

TRANSFORMATION OF ARCHITECTURAL TYPES: FROM GARDEN-HOUSE TO APARTMENT BLOCK, THE CASE OF GÜVEN HOUSING COOPERATIVE IN ANKARA, TURKEY

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ABSTRACT

The Italian school of typo-morphology reformulates the definition of architectural type in such a way that it refers to a set of quantitatively dominant buildings with common formal characteristics as a result of certain factors effective in particular geography and in particular period. Due to their physical dominance in the urban context, in-depth analysis of architectural types is crucial to have a better understanding of any city.

This study is concerned with the transformation process of the planned capital city Ankara from a garden city with its garden-houses to a city of apartment blocks from the 1930s towards the 1970s. It aims to investigate the underlying factors effective in the formation and transformation of a neighborhood with garden-houses into an urban fabric of apartment block types through the case of Güven Housing Cooperative. The cooperative project, the first collective housing project completed by a private enterprise in Turkey, provides a good case to investigate the typo-morphological transformation process with its predominantly residential character.

Keywords: garden-house, apartment block, Ankara, typology, typomorphology

INTRODUCTION

The Italian school of typo-morphology reformulates the definition of architectural type in such a way that it refers to a set of quantitatively dominant buildings with common formal characteristics as a result of the political, technological, economic, and socio-cultural factors effective in particular geography in particular period. (Rossi, 1975, pp.209-225; Gülgönen and Laisney, 1982, p.26) In line with this reformulation, similar to the eighteenth-century English terraced house, the Los Angeles courtyard house, the New-York brownstone or the Haussmannian block; the apartment block in Turkish cities can be considered as an architectural type - rather than simply a building type that can be identified with semi-formal and semi-programmatic classification criteria - that necessitates in-depth analyses to have a better understanding the morphology of any Turkish city. Interestingly, the apartment block type was born out of the individual garden-house that was the dominant type of the Garden City and proliferated due to a process of densification of the urban fabric.

This study focuses on two architectural types, garden-house and apartment block that became the dominant elements of the urban fabric during two time periods: from the 1930s to late 1950s and from late 1950s to 1970s in Ankara. It aims to investigate the political, technological, economic and socio-cultural factors effective in the formation and transformation of these types. These housing types are significant to understand the formation of the fine-grain urban structure in today's central cities that could adapt changes in time and generate vitality by allowing a diversity of activities, which is, unfortunately, missing in the ongoing large-scale housing developments and urban renewal implementations in Turkey.

The study area has been determined as today's Çankaya, Kavaklıdere and Ayrancı districts in Ankara at the upper scale and Güven Housing Cooperative at the lower scale. The study area has

been predominantly residential throughout its history. The functional continuity in the urban fabric provides the researcher with a controlled environment for having a better understanding of the nature of the morphological change in time by maintaining the program parameter constant.

THE TRANSFORMATION

Layer#0 | Vineyard Houses: In the study area, the land comprising today's Çankaya, Kavaklıdere and Ayrancı districts in Ankara, were occupied mostly with vineyards and vineyard houses until the 1930s. The area formed a part of the low-density green belt of the dense fabric of the historical town rather than being an autonomous rural settlement. Most of the families living in the town spent their summers in these houses interspersed in vineyards, that provided them with the benefits of a rural environments. (Cengizkan, 2002a, pp.122-123) Located on the slopes of the surrounding hills, these vineyards had a pleasant microclimate to live in summer. The vineyard house -*bağ evi* in Turkish- was the vernacular house type of the period in this area.

