SPACE ORGANISATION IN URBAN BLOCK: INTERFACES AMONG PUBLIC, COMMON AND PRIVATE SPACES BASED ON CONZEN METHOD IN BAHCELIEVLER

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ABSTRACT

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Space organisation of urban blocks is a significant topic of urban design field to achieve correlated urban parts that enhance the variety in urban spaces. However, the rapid urban transformation experienced in the Turkish cities resulted in the generation of similar urban blocks with the lack of spatial variety. Therefore, a re-evolution of space organisation concepts for urban blocks emerges as a design problem in order to cope with the defined problem.

From this point of view, the interfaces among public, common and private spaces as the formative parts of space organisation process constitute the essence of this study. Thus, the morphological elements of urban blocks as street, plot and building are constantly reshaped and redefined based on the correlations of this realms. Within this scope, Conzen's town plan method has been adopted in this study for Bahçelievler Housing Cooperative Site, to reveal the transformation experienced and the changing relations of street, plot and building throughout the morphological formation processes.

In the light of this problem case and method implemented, this research indicates that in Bahçelievler, the changing relations between street, plot and buildings are an outcome of the interfaces among public, common and private regarding the permeability along boundaries. Based on this outcome, this study suggests that a new understanding of space

organisation in urban blocks regarding the interfaces among public, common and private spaces as counterparts of street, plot and buildings arises as a significant issue that needs to be reconsidered by urban designers, planners, architects and public authorities while defining the design and planning process.

Keywords: Urban Block, Space Organisation, Interface, M.R.G. Conzen, Street, Plot, Building, Public Space, Common Space, Private Space

ÖZ

YAPI ADASINDA MEKAN ÖRGÜTLENMESİ: BAHÇELİEVLER'DE CONZEN METODU ÜZERİNDEN KAMUSAL, ORTAK VE ÖZEL MEKANLARIN ARASINDAKİ ARAYÜZLER

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Kentsel mekânlarda çeşitliliği geliştirerek birbiriyle ilişkili kent parçaları elde etmek amacıyla, yapı adalarında mekân örgütlenmesi, kentsel tasarım alanındaki önemli konulardan birisine karşılık gelmektedir. Ancak, Türk kentlerinde gerçekleşen hızlı kentsel büyüme, mekan çeşitliliğin ihmal edildiği birbirine benzer yapı adalarının oluşmasına sebep olmuştur. Söz konusu sorunun üstesinden gelebilmek amacıyla, yapı adalarının mekân kurgusunun yeniden değerlendirilmesi bir tasarım sorunu olarak ortaya çıkmaktadır.

Bu çerçevede çalışmanın ana unsurunu, mekân kurgusunun biçimlendirici parçası olarak, kamusal, ortak ve özel mekânlar arasındaki arayüzler oluşturmaktadır. Nitekim, yapı adasının morfolojik öğeleri olan sokak, parsel ve bina sürekli olarak bu alanların karşılıklı ilişkileri üzeriden yeniden şekillenmiş ve yeniden tanımlanmıştır. Bu amaçla, bu çalışmada, gerçekleşen dönüşüm ve morfolojik oluşum süreçleri boyunca değişen-dönüşen sokak, parsel ve bina ilişkilerinin değerlendirilmesi için Bahçelievler Konut Kooperatifi örneği Conzen'in yöntemi ile incelenmiştir.

Tanımlanan bu sorun ve uygulanan yöntem ışığında, Bahçelievler'de, sokak, parsel ve bina arasındaki değişen ilişkilerin aslında sınırlar boyunca geçirgenliğe bağlı olarak kamusal, ortak ve özel alanlar arasındaki arayüzlerin bir sonucu olduğunu ortaya koymuştur. Bu sonuca istinaden, bu çalışmada, sokak, parsel ve bina karşılığında kamusal, ortak ve özel alanlar

arasındaki arayüzler üzerinden yapı adalarındaki yeni bir mekân kurgusu anlayışının, tasarım ve planlama süreci tanımlanırken kentsel tasarımcılar, mimarlar, plancılar ve kamu otoriteleri tarafından yeniden ele alınması gerektiği belirtilmektedir.

Anahtar Kelime: Yapı Adası, Mekan Kurgusu, Arayüz, M.R.G. Conzen, Sokak, Parsel, Bina, Kamusal Alan, Ortak Alan, Özel Alan

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To my family and friends

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CHAPTER I

INTRODUCTION

1.1 Overview about the Study Topic

Cities as complex structures have always been drawing attention in diverse fields and investigated in different scales by introducing varying perspectives on the urban fabric. One of these perspectives is 'urban form', among the research subjects of urban design field; since according to Spreiregen, "the arrangement of the physical, and thus perceived, form of the city is the objective of urban design" (1965, p. 69).

Urban form can be described "as the geometry of a social-spatial continuum", having both physical and social dimensions: It covers "single buildings, blocks, urban quarters, and the whole of urban fabric" as well as "the pattern of streets and square" as physical dimension, and also it refers to "the spatial arrangements and interrelationship of the characteristics of the people who build, use and value the urban fabric" as social dimension (Madanipour, 1996, p.33). Thus, in order to create legible, inter and intra related cities, understanding and defining the parts of urban form, exploring its components and spatial organisation patterns become critical. In this sense, urban block arises as the focal point of the study since the *block* is "basic module of urban patterns" and " basic determinant of urban form" with its geometry (Spreiregen, 1965, p.127).

As Panerai et al. point out the block has caused confusion in terms of scale and design process; therefore, it has corresponded to "a long-ignored, in between realm" (2004, p.x). Although cities are produced from combinations of several urban blocks, this mentioned case of long-ignorance constituted a gap in literature in terms of analysing the space organisation principles that address the inner and intra relations among the elements of urban blocks in both social and physical terms. From this point of view, considering that the block as 'in-between realm' of cities constructs a bridge between cityscape and single

architecture, it becomes a fundamental tool for urban design. This is why this study focuses on urban block and attempts to analyse the relations produced among its elements and its surrounding. Thus, the aim of the study is, therefore, to create a framework regarding these set of relations.

1.2 Problem Definition and Objectives of the Study

In this respect, the development of residential areas in the Turkish cities depends on three types of block development at a large extent. Block-plot type (ada-parsel), housing estates and cooperatives and finally, TOKİ houses are these three types of block development to supply housing areas in Turkey. Each type has been produced based on different models where architects, designers, planners, constructors, contractors and public authorities have different roles. TOKİ housing and Housing estates are examples of block development where a group of designer, architect and planner produce a housing area based on common design criteria at large areas. On the other hand, the block-plot type of development emerges as a model where owners of single plot produce their own buildings in which the development plan, its regulations and byelaws became more of an issue. Consequently, each model produce a different type of settlement plan with diverse space organisation principles where the relations between street, plot and buildings alter in parallel to the interfaces among public, common and private spheres of the urban block.

The changing conditions regarding the socio-economic and political conditions of Turkey, the power of planning institutions and their changing role, the legal framework, changing planning approaches and architectural style have resulted in the transformation of the urban blocks in Turkey like different cities in the world. At this respect, the rapid urban transformation that has been experienced in Turkey, especially after 1980's has transformed the produced urban blocks as well in which the block-plot type of development has been affected from this transformation at a great extent. With the reducing power of planning institutions in relation with the changing approaches in the planning and architecture, in Turkey, the transformation of urban blocks has ended up by the loss of spatial variety in the urban fabric. Thereby, the cities have began to be reproduced whilst the spatial variety has been neglected as a design criteria. Thus, the urban block has been transformed where the inner and intra relations that establish spatial variety within the site has been disregarded.

At this framework, Ankara arises as one of the examples of the Turkish cities that has experienced rapid urban transformation. In Ankara case, in particular, with the announcement of the city as a capital city of newly established Turkish Republic, a rapid urban growth has began. A master plan was prepared by a German architect, Jansen, to produce a planned capital city; however, with the increasing immigration, the plan failed to satisfy the needs of rapidly growing city . Then, as a result of this process, the existing urban stock has began to transform where the planning decisions failed to supervise this process. As an outcome, the urban blocks have started to transform and to be reproduced with respect to the listed conditions above. At the end, the result was the loss of spatial variety in Ankara case as well.

On the other hand, Bahçelievler Housing Cooperative in Ankara constitutes the case study area for this study. The reason behind this selection lies majorly on temporal and spatial limitations. Bahçelievler Housing Cooperative has been established in 1930's based on a cooperative model that seeks to provide housing area for bureaucrats in Ankara. Hence, the site has witnessed the described transformation process, after the announcement of Ankara as the capital city. The plan of the site has been prepared by Jansen who was the planner of Ankara at that time as well. Thus, the design criteria of the site was parallel to the Development Plan of Ankara which was prepared with an emphasis on green areas and less density. The plan has been developed based on self-sufficient neighbourhood model where the public, common and private spaces have been designed in a hierarchy. The definition of neighbourhood territory, public, common and private spaces in urban blocks are the design criteria of the housing site in which similar patterns could not be produced in later periods, in Ankara.

After the transformation of cooperative property into private property, the housing area has begun to transform based on block-plot type of urban development. For that reason, it has been affected from the changing planning decisions to increase density at later periods at a great extent. At this point, the weakening power of planning institutions that resulted in the failure to manage this transformation process became paramount. At this extent, the area provide an understanding of the spatial transformation experienced in Ankara where the defined design criteria providing spatial variety has been neglected throughout the transformation period. This is why, Bahçelievler Housing Cooperative has been selected as the study area through which it emerges as a particular example to analyse the spatial transformation experienced between Republic Period until today.

At this regard, the produced urban fabric throughout the described transformation processes with the lack of spatial variety emerges as a design problem -besides the other problematics of this process- that addresses the architects, planners and urban designers. Therefore, this study approached to the defined problem from the design perspective where it has attempted to analyse the produced urban form, in particular ,urban blocks. At this sense, the study aims to provide a framework based on the analyses of this transformation that addresses to the designers in order to re-evaluate the space organisation principles in urban blocks.

Due to the fact that the urban block as the fundamental part of urban form, in peculiar, constitutes the core of the study with respect to the main problem defined; having a detailed understanding of blocks based on space organisation criteria, its social and physical components and their intertwined structures allowing social interaction and communication become paramount. Therefore, exploring how spatial variety can be achieved forms the basis of the study. At this point, this study intends to create a framework to provide a different understanding through the urban block. Indeed, the emphasis is on Ankara, particularly, in Bahçelievler Housing District–as an area constructed in Republic period at 1930's that has witnessed to this transformation process till today, in order to point out the defined problem. Hence, the main research question of the study arises as;

> *How urban blocks can be re-evaluated regarding space organisation principles based on interfaces among public, common and private spaces as counterparts of street, plot and buildings in an Urban Block, concerning the analysis of the transformation in Bahçelievler Housing Cooperative Case, Ankara?*

While defining the main problem of the study, the author has attempted to narrow down the discussions with respect to some limitations. The first limitation was in terms of study context where the discussions has been framed by the discussions concerning the produced urban form and its elements both in physical and social terms. Second limitation was a spatial one where the study has been carried out for Bahçelievler Housing Cooperative area in Ankara. And finally, the study has a temporal limitation where it has focused on the transformation experienced between 1930's -after the announcement of Republic- and today, 2012. Thus, regarding these limitations, it is sought to answer to the defined research question.

In order to fulfil this aim, three objectives have set to comprehend social and physical elements of urban block and to re-evaluate the relations among its elements based on the described transformation that has experienced.

1. How to design interfaces between public, common and private spaces within the urban block in relation with the street, plot and buildings?
2. How urban blocks have been transformed in time regarding these relations?
3. How the interfaces between public, common and private as counterparts of street, plot and buildings have transformed in Bahçelievler, Ankara.

Based on the outcomes of the discussions of these questions, it has been attempted to create a framework pointing out the re-evaluation of urban blocks.

1.3 Methodology of the Study

To answer the listed questions, after developing the theoretical and historical framework, a methodology part is conducted to investigate how these relations are shaped up within the urban block. In this respect, *a qualitative case* study based on a field survey is conducted in Bahçelievler, Ankara in order to comprehend how the urban blocks have evolved in time morphologically and how this evolvement affected the internal structure of urban blocks regarding its elements as street, plot and buildings as counterparts of public, common and private spaces. At this point, the adopted method emerges as one of the limitations in order the frame the discussions where the emphasis is on the urban form in this study.

