential building. Ground level is used by private shops with the semi-public open spaces. İş Bank Buildings are in a residential area, and the way the plots are used provide larger green spaces for its users compared to the other dwellings in the area. Moreover the terrace level has strong visual connections to the urban scene, it allows the users to enjoy the external urban environment.

All these cases have interractions with the urban environment with their open and semi-open spaces, which are perceivable from outside. Besides, the design approach followed in these buildings gives them a characteristic effect, which distinguishes them then the others in the townscape. These cases have shown a design research for enhancing communal life within the residential building itself, and integrating with the urban and natural environment. They illustrate how design relations within the plot, transition from building to street level, and interactions with the surrounding area can enrich the urban setting.

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