Layer#1 | Garden-houses: The increasing population and the consequent housing deficit after the reclamation of Ankara as the capital city eventually necessitated an urban expansion regulated by a master plan. The Ankara Plans designed by Dr. Carl Christoph Lörcher (1924-5) and Prof. Hermann Jansen (1928-32) envisioned Ankara as a garden city and the garden-house type as an alternative to the existing historical urban fabric, which became crammed with the increasing urban population, that was approximately 75.000 in the late 1920s. After it became the capital city, incessant migration to the existing neighborhoods, made the living conditions unhealthy. In his report for the master plan of Ankara, Hermann Jansen states "One goal of modern city planning is the single-family house." (Jansen, 1936, cited in Bozdoğan and Akcan, 2012, p.81) In his master plan for Ankara, Jansen proposed residential neighborhoods in the south of the governmental quarter. These neighborhoods were to be composed of houses with large gardens that he named *landhaus* in German. (Jansen, 1932)

The Garden City Movement and the Modern Movement of the early 20th century were effective in this typological preference over other built forms. The modern houses of the new capital city were imagined as healthy, practical, simple, and economical garden-houses with proper green space, toilet and bathroom inside, electricity for household appliances, hot water and lightening, receiving lots of sunlight and air. (Bozdoğan, 1996, p.316) The pleasing living environment provided by the old vineyard houses were also effective in this typological choice. Consequently, the new center of the city, called Yenışehir -located on the south of the historical center-, was constructed as a low-density settlement with garden-houses. However, in time, this settlement model proved to be insufficient to overcome the housing deficit due to its low density. (Cengizkan, 2019, pp.153-178; Baş, 2019, pp.79-124) In the late 1920s, the population projection for the 1970s was 300.000; however, the population reached that level much earlier than expected.

The inadequacy of the land with proper infrastructure resulted in a rapid increase of land prices and speculation. The low-density urban fabric built onto that urban pattern fell short to respond to the increasing housing demand; and thus, the necessity for the production of new urban land became inevitable. Güven Housing Cooperative, the first component of the second layer of the study area, was included in the Ankara Plan in 1930s as a result of this process.

The Cooperative, founded by high-level bureaucrats in 1936, implemented the first collective housing project completed by a private enterprise in Turkey. (Kubin, 1991, p.iii) The housing project consisted of 47 garden-houses built on 70.000m² land in 1936. The project site was located

outside the development areas planned by Jansen, next to the southern boundary of the Ankara Master Plan approved in 1932. It was included in the revised master plan after it was implemented. Kubin quotes from Şenyapılı describing the period to depict the context of the process:

“The years between 1935 and 1940 was a period in which the density of the city increased continuously with the operations related to allotment, parcellation and building permission and the city spread spatially outside the plan boundaries with legal and illegal developments. In order to organize these developments a new agreement was made with Jansen to extend the boundary of the plan till the boundaries of the Municipality. In the 1/10.000 scale plan prepared by Jansen, Kavaklıdere and Çankaya which were among the areas defined as 'external development areas', the minimum plot size was determined as 1.000m². In 1937 according to the Executive Board of Urban Development's decision No.106, the boundaries of the Plan and the Municipality were combined.” (Şenyapılı,1985, cited in Kubin, 1991, p.82)

Architect Hüsnü Tümer finalized the site plan and designed four blueprints for 47 houses following a long design process in which many actors were involved such as the planner Hermann Jansen, and the architects Martin Elsaesser, and Sedad Hakkı Eldem. Kubin (1991, p.57) summarizes the design principles of the project as such:

“The site plan of Güvenevler is a typical example of the period's 'neighborhood planning concept' originating from the Garden City Movement. This concept [...] was highly appropriated by the administrators of the Republic to organize a new life style in Ankara. The cooperative plan was an example of a contemporary neighborhood unit. It was luxuriously equipped [sic] with social facilities such as a school, a shopping area, a tennis court and green area. Since the near environment of the cooperative site was empty, the settlement was planned as a self sufficient neighborhood unit.”

The Master Plan for Ankara prepared by Jansen follows the Garden City ideals: to provide a healthy living environment, with common green areas thought as primary public spaces. In Jansen's Plan, the network of green corridors with reference to topography (located on ridges and valleys) structures the overall urban setting along a central boulevard, today known as the Atatürk Boulevard which formed the spine of the planned city. Güven Housing Cooperative was located at the northern part of a major green belt separating the 'external extension area' from the zone of vineyards and vineyard houses. A secondary green strip passed across the project site. The site plan of the project was following these upper-scale decisions proposed in the Jansen Plan.