Designing the structure of the methodology is the fundamental part of any research. For this study, the major concern of this process was to achieve an integration within the issues discussed in theoretical part that points out firstly, the term interface among public, common and private spaces; and secondly, the spatial transformation process in which these relations are redefined. Thus, understanding the morphological evolution process of urban blocks became critical.

As Madanipour describes “[u]rban morphology is the systematic study of the form, shape, plan, structure and functions of the built fabric of towns and cities, and of the origin and the way in which this fabric has evolved over time” (1996, p.53). On account of the fact that, urban block is a part of urban form, morphological studies would help us to develop a method for investigating mentioned elements and their inter and intra relations.

Morphological studies have been grouped into three by Moudon; namely, English/Conzenian School, Italian School and French School (Moudon, 1994). As she asserts, Italian school "provides a theoretical foundation for planning and design within age-old traditions of city building" where the French school "outlines a new discipline that combines the study of the built landscape with a critical assessment of design theory" (p.308).. On the other hand, according to Moudon, English or Conzenian School "offers a scholarly approach to researching how the built landscape is produced" (p.308). Although each school has different concerns, Baş groups those into two according to their characteristics as normative and substantive studies. Normative studies mainly concerned with developing "design principles and norms from the analysis of the physical structure and components of the urban fabric" where it focuses on "*the physical form and its impacts on the human behavior*" (2010, p.17). Thus, both of Italian and French School are focusing on urban morphology to provide a new understanding on design theories and might be the examples of normative studies. On the other hand, substantial studies focuses on "the *continuous change* of urban form" (p.26). Within this respect, the study of *urban morphogenesis* emerges as one of the methods used for substantial studies "with a focus on the transformation process of urban form through history" (p.8). At this regard, Conzenian tradition is an example of substantial studies with an emphasis on the transformation process of the produced urban form.

As Moudon claims, "Conzen's methodological contribution lies in the strength of the town plan analysis, the definition of its elements and plan units. It confirms and clarifies the work of French and Italian typomorphologists" (1994, p.300). In this framework, since the emphasis of this study is on the process of transformation, the morphogenetic approach developed by M.R.G. Conzen has been adopted in this study, as it offers a detailed method to understand and apprehend the different morphological process regarding the transformation of urban built-up areas. From this point of view, it would be possible to reveal how the elements of urban block has transformed in Bahçelievler with the help of this method. In addition, his methods provide an analysis of town plans based on the morphological elements as followings which are in relation with the framework developed in the theoretical part of the study;

(i) *streets* and their arrangement as a *street-system*;

(ii) *plots* and their aggregation as a *street-blocks*; and

(iii) buildings or, more precisely, their *block-plans*. (Conzen, 1960, p.5)

However, since the study focuses on both the transformation of morphological elements and social dynamics of urban block regarding the term interface, the structure of the methodology part is divided into two; firstly, Conzen's method is described and a qualitative case study based on personal observations is conducted for Bahçelievler Housing Cooperative, Ankara that are analysed with Conzen's method and the framework established in the theoretical part.

In the simplest description, a qualitative case study "is an in-depth description and analysis of a bounded system" (Merriam, 2009, p.40). As Yin (2008) denotes "case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (quoted in, p.40). In addition, Wolcott (1992) asserts that case study is "an end product of field-oriented research" (quoted in, p.40). Moreover, as Baxter and Jack claim:

> "[Case study] enables the researcher to answer "how" and "why" type questions, while taking into consideration how a phenomenon is influenced by the context within which it is situated. For the novice research a case study is an excellent opportunity to gain tremendous insight into a case. It enables the researcher to gather data from a variety of sources and to converge the data to illuminate the case"(2008, p.556).

Since the aim of this study is to observe how the interfaces generate in an urban block, applying a field-oriented research in Bahçelievler based on observations within real-life context would be a well oriented approach with respect to the content of the study that addresses to the research questions of the study which has a spatial context.

Yin categories case studies as being explanatory, exploratory and descriptive. Descriptive case study type focuses on the description of "an invention or phenomenon within the real life context where it has occurred" (Baxter and Jack, 2008, p.548). Thus, since this study primarily concerns with the description of the changing relations rather than explaining or exploring some characteristics of a case, the qualitative case study will be descriptive as well. This characteristics of the research method of the study revives the data collection process immediately.

Gillham (2000) lists a set of different kinds of evidence that will be useful for case studies as; documents, records, interviews, 'detached' observation, participant observation, physical artefacts (p.20-22). The descriptive qualitative case study that is conducted in the study relies on participant personal observations, primarily. This type of data collection is defined as "usual sort in a case study –where you are 'in' the setting in some active sense- perhaps even working there (...) but keeping your ears and eyes open, noticing thing that you normally overlook" (p.21). Since the main of this study is to examine the relationships between public, common and private spaces, observation of people's behaviours becomes critical to understand how they act within diverse territories. For this purpose, a field survey was conducted covering seven days of a week from 10 to 18 o'clock along weekends and weekdays. Hereby, it would be possible to observe how people uses the places in day time within the site where individually I, as a researcher, observed both social and spatial characteristics of the settling. This part establishes the data collection process.

As Merriam denotes, data collection of qualitative case study rely on "researcher as primary instrument" (2009, p.18). Since the study is field based, the observation of the researcher emerges as the determinant part of the research. Due to the field base nature of the research, maps, plan and plan notes are needed to be collected to define the transformation phases regarding Conzen's method. On the other hand, interviews or questionnaires is not used since the study is not concerned about people's opinions or perception about the space, but to observe how they possess and personalize their territories.

And in order to provide required data during observations, in a structured way, survey sheets has been prepared for the field study (see Appendix A). In addition to personal observation, the data collection includes necessary documents and records, aerial photos and old plan-plan notes of the site obtained from the Çankaya and Büyükşehir Municipalities and, pictures taken from the site by the researcher. Then, sketches, drawings and maps are developed based on the observations, documents and records for the data interpretation.

The reason behind the selection of qualitative case study as the method of the study instead of quantitative research types majorly relies on the research question of the study. Since the relations that are produced are not experimental, empirical or statistical as the characteristics of quantitative research (Merriam, 2009, p.18), conducting a quantitative

study is appropriate for this study. On the other hand, since the study is primarily concerned with urban block based on Conzen's town plan analysis on maps, the field oriented study arose as a necessity.

Moreover, the weakness of qualitative case studies might be listed as the lack of generalization, as well as reliability and validity problems; however, since the study is focused on the development of Turkish cities, and in Bahçelievler, in particular, the generalization of the findings is not a required outcome. On the other hand, the reliability and validity is related to the subjectivity and unstructured data collection nature of qualitative case studies. This might be a problem for the study, however, in order to decrease the subjectivity, the documents taken from municipalities and personal observations are combined with each other. At the same time, to structure the observations a survey sheet has been prepared. On the other hand, the flexibility of case studies within data collection and analysis process allowed us to expand the findings regarding characteristics of the site in later periods of the research that is a paramount concern for this study.

1.4 Structure of the Study

The study is composed of five chapters. Apart from the introduction and conclusion, second, third and fourth chapters consist of independent discussions of which each address different objectives of the study.

The first chapter of the study focuses on the problem definition and related research questions of the study. It defines the objectives of the thesis to inform the readers about the framework and the systematic of the study where the methods of the research and its structure have been defined to provide an introductory outlook to the research.

Then, it is followed by the second chapter that aims to provide a theoretical framework for the study. The introductory section covers the definition of space organisation that points out the gradual transition from public through the private spaces. Since the study aims to discuss such a transition based on a legal ground, Günay's framework about the tension between *private and non-private spheres of the city* based on the Roman Law established the basis of this part. Thus, the terms *public* and *common* as types of non-private spheres and the term *private*, in particular, are used to specify the scale and to set the context of the study. Since space organisation is the structuring process of these diverse territories in

relation with each other, in the further parts the term interface among public, common and private spaces is discussed. In this part, it is attempted to create a framework based on Barlas's studies that defines the relation between man and the environment. As a result of this relation, the notion of boundary and territory has been discussed where the permeability along the boundaries and interfaces among the different territories arose as the critical points to reconsider. In order to prevent the abstractness of the discussions, the definition of block is given in the further part in relation with its elements as street, plot and building since it constitutes the core of the study.

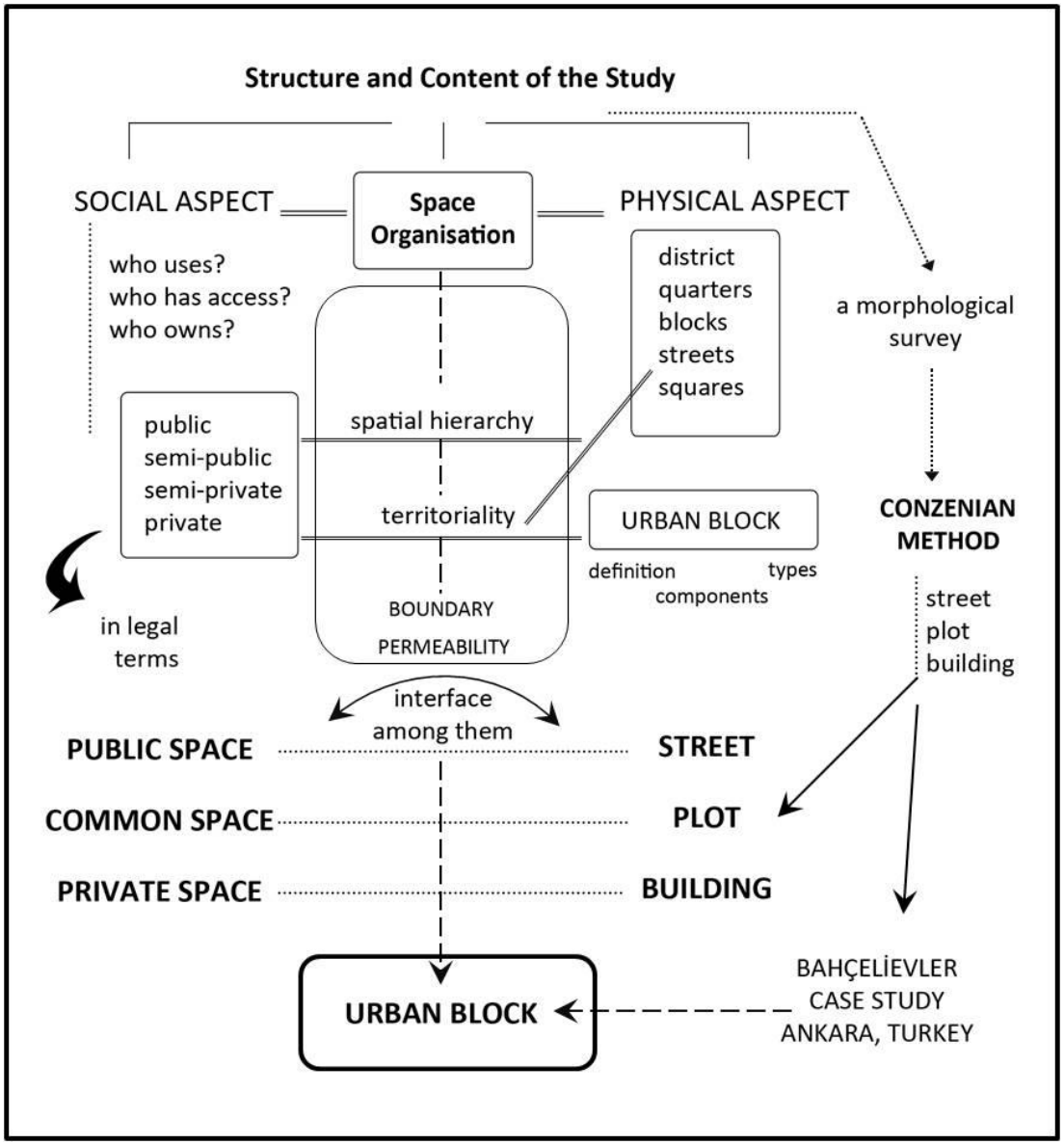


Table 1.1 The Framework of the Study (prepared by the author)

After having a theoretical framework both addressing to the social and physical dynamics of urban block, in the third chapter, the evolution process of urban blocks is described. This process is discussed in two sections: pre-industrial periods and, industrial and later periods. The pre-industrial periods has been discussed in order to have an understanding about the conditions and transformations in urban blocks that establish the industrial period. On the other hand, industrial period, modernist and post-modernist periods are discussed in detail that are in relation with the case study area in terms of architectural style and planning approaches in order to explain the processes that affected the formations and transformation process of the area. Therefore, starting with early settlements through postmodernism, urban block in seven historical periods have been defined by providing a persistent framework. In this point, the transformation of space organisation among block and changing relations between street, plot and buildings and public, common and private spheres constitutes the dominant concern that is emphasized on this part based on the findings of previous chapter.