The project consists of low-density garden-houses as in the residential areas that were planned in the south of the governmental quarter. 8 of 47 dwellings are three-bedroom single-storey twin-garden houses (137m²); 24 of them are four-bedroom two-storey garden-houses (185m²); 15 of them are two-storey five-bedroom garden-houses (256m²). As in the Jansen Plan, road sections are given importance in the settlement plan of the neighborhood. There are four different road profiles, two of which are 12-meters wide and the remaining two are 9-meters wide. The majority of the houses and building plots are placed with 20-30° angle to the road in order to divert the building facades from the streets and to provide privacy. Along with the dwellings, the project proposal comprised social facilities; a school, a market building, a police station, green areas, and a tennis court. The average plot size was 680m². (Kubin, 1991, pp.55-60)

The limited availability and high cost of construction materials such as cement and reinforcing iron prevented the spread of the reinforced concrete frame houses in Turkey. Utilization of reinforced concrete was limited to floor slabs and cantilevers while brick walls constrained window dimensions

to small openings. (Bozdoğan, 1996, pp.319-323) The garden-houses in Güven Housing Cooperative were not exceptions and constructed in the same fashion.

Layer#2 | Apartment Blocks: The garden-house that was the dominant dwelling type throughout the 1930s and 1940s, was replaced later by the apartment block.

Only a few years after the approval of the Jansen Plan, the number of instances breaching the master plan decisions started to increase in Ankara. Many landowners applied to the Directorate of Urban Development in order to demand an increase in the number of floors, enlargement of building footprints, revision in order (attached instead of detached) and ground floor uses (commercial instead of residential) before or after they implemented these changes. (Baş, 2019, p.111) The fact that Jansen Plan, was published in 1937, can be perceived as an indication of an effort to contain these irregularities.

In the years between 1940 and 1955, the administration of Güven Housing Cooperative made numerous requisitions in order to increase the number of building plots on the same area by dividing the existing plots. This segmentation process was allowed by the generous size of the original building plots, but it also reduced the green and common areas in the project. To illustrate, one of the urban blocks consisting of 11 subdivisions transformed into two urban blocks with 22 building plots with such revisions. In 1940, the main green corridor in the south of the project was converted into residential use. With the site plan update in 1943, the green strip passing through the project was also converted into building plots. Additionally, the municipality issued some plan revisions in order to connect the culs-de-sac in the settlement plan of the housing cooperative to the emerging street network around. (Kubin, 1991, pp.81-87)

The change that deeply affected the features of the settlement area of the cooperative came with the Yücel-Uybadin Plan and its subsequent revisions. The Yücel-Uybadin Plan, the third plan of Ankara after the Lörcher and Jansen Plans, was obtained as a result of an international competition for the capital city that resulted in 1955. The competition jury was composed of prominent architects and planners from Turkey and abroad including Sir Patrick Abercrombie from England, Prof. Gustav Oelsner from Germany, and Prof. Luigi Piccinato from Italy. In the year the competition was opened, the urban population of Ankara was calculated as 450.000 half of which was living in the informal squatter settlements. It was expected to be 750.000 by 2000; however, it reached to that level only in a few years. (Günay, 1992)

The zoning plan called "Building Height Order Plan" (*Bölge Kat Nizamı Planı* in Turkish), which was introduced as a supplementary planning document to the Yücel-Uybadin Plan, brought three-storey residential buildings in and around the cooperative settlement. Later the number of floors was increased to four and five with the plan revisions in 1960 and 1968 respectively. (Kubin, 1991, pp.86-89) As a natural result of the irresistible economic pressure, the cooperative settlement that consisted of one and two-storey single family garden-houses transformed rapidly into an urban sector consisting of multi-storey apartment buildings. More than a ten-fold increase in gross population density and a seven-fold increase in net population density were observed as a result of this transformation.¹

¹ When the project was first implemented, the gross population density (GPD) was 33.6 persons/ha and net population density (NPD) was 73.2 persons/ha in Güven Housing Cooperative. These values were below the densities suggested for Yenışehir by Jansen (125 persons/ha; and 183 persons/ha respectively). In 1991, the GPD reached to 402 persons/ha whereas NPD became 536 persons/ha in 1991. (Kubin, 1991, p.96)

Kubin indicates that the built environment of the cooperative settlement changed horizontally until 1957 whereas it transformed vertically afterwards. (Kubin, 1991, p.86) In other words, after the Yücel-Uybadin Plan, the change that was previously observed on the *planar surface* started to be observed in both *plan* and *section* as in other parts of Ankara. It can be asserted that the *plan* of the central districts of the city, especially the parcel divisions were mostly determined by the first plans, i.e. Lörcher and Jansen Plans, whereas the three dimensional properties, i.e. the heights and sizes of the buildings were redefined with the Yücel-Uybadin and Building Height Order Plans.

The structure of the housing market further accelerated the transformation process. At that time, urban land was a scarce resource in the housing market due to the inadequacy of public investment in infrastructure. The state mainly directed its limited resources to the fostering of industrial development and the municipalities did not have sufficient resources in this period. (Balamir, 1996, pp.335-344; Esen, 2011, p.135) The difficulty of opening new development areas led to the excessive increase in the land prices, which necessitated the densification of the existing urban areas. The collaboration between the owner of a small piece of land, the contractor with a small bit of capital, and the client with a small budget gave way to a specific mode of housing production in order to meet the increasing housing demand despite the low levels of capital accumulation in the country. This process facilitated with the help of the Condominium Law (1954) acted as a means of overcoming the housing shortage through the construction of apartment buildings. (Balamir, 1996, p.337) (Osmy, 1998, p.145)

The cement factories, which remained in limited numbers and could not be operated effectively until the 1950s, increased in number in time and eliminated the dependence on the imports from abroad; thus, reinforced concrete construction technique started to become widespread in the construction industry. As a result, the construction of the apartment blocks became easier and faster. (Balamir, 1975, pp.295-318; Özgüven, 2019, pp.507-520)

RESEARCH FINDINGS

In this study, the factors behind the transformation from garden-houses to apartment blocks were investigated through the case of Güven Housing Cooperative. Research findings can be summarized as follows.

The design of Güven Housing Cooperative Project followed the Garden City ideals of the period with its site plan organization consisting of garden-houses dotted with green areas and social facilities. However, the garden city model, the garden-houses and the population density they allowed could not withstand the pressure caused by the continuous increase in the population of the capital city. At first, the transformation was on plan: The public green corridors and the open communal spaces of the project were replaced with built areas. Later, the transformation took place both horizontally and vertically: One- or two-storey garden-houses were demolished and replaced by three, four or five-storey apartment buildings with larger footprints. The garden-houses with the setback distances suggested by the Jansen Plan were replaced with the apartment blocks built on the same plots conforming to the shortened setback distances suggested by the Yücel-Uybadin Plan. As a result, the building plots belonging to the garden-houses determined the footprint shapes and sizes of the apartment blocks, whereas the heights of the apartment blocks was determined by the Building Height Order Plans. (See Figure 1, 2 and 3)

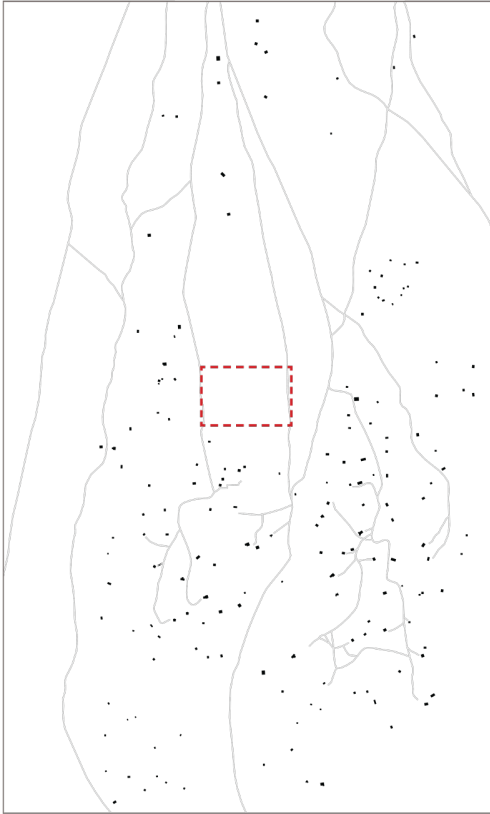
The state's economic inability to produce new urban land due to the cost of infrastructure, led to the densification of the existing urban areas. The Yücel-Uybadin Plan that was put into implementation