Moreover, in the fourth chapter, the focus was on the Bahçelievler case study. Therefore, the chapter is composed of two parts. Firstly, the structure of the analysis is defined based on a descriptive literature review of Conzen's method that is adopted for the analysis of urban blocks. Then, in the second part of this chapter, the analysis of the transformation of Bahçelievler Housing Cooperative in Ankara has been discussed. The analyses are carried out in two categories. Firstly, maps are prepared to understand urban blocks and their transformation process based on Conzen's method. Secondly, a comparative analysis of the interior structure of urban blocks is carried out based on changing interface realms and relations among different territories that has been discussed in literature review. And lastly, a conclusion is conducted as a summary of the chapter.

On the other hand, the Conclusion chapter synthesises the arguments of each chapter in a coherent and correlated way in order to answer the research question and defined objectives of the study all in all. At the same time, the findings of the case study in Bahçelievler is discussed in this part with concluding remarks and synthesis about the research.

CHAPTER II

URBAN BLOCK AND SPACE ORGANISATION

Urban fabric is composed of small urban groupings, of urban blocks in particular as we shall focus on this study, having a dynamic structure in which the relationships among and between the groups change permanently. These groupings are formed from *built* and *unbuilt* spaces reflecting several different characteristics due to their different relations and bring up the question of space organisation. As these discussions draw the framework of the study, this chapter aims to explore how the interfaces between public, common and private spaces can be designed.

According to Rapoport, who is one of the defenders of man-environmental approach, "[s]pace organisation, in fact, a more fundamental aspect of the designed environment than shape, materials and the like" (Rapoport, quoted in Günay, 1999a, p.18). Thus, he underlines that in spite of the fact that all of the cities are produced from the same physical entities like buildings, it is their organisation and relationship among their elements which are changing with respect to each other (Rapoport, 1977, p.15). Apart from this, while Lynch investigates the components of a human settlement, he denotes that the "settlement form is the spatial arrangement of persons doing things, the resulting spatial flow of persons, goods, and information, and the physical features which modify space in some way significant to those actions, including enclosures, surfaces, channels, ambiences, and objects" (Lynch, 1981, p.48).

Hence it would be possible to claim that space organisation as a *formative* part of urban form and block gives meaning to the spaces created, provides inter and intra relationships with the environment by conducing social communication and interaction, and structures the urban groupings. The critical point, here, is how people use the space and behave accordingly. Those behaviours are directly related to the need to come together, to create a cluster –that urban blocks might provide this opportunity- because "people will not feel

comfortable in their houses unless a group of houses forms a cluster, with the public land between them jointly owned by all the householders" (Alexander, 1977, p.198). In this framework, the distinctions as well as the relations between public and private domains appear as significant points providing the interaction and communication among its elements. As Lang states "the distinction is not always clear because there are also semi-public and semi-private behaviours and places" (2005, p.6). Hence, in this study, we shall consider what types of interfaces could generate among public and private spaces rather than a clear cut distinction in urban blocks.

Even though the spatial terminology -as public, semi-public, semi-private and private spaces, is describing the transmission and distinction between public and private spaces in design process, this study will be elaborated based on public, common and private spaces as an outcome of property relations in order to consolidate this spatial terminology in legal terms. For this purpose, this chapter is divided into three parts. Firstly, the evolution and the definitions of the terms public, common and private will be discussed to set the context under the heading of private and non-private. The second part contains the discussions about interface among public, common and private spaces based on subjective morphology where the notion of territoriality will be elaborated as regards to urban block to create a bridge between social and physical aspects of urban block. It will be followed by the definition of urban block from the point of view of objective morphology where the block will be described in relation to street, plot and buildings in order to embody the realms of interface within a physical content. And, the final section will be a synthesis part where a new framework will be provided by the author based on the literature review carried that focuses on street-plot, street-building, plot-building and building-building interfaces and the physical elements providing such interfaces.

2.1 Private and Non-private Spheres of Cities

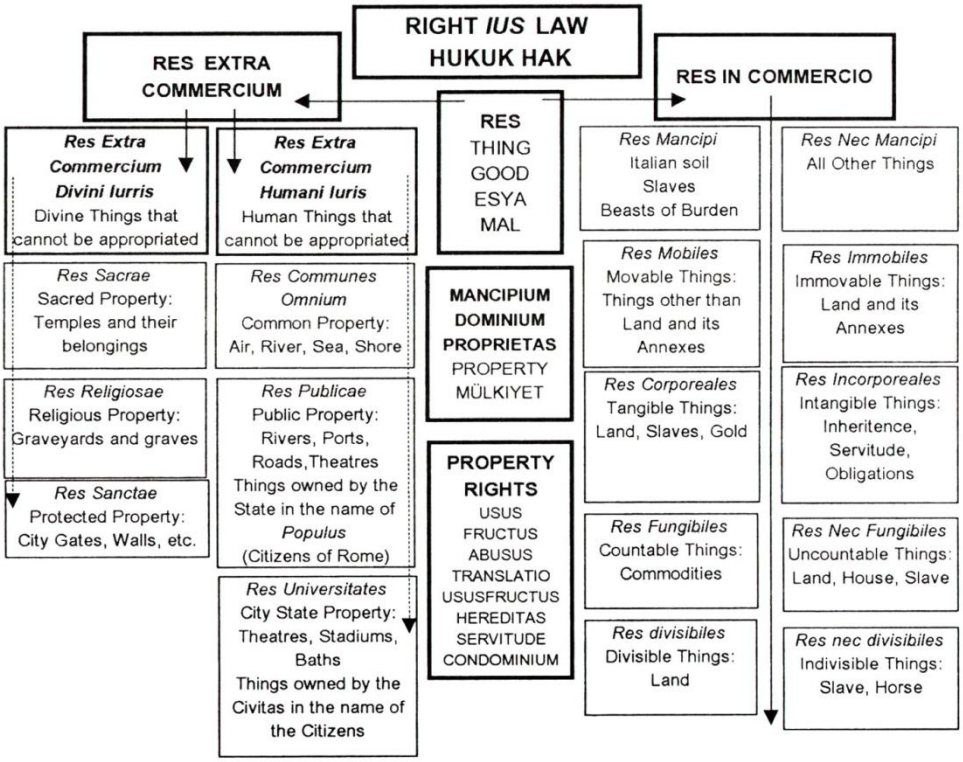
The tension between public and private spheres of cities has been one of the most debated topics in urban design field. Although this duality is commonly accepted and used in urban design literature, according to Günay, the term public is often used incorrectly (1999a, p.40). In his book Property Relations and Urban Space (1999), he specifies a duality between private and non-private property referring to Roman Law instead of public and private sphere distinction. Hereby, the terms common, communal, public, collective and

social could find their meanings under the heading of non-private instead of being used as public which is solely one of the sub-term of non-private itself. In this context, the critical question arises consequently about what is private and non-private property.

> "One side of the property relations is clear, individuals or private corporate bodies make up the private realm, and the things that can be owned privately were called *res in commercio.* "Some things, however, were not destined to be controlled by individuals. Individual control would run counter to their natural purpose. Hence they could not be the subjects of private ownership. Such things were called *res extra commercium*" (Pound, 1959:110). Today, it would still hold true to study the private and non-private spheres of the things under the same headings, since the basic terminology of property has not changed" (Günay, 1999, p.37).

Res Extra Commercium meaning things that could not be the subjected to private ownership is composed of mainly two groups; divine and human things. The divine things protected by religious law and cover temple, graveyards, etc. Nonetheless, the second group consists of res communes, res publicae and res universitates in which the terms res communes and res publicae created the roots of the terms public and common space in urban design literature today (p.37). In brief, res publicae covers the things which can be used "for public purposes by public functionaries or by the political community" whereas res communes signifies the "things which could only be used and not owned" alike air, rivers, sea, sea and river shores that belong everyone commonly. Res universitates, on the other hand, refers to the "things possessed by city-states for common use" as theatres, baths.. (p.37&39). Within this framework, Günay details non-private property types as, communal, collective, state and social property apart from public and common. The differences among their significances rely on which political systems and ideologies they belong to; in one side, for instance, the communist system favours the term communal where the German ideology uses the term social ownership, and so on. Each ideology creates its own words and defines the property owner differently (p.36-40). On the other side, in contrast to res extra commercium, res in commercio covers the things which could be subjected to private ownership that are "the things that could be owned and transacted by individuals"(p.40). Here, the individuals or the private corporations creates the private realm. (See Table 2.1)

Table 2.1: The structure of Roman Law (Günay, 1999, p.44)



Yet, the aim of the study, here, is not to make a comparison about different property systems but to make an emphasis about how the different spheres of urban space can be grouped in a common ground. Within this intention, the study aims to focus on the definitions of public, common and private spaces based upon the relations among them in the following part.

2.1.1 Definition of Public Space

According to Concise Oxford Dictionary (1990), the term public is defined in four sections; “of or concerning the people as a whole”, “open to or shared by all people”, “done or existing openly” and “provided by or concerning local or central government”. In the first part of the definition, the emphasis is on *people* whereas the second and third parts refer to the accessibility issue to everyone to use or enjoy it, and last part clarifies who has the right to control it by bringing up the property topic. Therefore, usage, accessibility and property issues will draw the framework of this part to define the term public. Thus, the

term will be elaborated in relation to public sphere, public realm, public property and finally public space to clarify the distinctions among these to prevent ambiguity.

To begin with, having a brief overview about the basis of the topic arises as a necessity to have a profound knowledge. Seyla Benhabib, in her article, *Models of Public Space: Hannah Arendt, the Liberal Tradition, and Jürgen Habermas* (1992), classifies "three main currents of Western political thought" that focus on public sphere based upon three different conceptions (1992, p.73). Firstly, Jürgen Habermas *(1989)* stresses on *bourgeois* public sphere and its transformation. According to his theory, public sphere is a requirement to achieve a 'healthy polity' in which the independence in 'interactive discourse' from private realm plays a crucial role (Madanipour, 1996, p.148). Further, Neal claims that for Habermas, public sphere generates an occasion for people to be a part of political life by discussing their diverse opinions to build a consensus (2009, p.4). Thus, in this line of thought, public space is a part of public sphere. For instance, the coffeehouse of seventeenth century as a physical entity providing a place to sit, to chat and to gather becomes an example of public space, nevertheless, the discussions made there and the intellectual atmosphere were generating the public sphere (p.4).

On the other hand, another theorist Hannah Arendt (1958) uses the term public realm regarding Greek for making an abstraction also; although her abstraction differs from Habermas. For her, public realm is 'centre stage' of political and public life and, it serves both as a place where things are shown and also as a common place for everyone to live together (Arendt quoted in Madanipour, 2003, p.147-148). By this way, her definition covers both public realm as a place for real political action and also refers to a physical entity. The distinction from Habermas lies here, since for her, "the public realm was a discursive sort of public space" where people can build consensus as Habermas's abstraction but also "they engage in collective political action to pursue mutual goals" (Neal, 2009, p.4). Her discussions further had impact on many authors like Richard Sennett who criticised the decline of public space in modern era.

Thirdly, liberal tradition stresses on the public sphere issue regarding the idea of "an equilibration of the public and private spheres of life" (Madanipour, 1996, p.148). In order to describe liberal tradition, Benhabib draw a framework based on Ackerman's assumption on liberalism. As she asserts "Ackerman understands liberalism as a way of talking about power, as a political culture of *public dialogue"* (1992, p.81) Thus, the emphasis of this

model emerges as public dialogue: “His question is how different primary groups, (...) can "resolve the problem of mutual coexistence in a *reasonable* way"” (p.82).