in late 1950s, brought the increase of the density in the already built up areas of the city, instead of opening new areas to development. This resulted in the removal of both the vineyard houses and garden-houses belonging to the previous layers of the urban environment saving just a few exceptions. The garden-houses were demolished well before the end of their economic lifespans. (Bilsel, 1977, pp.54-59) However, it is still possible to trace back certain spatial continuities in the urban fabric: Since the transformation took place on a parcel scale, the continuities in the ownership and street patterns can be observed clearly today.

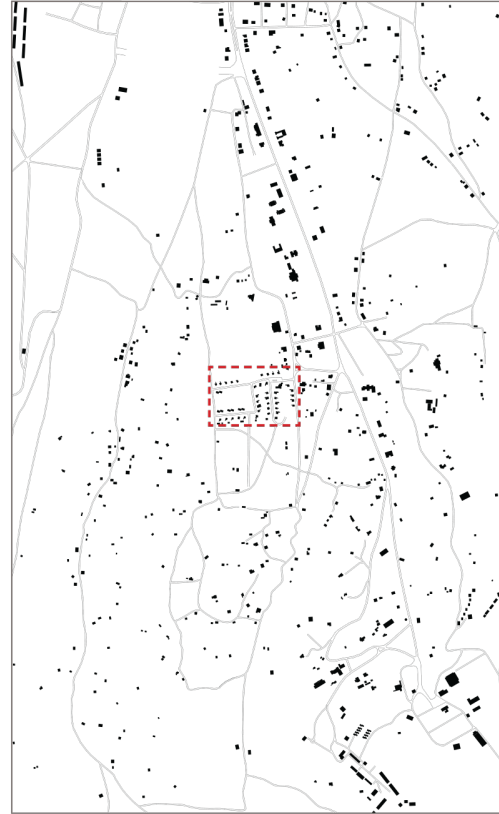
Thanks to the condominium law, a new form of construction organization has emerged and relatively larger-scale apartments could be built without much capital accumulation. With the opening of new cement factories, concrete-frame construction systems became widespread; and thus, multi-storey apartment blocks could be easily built.

In a nutshell, the apartment block emerged as a new architectural type, that responded to the changing socio-economic conditions of the period. This new dominant type was shaped by the plot sizes of the preexisting garden houses, the changing building regulations and the technological developments.

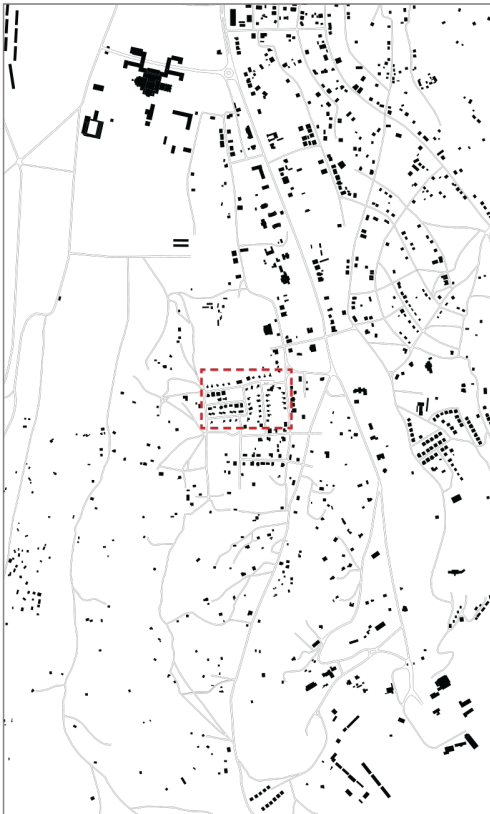
1921



1944



1953



1970



Figure 1 Transformation of the urban fabric in Kavaklıdere, Ayrancı and Çankaya districts between the 1920s and the 1970s [Produced by the authors]