In this point, it is needed to clarify the relation between public sphere, realm and space. Public sphere or realm terms are used by different authors to describe an ambient produced by the behaviours, actions or activities of people and cover the places where such an ambient occurs. Therefore, public space is likely to be solely the physical part of this ambient. For Madanipour, “public space is a spatial manifestation of public sphere, a place for intersubjective communication” (1996, p.149). Then how public space can be defined? This issue had been discussed in literature by diverse authors from different perspectives as well. However, the aim here is to answer three criteria mentioned; *usage*, *access* and *control* regarding p*roperty*.

One of the mostly accepted and simplified definition is; “public space includes *all areas that are open and accessible to all members of the public in a society*” (Neal, 2009, p.1). Relatively to this definition, what kind of spaces are considered as public spaces? First places coming to mind considering public spaces are squares, streets, outdoor areas as parks in different scales and sidewalks. These examples could be extended with community centres, or several gathering places in neighbourhood scale and so on. Further, “public buildings like school, libraries and courthouses are also commonly recognized as public spaces, but their use might be restricted at certain times or to certain groups” (p.1). As an outcome, as Neal notes, usage of public spaces is free for all members of public without any requests of a membership to any special group and independent from the users’ age, gender, social status or income group; everyone could use it according to their intention and willing (2009, p.2). Apart from usage, accessibility criteria have been a long discussed topic in corresponding literature:

> “It appears that the definitions of public space emphasize open access to either the space or the diversity of activities, most notably the social interaction, taking place in it as caused by this open access. (...) A public space can therefore be defined as space that **allows all the people to have access** to it and the activities within it, which is controlled by a public agency, and which is provided and managed in the public interest” (Madanipour, 1996, p.148).

Then, the final question arises as *control* aspect regarding the property criteria. Public spaces are controlled by a public agency; and “provided by or concerning local or central

government" (Madanipour, 1996, p.146); consequently, they are public property. However, it is needed to distinguish the state property and the public property. "Property under public ownership – roads, highways, streets, the banks of rivers ... are administered by the State but they are not owned by it" and moreover, "everyone makes free use of them, including foreigners. The state that manages them has no right to part with them; it has to carry out obligations connected with them but has no right of property over them" (Lukes and Scull, quoted in Günay, 1999, p.40). Depending on its features such as being accessible and open to everyone, public spaces are the places where social interaction mainly generates: "Public spaces of the city are spaces of sociability, where social encounter can and does take place" (Madanipour, 2005, p.209). Therefore, some of the privately owned places such as restaurants, bars and cafes, as well as shopping malls might have been considered as public space too.

> "...[I]f a space is considered a public space, ownership and right of access cannot be seen as obstacles to its public use, despite their inherent restrictions for public access. (...) Public places cannot legally prohibit interaction with other users, only the nature of those interactions" (Madanipour, 1996, p.147-148)

There are also so many definitions in urban design literature about public space referring to its diverse aspects. However, since the main concern of this study is understanding how the social interaction occurs in the public spaces with respect to block pattern, only a brief description will be given. For instance, Stephan Carr, in his well-known book Public Spaces, identifies public space in relation to public life; "The streets, squares, and parks of a city give form to the ebb and flow of human exchange. These dynamic spaces are an essential counterpart to the more settled places and routines of work and home life, **providing the channels for movement**, **the nodes of communication, and the common grounds for play and relaxation**" (1992, p.3). Public spaces, therefore, generate a realm that connects people to each other by allowing social interaction and communication; thus, the interface of public spaces with others becomes a significant part of discussions on public space.

In urban design field, hence, the public realm notion (or physical public realm) is also used to broaden the limits of public space which " often refers to the space in the city which is not private, the space outside the private realm of buildings, the space between the buildings"(Madanipour, 1996, p.95). For Francis Tibbalds, in this book Making People Friendly Towns where he criticises the decline of public realm, he describes it as follow:

"*Public realm* is, in my view, the most important part of our towns and cities. It is where the greatest amount of human contact and interaction takes place. It is all the parts of the urban fabric to which the public have physical and visual access. Thus, it extends from the streets, parks and squares of a town or city into the buildings which enclose and line them" (2001, p.1). On the other hand, Lang (2005, p.7) uses the term 'physical public realm' and states that although the term covers squares, streets or parks, besides publicly owned properties like schools, libraries, it doesn't always have to be in public ownership.

> "...the public realm consists of those places to which everybody has access, although this access may be controlled at times. It consists of both outdoor and indoor spaces. The outdoor spaces include streets, squares and parks, while the indoor may include arcades, and the halls of railway stations and public buildings, and other spaces to which the public has general access such as the interiors of shopping malls" (Lang, 2005, p.7).

From his point of view, physical public realm "consists of the square, the trees, the façades of buildings, the ground floor uses, and the entrances onto the open spaces" and "the objects that both bound it and structure it internally"(Lang, 2005, p.8-9). Within these, public realm definitions offer us the occasion to understand possible areas where the interface between public, private and common spaces could take place.

2.1.2 Definition of Common Space

The term common space is used to comprise the physical aspect of communities, and also implies a transmissible territory constituting a passage between public space of the city and the very private sphere of urban life. Although the notion of common usually placed in the core of community discussions in urban design field by addressing to common space, the term *commons* is used beyond these limits and became a part of debates on resources.

The terms common and public sometimes could be used for the same meaning; however, they have diverse meanings. According to Roman Law, res commune is used for the things "which could be used and not owned; and adapted only for general use"; including air, rivers, sea, sea and river shores which are common to everyone (Günay, 1999, p.37). Here, the term differentiate from res publicae because res publicae includes things which can be owned. On the other hand, in England, the term *commons* or *common land*, is used for "remnants of much larger tracts of land that have existed in various forms for over a

millennium" (Short, 2008, p.194). According to Rackham (1986), these tracts were the "areas of shared grazing" in which as Short states, traditionally they were owned privately, but also they were subjected to *commons' rights* (p.195). With the rise of enclosure[1], to regulate the usage of these lands, some rights has been established. These rights were for to regulate how to make use of commons and how to share them commonly.

Considering the literature of Commons, Elinor Ostrom (1990), in her book Governing the Commons, defines them as a general term used for shared resources where stakeholders has equal interest. Then she defines common-pool resources (CPRs) as commons; "natural or human-made resources where one person's use subtracts from another's use and where it is often necessary, but difficult and costly, to exclude other users outside the group from using the resource"(Cooperation Commons, 2011). Another author, Peter Barnes has a different approach to the topic. He claims that commons are gift since, they are something received but not earned, and they are shared since they are received by the "members of a community, not individually" (Barnes, 2006, p.5). Within this respect, common property, for him is "a class of human-made rights that lies somewhere between private property and state property.(…) Unlike private property, it's *inclusive* rather than *exclusive*—it strives to share ownership as widely, rather than as narrowly, as possible" (p.7).

As an outcome, although the notion of commons is used in diverse meanings and different cases, there is one aspect in common; in each definitions, the term refers to resources belonging to everyone for them to share. On the other hand, in terms of property, due to its nature as a resource, it "means no property" (Blomley, 2004, p.9); therefore, it might be registered as public or private property. This duality might be interpreted as an natural outcome of its character that refers to a right to use rather than a strict ownership.

As Davies asserts, it is critical to distinguish the 'commons' as a resource in public domain from the other one which is shared by some limited group of people (2007, p.64-65). From this respect, for Rose (2003), "[r]esources in the public domain (open access resources) may be things which cannot be the object of excludable rights because this would be impossible, impractical, or of little benefit: these resources traditionally include language, the air, views, and many social, cultural and environmental resources" (Davies, 2007, p.65). Then, the same authors develops the term 'limited common property', by defining that it is

[1] "The privatisation of commonly used resources is often referred to as 'enclosure': simply, the term 'enclosure' refers to the process of transforming the ownership of a resource from some form of commons or co-ownership to private individual ownership" (Davies, 2007, p.66).

“property held as a commons among the members of a group, but exclusively vis-à-vis the outside world” (Rose, quoted in Blomley, 2004, p.17).

If we turn back to the meaning of ‘common’; it represents the thing which ‘belongs to mankind’ or ‘belongs to community’ (Günay, 1999, p.37). These consecutive descriptions of common property are therefore integrative since for the resources belonging to mankind, the commons are protected against the exclusion of anyone. From the same point of view, for the resources belonging to community, it is aimed to protect the right of a community to use these resources.

In urban studies, the term common differs from the commons as resources and refers to a place that a community shares together. Hereby, it becomes an inseparable part of discussion based on neighbourhood, as a community model. However, it is critical to make a clarification about this point; the term common space and common property might also refer gated communities; but, in this chapter the term will be developed for a space possessed and used by a community as a transmissible area between public and private spheres of the city, rather than an isolated entity.

To begin with, community can be described as “a group that perceives itself as having strong and lasting bonds, particularly when the group shares a geographic location” (Gottdiener and Budd, 2005, p.9). This geographic location forms common space “that is commonly understood as the group’s territory” and promotes the social interaction where the members using this common space attached with each other with “strong emotional ties” (p.9). In this point, Jan Gehl who make an emphasis about the necessity of hierarchies between public and private spaces of the city -uses the term ‘communal space’ instead of common space- defines communal space as “the area for life between buildings, the daily unplanned activities – pedestrian traffic, short stays, play, and simple social activities from which additional communal life can develop, as desired by the residents” (Gehl, 2011, p.57). Consequently, he underlies that the “subdivision of residential areas into smaller, [and] better defined units” would facilitate the formation of group organisation as well as strengthen the links in the hierarchical system (p.60). These group areas may be defined in two different scales; as a neighbourhood, where the common space would be a community centre, a neighbourhood park and so on, and as a cluster which also might be described as ‘urban block’ where the common space would be a courtyard for surrounding buildings or a

plot for a apartment buildings. Within this framework, Christopher Alexander (1977) uses the term 'common land' and emphasize its necessity as constituting the core of a cluster:

> ". . . just as there is a need for **public land at the neighborhood level** - accessible green, so also, within the clusters and work communities from which the neighborhoods are made, **there is a need for smaller and more private kinds of common land shared by a few work groups or a few families.** This common land, in fact, forms the very heart and soul of any cluster. Once it is defined, the individual buildings of the cluster form around it" (1977, p.337).

Given that the square, or an urban park in city are considered as public spaces and the home generates private space in urban block or in a cluster of buildings, the common land carries a semi-private character due to its nature as being belonged to a group of people. This hierarchy among different spaces varying from private to the public regulates the social interaction and communication among the people in different scales. Therefore, for Alexander, "without common land no social system can survive" (p.337). He explains that each social group needs to have a 'constant informal social contact' between its members like as in a family, in a working group or in a school groups as well as in a building groupings between the neighbours (p.618). According to him, the common land is the focal point of any cluster and help to bind the surrounded buildings together in terms of location; and are described as the 'essential ingredient' of clusters (p.201). Another aspect of common space that he put emphasize on is the property aspect. For him, this common land must be owned by dwellers of the surrounded buildings and they should organize themselves like a corporation to share and use this land (p. 202).

Then, common space as a general term covering Gehl's communal space and Alexander's common land, is a place which is used and shared by members of a group; therefore, it is provided for a limited group that is formed from the users of surrounded buildings. These group members have access to this land where they feel themselves attached to. And common spaces might be appropriated by these members either as a private or as a public property where the usage and accessibility would be assigned to its members with some specified right. In this respect, a cluster with a courtyard might an example of a common space. However, this model is not commonly used in Turkey, therefore, the plots might be interpreted as an example of common land which is privately owned but commonly shared and used by the owners of flats in the building on this plot.

2.1.3 Definition of Private Space

Private space is often used for a territory that belongs to an individual in contrast to common or public spaces. In the discussions made in previous parts, both public and common space were implying a territory which could be accessed and used by several people (all or limited) to promote social interaction and communication, in spite of private space which signifies isolation from the outside word. In terms of property, private space is also in tension with public or common property – as types of non-private property – in political, economical and philosophical debates. For instance, Hardin (1968) denotes that "private property is often seen as an efficient form of resource control, in contrast to common and public ownership" (quoted in Davies, 2007, p.14). Nevertheless, in this study, the meanings and significance of private space in urban design literature will be discussed in context of access – usage and property to make a comparison with public and common space.