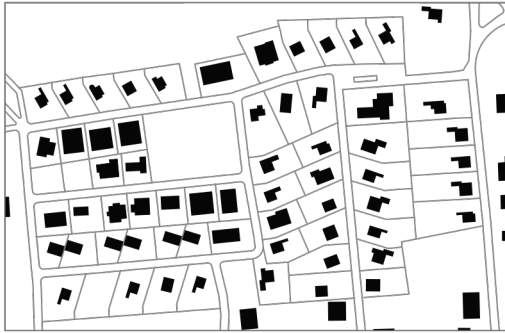
1921



1944



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1970



Figure 2 Transformation of Güven Housing Cooperative between the 1920s and the 1970s [Produced by the authors]

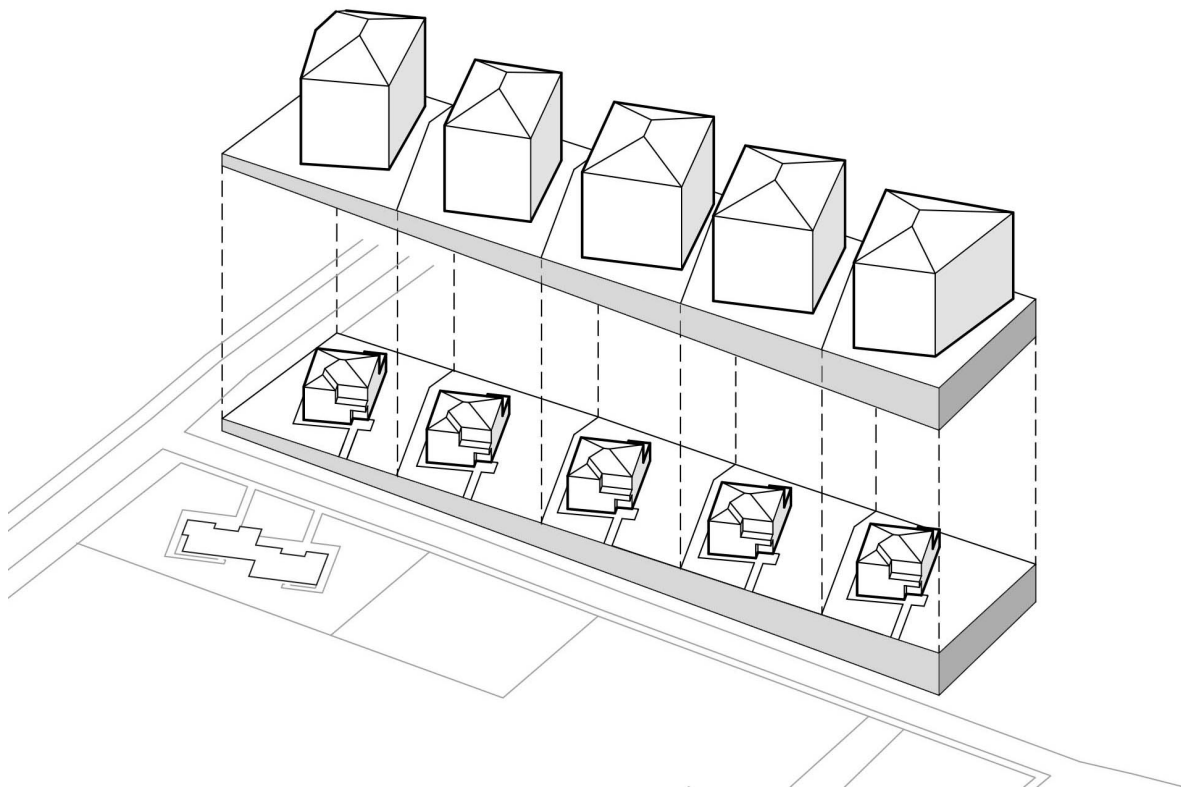


Figure 3 Building plot – building block relations in two different time periods [Produced by the authors]

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