The word private is derived from the Latin word *privus* signifying 'single, individual, private' (Madanipour, 2003, p.34). According to Oxford Dictionary, it signifies: 'of or pertaining to a person in a non-official capacity; not open to the public; restricted or intended only for the use of a particular person or persons; that belongs to or is the property of a particular person; one's own, etc...' (quoted in Madanipour, 2003, p.35). Thus, the term private is often discussed as regards to private property as well as privacy and the right for privacy.

Private property was first discussed by Plato and Aristotle in basis of the tension between communal and private ownership. These discussions further continued within varying contexts; yet, the transformation from communal ownership into private ownership appeared in the Greco-Roman world (Günay, 1999, p.40). This transformation led to the preparation of Roman Law in order to protect and entitle different types of property. In this sense, in Roman Law, res commercio were used to refer to the private property and covered the things 'which could be owned, transferred and inherited'; and followed by a set of categorizations and rights; res mancipi – res mancipi, movable – immovable things, tangible – intangible things, countable and uncountable things and finally, divisible – indivisible things (Günay, 1999, p.40-41).

In urban design literature, the term private space is discussed with respect to public-private distinction at large extent, and it is used to describe a territory where people could be isolated from outside world. Therefore, the term privacy and territoriality becomes

paramount in discussions of private space. Privacy can be defined as "the state or condition of being withdrawn from the society of others or from public attention; freedom from disturbance or intrusion; seclusion; absence or avoidance of publicity or display; secrecy; a private or personal matter; a secret" (Madanipour, 2003, p.36). Hence, Madanipour describes privacy, as "the realm which only one individual is aware and has access to" (2003, p.5-6). In this point, Alexander (1963) asserts privacy as a necessity for human beings is a part of urban life as well. He defined privacy as a '*marvelous compound of withdrawal, self-reliance, solitude, quiet, contemplation, and concentration*':

> "Privacy is most urgent needed and most critical in the place where people live, be it house, apartment, or any other dwelling. The dwelling is the little environment into which all the stresses and strains of the large world are today intruding, in one way or another, ever more deeply" (p.38).

For him, while people enjoy to be alone in their private territories, they also need to be a part of the community; therefore, obtaining a balance between private life of each individual and communal life they share together in a spatial context emerges as a necessity for urban life. Thus, within this framework, he denotes that the house is a 'vital' part of urban anatomy and therefore, it is a complementary part of common life as well (1963). Hence, it is critical to understand what is private sphere/ realm and how it is defined as a spatial entity.

Private sphere can be interpreted as a realm where individuals could enjoy their privacy. In contrast to public or common spheres controlled by multiple people or by an authority surpassing individuals, private spheres are controlled by individuals. "[It] is a sphere of freedom of choice for individuals, protected from external gaze" (Madanipour, 2003, p.202). The discussions based on private space and relatively private sphere is derived from the notion of personal space, then further, goes until the notion of private property. According to Sommer, "personal space refers to an area with invisible boundaries surrounding a person's body into which intruders may not become" (1969, p.26). Then personal space refers to a territory as he described as a "geographical area that had been personalized by an individual and would be defended by him against unwanted intrusion" (Sommer, 1974, p.204). Hence, private property can be described eventually in relation to a territory which defines the private space in the extension of personal space.

> "The historically established, socially institutionalized form of private sphere, however, is private property, which ensures exclusive access to space for known individuals. (...) Private space, therefore, is part of space that belongs to, or is controlled by, an individual, for his/her exclusive use, keeping the others out. (...) This may also be institutionalized through a legal framework, which entitles individuals to call parts of space their private property" (Madanipour, 2003, p.202).

To sum up, if we turn back to the context of usage – access and property, private space is used by individuals and accessed exclusively by known individuals and it is eventually controlled by individuals who own or possessed this space. Therefore, it is critical to note that the notion of private space naturally attached with the term property since private space led to the generation of territoriality and consequently property became an issue in order to protect the private sphere and space. Thus, private space reflects a territorial area where the individual could use and enjoy and has the right to exclude the others from this area, from its private property. Therefore, only the individual and the other people which the owner gave the right to enter could access to this defined space.

After having discussed the definitions of private, common and public spaces regarding usage, access and property criteria, in the following part, the transition among these varying spaces and how interfaces might generate will be discussed based on the concept of territoriality to provide a spatial understanding for the discussion.

2.2 Interfaces of Public, Common and Private Spaces

This section aims at remarking the relations among public, common and private spaces in connection with the space organisation and formation process of urban blocks. As mentioned before urban space is combined from different urban groupings having different physical and social characteristics regarding varying space organisation concepts of each groupings, or, in particular, of urban blocks where different types of relations occur. Then, public, common and private spaces appear as the components of space organisation of urban blocks in which the territorial relations among them constitute the roots of its formation process. Rapoport describes these relations in the physical environment as 'spatial' by denoting that "the environment has a structure and is not a random assemblage of things. It both reflects and facilitates relations and transactions between people and the

physical elements of the world" (1977, p.9). Thus, the public, common and private spaces of urban block are mainly referring to different types of territories that are shaped up by people in terms of space organisation process where the prevailing groups vary and diverse types of relations create spatial variety in urban spaces.

Barlas stresses on the relation between the man and the environment to explain the configuration of built environment and the term 'territory' in his book, Urban Streets and Urban Rituals (2006). He creates a framework based on ecological approach of man-environment relations for constructing a model to "enhance the understanding of urban man's relation to the urban streets" (2006, p.15). At this context, he analyses the environment and human behaviours where the spatial behaviours of human beings explains the creation of territories. (See Figure 2.1)

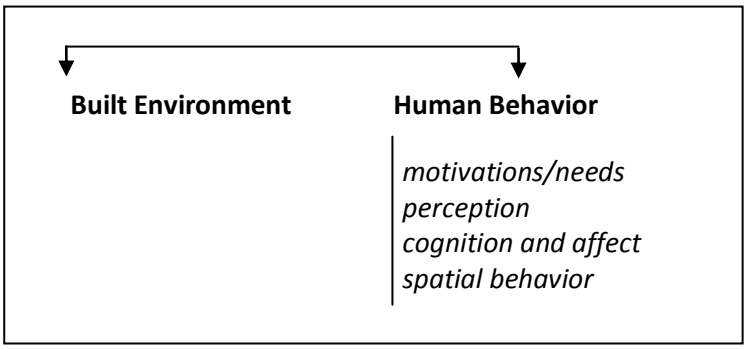


Figure 2.1 "Aspects and Features of Behaviour and the Environmnet" (Barlas, 2005, p.15-34)

From this regard, based on Barlas's framework, as Porteous denotes, "the built environment is the physical, phenomenal environment" whereas Gibson points out that people make 'changes' and 'modifications' in the surfaces of the physical environment that became the concern of the built environment (Barlas, 2006, p.18). On the other hand, the human behaviours appears as the determiner of the formation of man-environment relations. In this regard, Barlas lists up four headings shaping human behaviours; motivations/needs, perception, cognition and affect and finally spatial behaviour that established a framework in order to understand the generation of territories.

Motivation and needs arises as the "the source of, or the guiding force behaviour" that relates human behaviours and human needs (Barlas, 2006, p.20). Thus, Barlas uses the

model of Maslow of hierarchy of human needs containing; physiological needs, safety needs, belonging and love needs, esteem needs, actualization needs, cognitive and aesthetic needs. Yet, the point of the study is not to elaborate the definition of each of these needs; but, it attempts to link the formation process of built environment and territories with human behaviours. Hereby, the term spatial could find its meaning through which the formation process of the physical elements are shaped up by the relations between man and the environment. In this sense, Barlas claims that even though the built environment is not the solely provider of these needs, it emerges as a significant contributor to the satisfaction of these needs (p.21).

Secondly, he defines perception as "the process of obtaining information from and about the environment" (p.22). There are lots of theories covering Gestalt Theory as well, to explain the nature of 'perception' containing the issues how it realizes and how it is processed. In each cases, it appears as a critical part of human behaviours that establishes the basis of theories relevant to the urban design as well. On the other side, the cognition and affect, as the third type of human behaviour, are critical to comprehend man-environment relations. As Barlas states, cognition signifies "the acquisition, organisation, and storage of information" and affects cover the "evaluative process of emotion" (p.23). For him, together with perception, cognition and affect establishes the 'meanings' attached to certain environments (p.25).

Finally, spatial behaviours appears as one of the human behaviours in which this study focuses on. It indicates "people's use of the environment" as Barlas declares (p.29). Hence, in his book, he stresses on micro-scale built environment and uses the terms *personal space*, *privacy*, *territoriality, behaviour settings,* and *personalization* (*personalized space*) to describe spatial behaviours. As he denotes those terms have one feature in common, and it is control (p.29). The control issue has been already discussed in previous parts regarding public, common and private spaces. Now, the definition and theories about these spatial behaviours, thus, will be provided in the following part to create the theoretical basis of the issue of interface among public, common and private spaces that corresponds the relation of different components in both physical and also social terms.

In this framework, the study sees the urban block not as an isolated thing; on the contrary, as a physical entity defined by its relations with the street, plots and buildings; it comprises private and common spaces and is shaped up by the encircling streets which constitutes the

public sphere of the block. Baş states that “the relation between the block and the street ... has been continuously redefined” and he emphasizes on that these relations can be abstracted as the “redefinition of the relation between ‘private space and public space’” (2010, p.24). In this point, common space appears as a mediating space in an urban block in order to create a passage between public and private in which the characteristics of inner-block come into prominence.

To begin with, Sommer describes territory as “a specific geographical area that had been personalized by an individual and would be defended by him against unwanted intrusion” (1974, p.204). Here, territory refers to what has been appropriated by individuals; on the other hand, Madanipour uses a broader definition for territory and territoriality:

> “The continuous exertion of control over a particular part of physical space by an individual or a group results in the establishment of a territory. Territoriality, as closely associated with this process, has been defined by environmental psychologists as ‘a set of behaviours and cognitions a person or group exhibits, based on perceived ownership of physical space’ (Bell *et al.,* 1996:304)” (Madanipour, 2003, p.43-44).

In this manner, territory is a term both referring to what we perceive or recognise and to what we own in terms of space, gives clues about the appropriation and possession process of land and property relations. Then, how many different types of territories can be grouped in order to make a hierarchical passage from individual territory to group territories?

There are several different categorisations and relatively, identifications about human territories. Barlas claims that “the identification of human territories in the built environment is as important as the identification of their function” (2006, p.30). Thus, he uses the categorisation of Proteous (1977) composed of three types of spaces : *personal space (or micro-space), home base (or meso-space), and home range (or macro-space)* (p.30). Here, personal space has the same definition as Sommer’s that has been given above. Home base territory refers to “usually semi permanent” areas where an individual or a group of individuals occupy and actively defend this place like house or a yard regarding Barlas’s explanation (p.30-31). And, they also refer to street or a neighbourhood that has a common use as well. On the other hand, home range is different from the other two in terms of control and ownership and “it is not a discrete type of territory” (p.31).

However, since the study aims to differentiate the group use regarding public and common, the identification of Porteous appears as a general one for this study.

In this context, Altman makes a classification based on three forms of territory; primary territory "is perceived to be owned by the occupant" and which is "extensively personalized and the owner has complete control over space" such as home; second territory appears as a space in which "the occupant does not own the place and is considered as one of a number of qualified users" but "may personalize the place to some extent during their period of occupancy, which gives them some power over the space" where the level of control is moderate; and finally, public territories covers the spaces with large number of occupants in which "the degree of control is low, and difficult to assert" and only could be "personalized in a temporary way" (quoted in Madanipour, 2003, p.44).

As Baş states, territoriality and territorial hierarchy are the concepts which have direct relations with the formation of urban form and peculiarly, of urban block in terms of property relations (2010, p.24). Then, three forms of territoriality might be interpreted as counterparts of three types of spaces in which this study focuses on as follows:

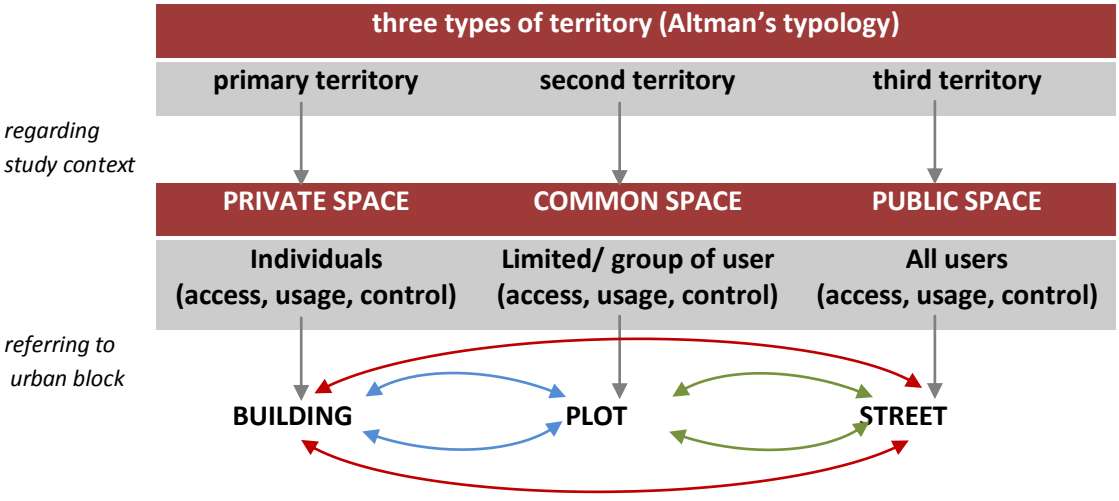


Figure 2.2 Territories and Diverse Spaces in Urban Block (prepared by author)

These diverse territories or spaces in an urban block create diverse interface realms. As Rapoport notes, the purpose of these diverse domains are "to establish boundaries between us and them, and public and private , thus ensuring the desired level of

interaction, inclusion or exclusion and providing appropriate defences" (1977, p.289). Therefore, these territories and the characteristics of in-between boundaries regulates how much social interaction might occur. Given that organisation of space is arranging the relationship between social and physical space, for Rapoport, the organisation of communication is also an ingredient of space organisation: "Thus who communicates with whom, under what conditions, how, then, where and in which context is one important way in which the built environment and social organisation are linked and related" (1977, p.12). This point is also emphasized by Alexander who states that "who and what interferes with what and whom, to what extent, when and how, are significant questions that the urban designer now has to ask himself" (1963, p.233). Then, if the question is how the different domains in an urban block could interfere with each other, that is to say, how the interface between different realms might occur, the answer then would be related to the *'establishing boundaries'* as an in-between realm within the urban block by structuring social interaction and communication.

> "City building is essentially a boundary setting exercise. The space of the city is shaped by many forms and levels of boundaries, each with multi-level configurations and meanings. It is a process through which space is constantly divided and reshaped in new forms. A living city witnesses, throughout its history, constant change in its spatial configurations, shaped by changing boundaries which define and redefine areas to have different functions and meanings, such as those expressed in public or private distinction." (Madanipour, 2003, p.52)

From this framework, the boundary refers to a transition zone where social and physical characteristics of two territories are redefined. This redefinition is related to the need to describe "privacy and wanted vs. unwanted interaction" and how to configure the "control of access of others" with the help of varying barriers and rules (Rapoport, 1977, p.95). Thus, urban block emerges as an area defined by the public, common and private boundaries and the changing relations among them redefine the urban block regarding the property relations and block morphology containing building and plot characteristics that are constantly reformulated and reshaped.

Rapoport, in this extent, describes an area which might refer to an urban block: "The variability of definitions depends on judgements about where one place ends and another begins, where "ownership" and belonging change"(1977, p.160). Hence, the boundary as

'imaginary limits' became a physical and tangible entity that defines the ownership pattern. Within this perspective, the boundary might be defined as "the limits of property by a physical description of the space that is to be controlled by the owner" which consequently, separates the owner from the non owners" (Singer quoted in Blomley, 2004, p.5).

While the boundary separates and divides two spaces, "[it] is indeed a site of interface and communication between them" in a way to permit "sufficient flexibility to allow a dialogue between what is inside and what lies outside, and allow the possibility of redrawing boundaries always to exist" (Madanipour, 2003, p.55). Thus, the boundary acts as an interface realm between two sides and generate a dialogue between them. Therefore, it has a mediating role where the design of the boundary gives shape to the urban space and regulates social interaction, communication and exclusion with the help of different barriers, rules and so on. As Gehl expresses "flexible boundaries in the form of transitional zones that are neither completely private nor completely public, on the other hand, will often be able to function as connecting links, making it easier, both physically and psychologically, for residents and activities to move back and forth between private and public spaces, between in and out" (2011, p.113).

Figure 2.3 Interfaces: Boundary as 'connecting link' (left) or boundary as 'barrier' (right) (prepared by author)

As described above, the dialogue between two sides of boundary generates a connection between two realms by promoting permeability and social interaction; hence, this dialogue, or in other words, the articulated spatial boundaries would lead to the generation of vitality in urban space which would "promotes a civilized ambivalence, which can only enrich social

life" (Madanipour, 2003, p.55&211). (See Figure 2.3) The front porch of an house or colonnades, elaborated façades and courtyards might be examples of how this interface could occur along boundaries. On the other hand, as Madanipour states, one of the fundamental function of barriers is to 'control access' in order to prevent unwanted social interaction or communication, and protect intended amount of privacy for every individual (p.210).

To consider the urban block, the boundaries, or put differently, the interface zones would operate to create permeability, transmission and articulation among public, common and private spaces as well as to allow to control of access within urban block. Since, shaping up interfaces among diverse spaces is one of the major concern of urban designers, how this interface can regulate in urban space arose as the main question to deal with. In this perspective, understanding different spatial terminologies and varying principles about spatial hierarchy within different spaces might be helpful to comprehend the possible ways to create a transmission among them. Hence, different approaches corresponding to urban block scale will be evaluated in the following part of this chapter including new terms and concepts introduced by Christopher Alexander, Jan Gehl, Amos Rapoport, Oscar Newman and Adnan Barlas.

Alexander, in his book, Community and Privacy (1963) stresses on the formation of a "new physical urban order" after criticising the suburban development and the negative aspects of modernist cities. He set some principles and a new spatial terminology for designing a community and as well as privacy to able to achieve a new urban environment overcoming the problems of the 'modern' city.

> "...to develop both *privacy* and the true advantages of living in a community, an entirely new anatomy of urbanism is needed, built of many hierarchies of clearly articulated domains. (...) To separate these domains, and yet to allow their interaction, entirely new physical elements must be inserted between them" (p.29).

In order to achieve this 'new anatomy of urbanism', he defines two principals; **integrity of realms** and **hierarchical organisation** as extending "hierarchy of relationships between man and his environment" (p.126). For that manner, he introduces a new structure of hierarchy containing six different domains; urban–public, urban–semi-public, group–public, group–private, family–private and finally, individual – private. This new anatomy proposed ranges

from public spaces of the city through the room of an individual, in which the need for privacy and communality grades (p.126-128). However, as he asserts, it is critical to generate integrity within the domain and to provide relations with the previous and following domain: "[T]he joints between successive and adjacent domains, the extent of their separation, the precise way they are attached to one another, the kind of transition that needs to occur between them, are all matters of vital importance" (p.149). Thus, it is possible to claim that providing interface between different domains/spaces or territories emerges in the extent of creating a hierarchy within them. On the other hand, the integrity of realms and efficient amount of transfer is stated as the crucial issue while ensuring the space organisation within the domains (p.233). To sum up, arranging the separation of each domain, providing integrity within them and ensuring the transitions and barriers among them to create a balance between privacy and communality arises as the major design concern as it has been emphasized by Alexander for an urban designer. (See Figure 2.4)

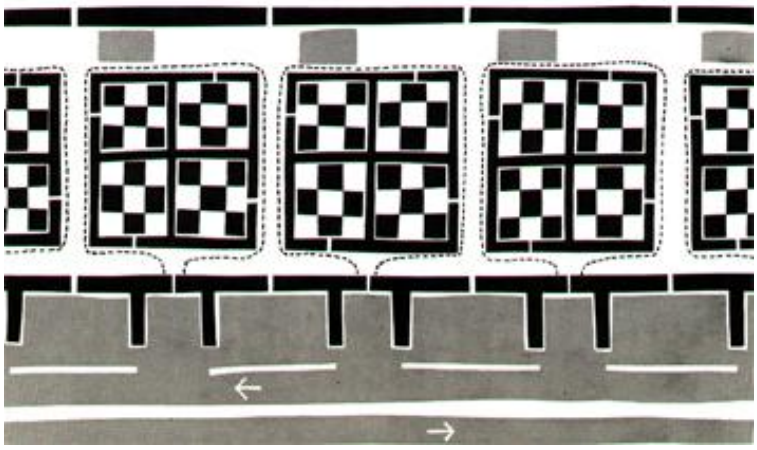


Figure 2.4 The model proposed by Alexander (Alexander, 1965, p.175)

Secondly, Jan Gehl (2011) also makes an emphasis on the issue of hierarchy in his book Life Between Buildings. Within this context, as Gehl claims the hierarchical division through dwelling, dwelling group, housing complex and the city aims "to strengthen the community and the democratic processes in the individual housing groups as well as in the housing development as a whole" (2011, p.57). From his point of view, this hierarchical division in social structure reflects also in the physical structure in which hierarchy among 'the

communal spaces' from living unit in a family dwelling, through communal spaces and public streets grades.

> "The establishment of a social structure and corresponding physical structure with communal spaces at various levels permits movement from small groups and spaces towards larger ones and from the more private to gradually more public spaces, giving a greater feeling of security and a stronger sense of belonging to the areas outside the private residence" (p.59).

Thus, he uses the terms private, semi-private, semi-public and public to describe a transition between different degrees of public and private that covers common spaces as semi-public or semi-private. (See Figure 2.5) Thus, what he makes an emphasis is the graduation of the outdoor spaces resulting in "possibl[ity] to know the people in the area better, and the experience of outdoor spaces as belonging to the residential area results in a greater degree of surveillance and collective responsibility for this public space and its residences" in social terms (p.59).

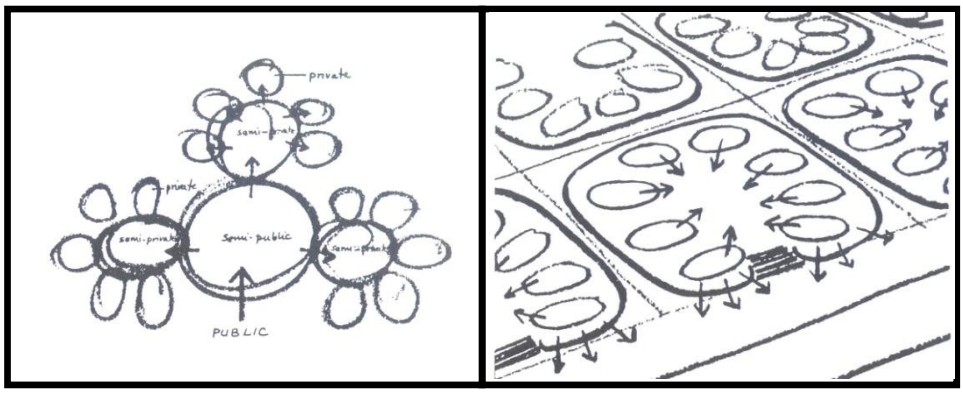


Figure 2.5 Hierarchical Organisation based on drawings of Newman (Gehl, 2011,p.58-59)

While Alexander makes an emphasis on the transition and integrity between different parts of the city from very public to private scale, Gehl focuses on the residential scale and refers to urban block and housing characteristics. On the other hand, Rapoport describes the transition between public and private in relation to single building with "the distinction between display and privacy" by referring to 'front and back' of a building. From this

respect, it is possible to understand diverse interface zones of urban blocks from buildings to street. He claims that “private and public, front and back domains – like privacy itself – can only be understood as part of a system of interaction and withdrawal” (Rapoport, 1977, p.293). For him, neighbourhood is a mediating element for the city that functions as “an intermediate level of semiprivate, semipublic, group private of whatever” providing a “set of subsystems of varying degree of publicness/privacy and frontness/backness linked and separated in various ways by different barriers and mechanisms, and with variable number of steps or gradations among them” (p.295). (See Figure 2.6)

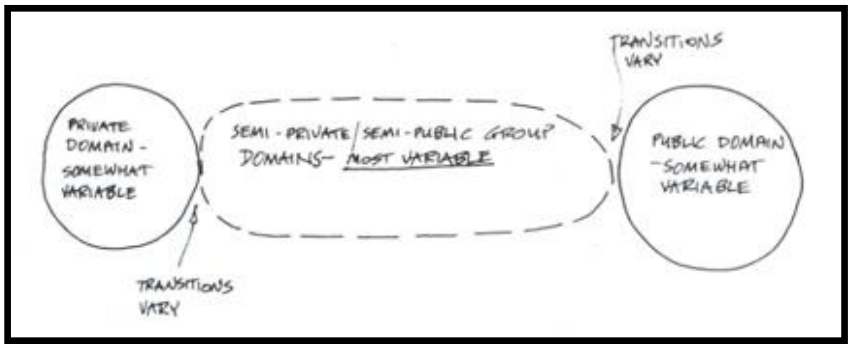
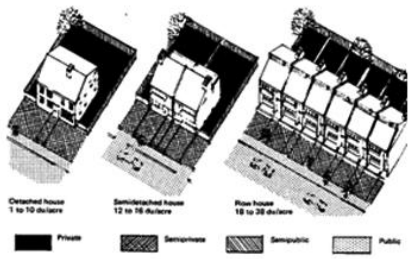
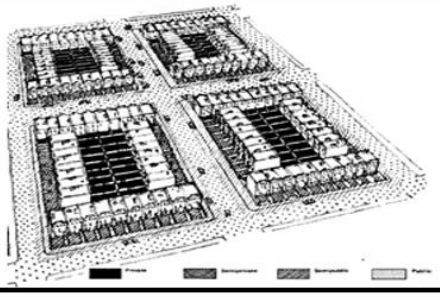
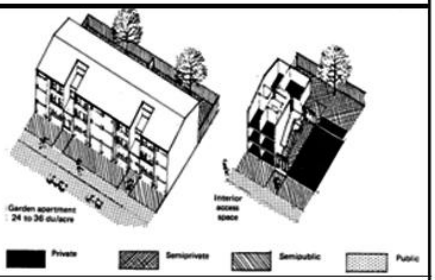
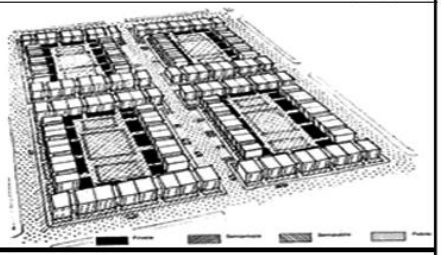
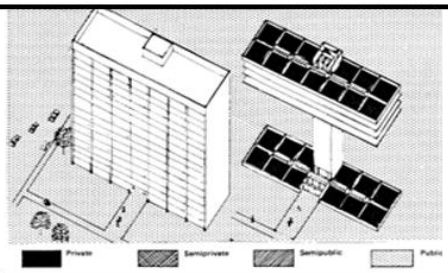
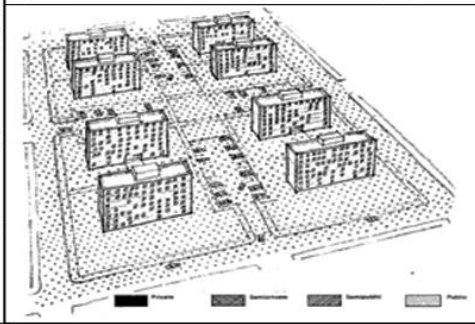


Figure 2.6 Domains and their relation for Rapoport (Rapoport, 1977, p.295)

Since it is discussed in this chapter that private, common and public spaces are referring to a territory which belongs to different groups or individuals; the boundary appears as the zone of interface providing a transition among diverse spaces. Within this framework, the boundary gives a shape and structures the social interaction through a hierarchy in which the control of access becomes paramount. In this respect, after having an idea about the definition of hierarchy and transmission between different spaces, now, the focus will be on how single building, plot and block as a whole are in relation with the street as an outcome of these interface zones. Therefore, in the following part of this chapter, different spaces in an urban block and their interfaces will be discussed.

Oscar Newman draws a framework about the issue, in his book, Creating Defensible Space (1996), based on diverse dwelling units and residents’ ability to control these units. Within this scope, he defines three types of dwelling units; single-family houses; walkups and highrises and further, describes different spaces in an urban block formed from each dwelling unit groupings regarding how people use and possess the spaces. (See Table 2.2)

Table 2.2 Newman's classification based on building and block types (1996, p.14-23)

single familiy houses/ building type& block type		Single-family houses cover three types of houses; detached, semi-detached and row houses: All the interior spaces are private; The backyard and side yard in detached and semi-detached houses are private space; Front yard is semi-private because they faces with the street as public space; The front yard generates a boundary serving as an interface between public and private.
		Urban block of single-family houses generates different transition between public, and private: The sidewalk as public space is perceived by the residents as "an extension of their dwellings" (p.18) and becomes semi-public space due to the usages as car parking area and so on This type of urban block is a combination of only public and private where only the front yards and sidewalks generates the interface
walkups / building type & block type	Walkups have 3 to 5 storeys, shared by more than one family, introduce common areas such as "entrances, corridors and stairs" : The dwelling generates the private space; The backyard is the semi-private space; The front yard is the semi-public ; Front and back yard are common spaces and shared commonly by users of walkup.	
	The backyards of dwellings are private ; The courtyard is the common used by residents of the blockspace with a semi-public character ; There is hierarchical division; public space as street, private space as dwelling unit and common spaces, as the plot shared by the residents of single walkup and as the courtyard shared	
highrises / building type & block type		Highrise buildings have more than 6 storeys and used by large number of people; "The outside grounds, because of their disassociation from any of the individual units ... can only be designated as public" The only realm of interface might be the entrance of the dwelling where the outside is public and inside is semi-public.
		The urban block of this type only consists public space; "not only are the streets distant from the units, but no building entries face them. The grounds of the development that abut the sidewalks are also public" (p.20). The flats are private spaces and the plot it-self became the public space alike streets and sidewalks; The generation of interfaces are less with respect to the previous two examples.

Newman's identification of territories proposes a useful hierarchy ranging from public to private spaces within an urban block for this study. Barlas (2006) states that "[b]y using Newman's classification, first, it becomes possible to identify the urban artifacts that function as territorial markers in the micro urban scale. Second, and in relation with the first one, one can define the types of behaviour afforded by such artifacts. Third, it is easier to determine the kinds of needs, which different territories can fulfil. Moreover, it becomes possible to associate urban artifacts and urban spaces with these needs" (2006, p.33).

Since the study attempts to figure out how can the *intermediation* generate between these diverse territories based on the term *interface*, the hierarchy upon public, semi-public, semi-private and private becomes critical. In this respect, Barlas uses the term 'intermediary space' covering the semi-private and semi-public spaces of Newman's model. Thus, he underlines that "territorial instincts is important ... because the built environment, ..., is shaped partly in response to territorial needs. The expression of territorial needs in the built environment is through intermediary spaces. They maintain the continuum between public and private realms. Therefore, they contribute to the satisfaction of many of the human needs" (2006, p.12). This is why, the formation of territory and finally property relations covering public, common and private spaces based on the relations of the built environment and human behaviour establishes the theoretical basis of this study at block scale. From this aspect, the generation of interfaces along boundaries of each territory realizes through the intermediary spaces and territorial markers in Barlas's terms.

Although the physical elements of urban block generating interface in urban block scale will be discussed later, now it might be better to exemplify such intermediary spaces to clarify and to embody the discussions. As Barlas denotes, the semi-closed spaces alike *porticoes*, *porches*, *arcades*, *courtyards/cortiles*, *balconies*, and further, *front yards* and *backyards* might be listed as intermediary spaces (p.83-84). Then ,he continues by saying that besides those intermediary spaces, there are also some architectural elements such as *bay windows* or *cumbas*, *oriels* and *verandas* providing visual control in the lack of intermediary spaces (p.85). On the other hand, as he claims, *walls*, *fences*, *columns*, *arches*, *buildings* as well as *signs*, *changes in pavement texture*, or *stones* and *poles* are other elements that define the territories; "Real or symbolic, they function as boundary markers indicating a passage and the control of that passage between private and public realms"(p.84).

From this perspective, the role of territories and relatively of property relations are the determiner of the formation process of urban block. Thus, the generation of interfaces along boundaries through the intermediary spaces among different territories provides a continuum between public and private. Here, this study introduces the term common as a mediator between public and private that refers to the area occupied by a limited group. Hence, the physical elements representing these territories and spaces in urban block became paramount for the study. Therefore, in the following part of the study, it is sought to define urban block and its physical components as street, plot and building in relation with public, common and private spaces and territories.

2.3 Definition of Urban Block

In Oxford Dictionary (2012), the definition of block is given as “a group of buildings bounded by four streets”; where in Merriam-Webster (2012) dictionary, it is defined as “a usually rectangular space (as in a city) enclosed by streets and occupied by or intended for buildings”. (See Figure 2.7) According to Kostof, block is the fundamental unit of orthogonal planning and he interprets that urban grid acquire its character due to block (1991, p.147).

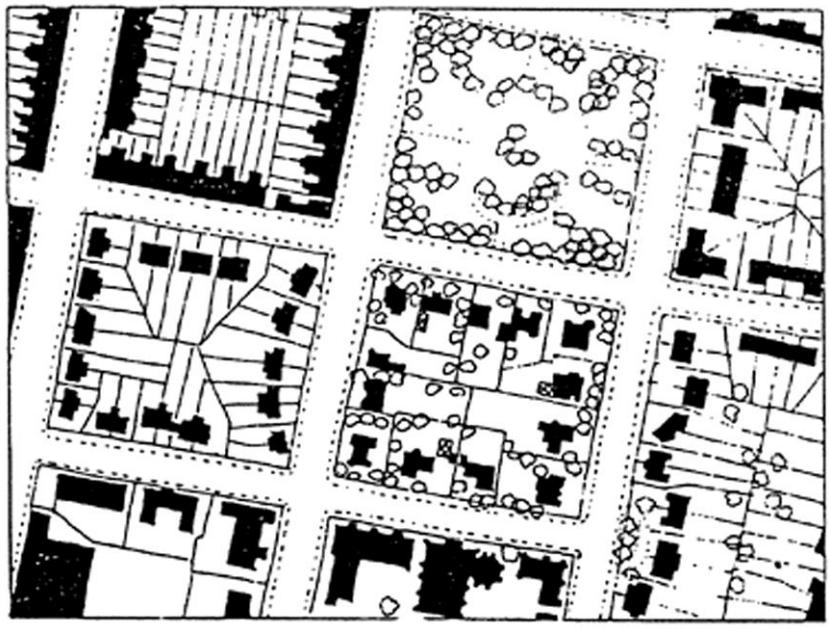


Figure 2.7 Urban Block Figure (Bentley, 2002, p.198)

There are a set of words used as synonyms of block such as ; 'insulae', 'ilots' referring to island which is the same metaphor used in the Turkish jargon (yapı adası); and 'chequers' – chess-board, referring to grid pattern (Kostof, 1991, p.147), as well as varying phrases as building block, city block and urban block.

There are several factors configuring the street-block layout which provides variety in terms of space organisation. These factors might be juxtaposed as follows:

I. the shape / form of urban block,

divided into two; organic block (suitable to topography, geographical features) or inorganic block (covering orthogonal, concentric, radial, etc...)

II. the size of urban block,

characterised by small or large block as a determiner of street-block layout

III. the plot characteristics reflecting previous property patterns,

shapes up blocks' morphology, and defines different territories as public, common, private or other types depending to the prevailing ideologies

IV. orientation and topography of the area,

microclimate, wind corridors and orientation to the sun and topography

as determinants of street-block layout configuration

V. the density of urban block,

described depending on building height and set-back distances and plotting

VI. land use categorisation,

affects the type of social life generating in the street

as determinants of plot-building configuration

(Walton et al, 2007, p.64; Eren, 1995, p.20-21; Baş, 2010, p.20; Carmona, 2003, p.60-86).

There are many types of urban block with different organisational patterns. Some of widely-known ones might be listed as perimeter block, superblock, tower block and linear blocks. Although, the evolution process of these types will be discussed in the further chapter regarding the historical evolution of cities, here, briefly their definition will be given in order to embody differing space organisation basis of each type.

Perimeter Block

Perimeter block is one of the most used block type where the buildings surround the periphery of the block with an inner space left in between. The significant characteristic of

this type “is to make a clear distinction between public fronts and private backs. Buildings which front streets, squares and parks present their public face to the outside world and give life to it” (Walton et al., 2007, p.64). Therefore, this type of urban block provides public, common and private realms for the generation of interfaces within the urban block, street, plot and buildings. (See Figure 2.8)

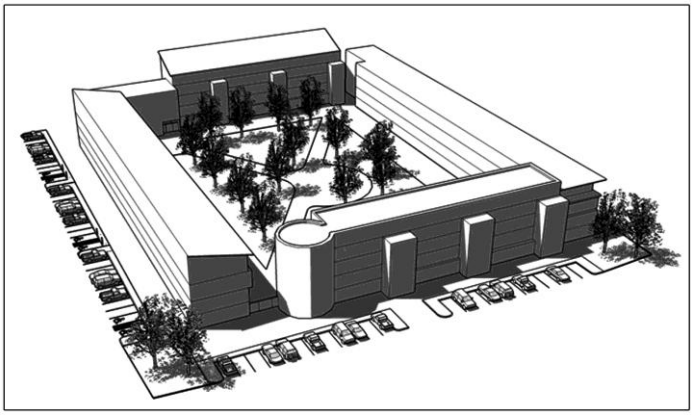


Figure 2.8. Perimeter Block (Biddulph, 2007, p.50)

Superblock

Super block, on the other hand, has emerged in the Modernism period. It refers relatively larger urban blocks where the freestanding pavilions are allocated on. In this type, the main aim is to direct the major traffic through to the periphery of the superblock where only the cul-de-sacs allow access into the block (Carmona et al., 2003, p.61-86). Nevertheless, this type provides more open space and allows to the total separation of pedestrians and traffic flows. There might be diverse types of superblock as Spreiregen denotes; as finger variations, cluster variations or mixed use; however, the main design principle is the same; larger open areas in the middle of the block reserved for pedestrian circulation and surrounding street network providing fast traffic flow. In this type, the transition between public to private differs where the publicity of street decrease. The freestanding buildings create public realm at their periphery with small pedestrian pathways passing across that ties free standings to each other. Thus, this prevents the generation of common spaces. (See Figure 2.9)

In addition, tower block is the allocation of single freestanding pavilion into a smaller plot. According to Carmona, freestanding buildings raise problems about the 'front' and 'back' differentiation (2003, p.83). On the other hand, this type of blocks also changes the characteristic of the street as Walton et al. state: "[W]here this principal [differentiation of front and back facades] is not followed, stand-alone pavilion buildings often expose blank sides, car parking and rear servicing to the street" (2007, p.64).

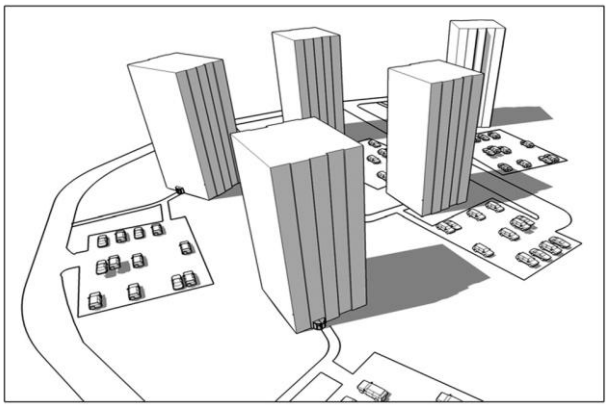


Figure 2.9 Superblock, Spreiregen (Biddulph, 2007, p.51)

Linear Block

Moreover, the space organisation principle of linear block arrangement is based on the "orientation of living space to the sun" in which the backs of houses faces with the street like the front-yards (Biddulph, 2007, p.52). Therefore, public and private relation has a different pattern than perimeter block. Correspondingly, Biddulph asserts that, "linear block can fail to acknowledge neighbouring streets or open spaces" (p.53). (See Figure 2.10)

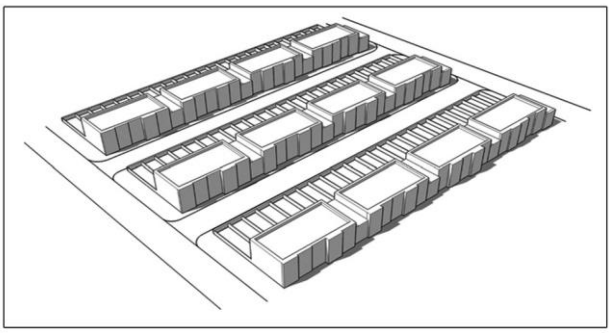


Figure 2.10 Linear Block (Biddulph, 2007, p.52)

Considering the characteristics of the urban block, Panerai et al. describe the block “not as an a priori from but as a resulting system, capable of organising parts of urban territory” which helps to “rediscover the elementary logic of urban tissue” (2004, p.164-165). From this point of view, they assert that, the street is the paramount element of cities which “distributes, feeds and orders development”; in which “the dialectical relationship between street and built plots creates the tissue and it is the continuation of this relationship – capable of modification, extension and the substitution of buildings – where reside the capacity of the city to adapt to the demographic, economic and cultural changes that mark its evolution. (...) The widths of plots (their opening on the street) and their depth condition (and are conditioned by) the type of buildings used” (p.165). Thus, the block as a single physical element does not reflect the complex relations produced among and within urban spaces. For that purpose, in the following part of this chapter, the term block will be described in relation with the street-block layout, as an outcome of plot pattern and as a determiner of design criteria of buildings in which the interfaces among the public, common and private spaces could be followed.

2.3.1 Street-Block Layout

In spite of the fact that urban block is defined as the basic element of urban pattern, as a single unit doesn’t refer to a settlement structure but the togetherness of blocks structures the whole city. Therefore, street-block layout appears as a sum of relations between blocks and streets. Indeed, the block and the street are formed one through the other. Baş describe this relation as a ‘reciprocal relation’ and claims “urban block was defined by surrounding streets; and in turn, the streets are shaped by urban blocks” (2010, p.77).

Conzen describes street as “a space in a built-up area bounded by street-lines and reserved for the use of surface traffic” whilst the street-line signifies “the boundary separating a street-space from its adjoining street-block” in which street-block refers to series of plots (2004, p.258). According to Kostof, “street is an entity made up of a roadway, usually a pedestrian way, and flanking buildings” (1992, p.189). Therefore, it both covers a roadway and a sidewalk, whereas sidewalk are considered as “the main public places of the city” by Jane Jacobs (1961, p.29). Sidewalks signify “unique but integral parts of the street and urban life” where major part of social interaction takes place (Loukaitou-Sideris & Ehrenfeucht, 2009, p.3). Another author, Moughtin points out that the street as “an enclosed, three-dimensional space between two lines of adjacent buildings” is both a

physical element and also a social fact; it “provides a link between buildings, both within the street, and in the city at large. As a link it facilitates the movement of people as pedestrians or within vehicles (...) . It has the less tangible function in facilitating communication and interaction between people and groups” (2003, p.129-133). Moreover, for Cousseran streets are ‘urban channel’ along urban spaces where two parallel ‘walls’ of buildings defines it (2006, p.108).

At this point, Barlas stresses on the definition of Joseph Rykwert that “sees the street as a deliberate creation which enhances communication” (2006, p.70). From this point of view, Barlas proposes a new understanding of street not only as a ‘paved surface’ but also as “a three dimensional urban component together with the artifacts that delimit the surface” (p.70). Hence, as he denotes, the buildings became a part of the street with the exits, entrances and intermediary spaces that “enhance the relation between the paved surface and the buildings” (p.70).

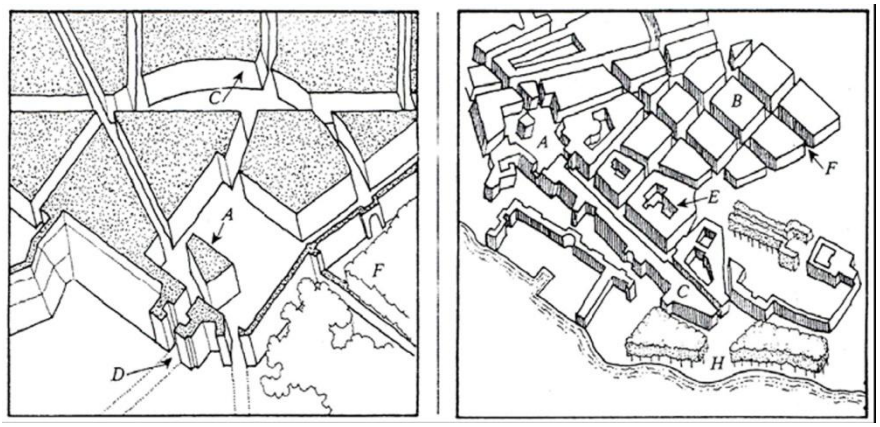


Figure 2.11 Trancik’s understanding of Block as Solid and Void (Baş, 2010, p.22)

On the other hand, Carmona depicts street layout as the ‘cadastral pattern’ and defines it as “the layout of urban blocks” where “the blocks define the space, or the spaces define the blocks” (Carmona et al., 2003, p.63). This reciprocal relation also facilitates the formation of physical relations within the street. According to Spreiregen, “when a group of blocks is treated as a whole, streets can be bridged with buildings which link neighbouring blocks, afford ways pedestrian passage, and give closure to the open street vista” (1965, p.127-128). To sum up, streets are the formative part of block layout that serve as a channel or

movement space and generates social life by conducing social communication and interaction due to its character as a public space. This sum of relations between urban blocks and streets are interpreted from different perspectives by different authors as well. As Baş determines, one of these approaches belongs to Trancik in which he perceives the described reciprocal relations based on solid-void relations where solids are "the predominant field of urban blocks" and voids are "the network of streets and squares" (2010,p.21-22). (See Figure 2.11)

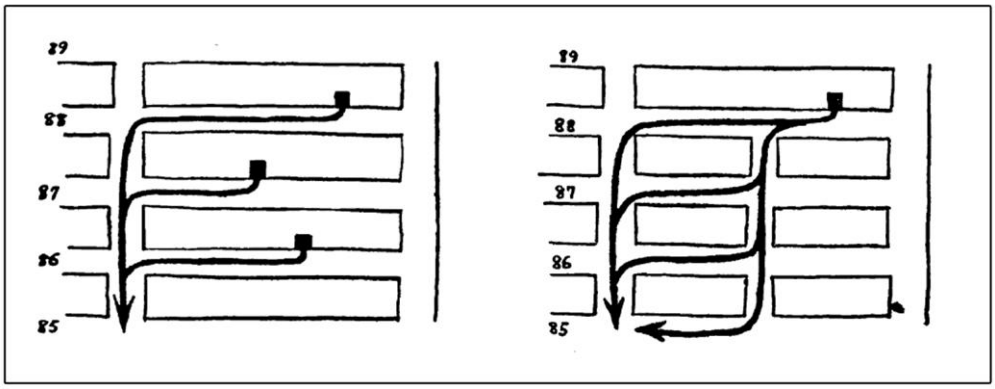


Figure 2.12 Comparison by Jane Jacobs between small and large urban blocks (1961, p.179&181)

As Lang notes, the character of streets "depends on the length of their blocks, their cross sections (the widths of their road bents and sidewalks, the nature of the abutting building setbacks and heights, the frequency of entrances to buildings, the presence or absence of shop window, etc.)" (2005, p.97). In the formation process of blocks, there exists several inputs shaping its size, however, achieving a balance between smaller blocks which promote 'pedestrian permeability and social use of space' and larger blocks which provide 'an optimum distribution of built form and open space' is needed (Carmona et al., 2003, p.81). For instance, Jane Jacobs argues that the size of blocks must be smaller in order to 'generate diversity and catalyzing the plans of many people besides planners' (1961, p.186). She claims that large blocks separate people into diverse paths and intersect rarely, hence the different uses are split up despite they are close to each other. She defends smaller blocks because they enhance the vitality of social life in streets (p.179-186). (See Figure 2.12) As Carmona et al. summarise, "urban vitality, permeability, visual interest and legibility" are some of the reasons why the small blocks could be preferred (2003, p.82). On

the other hand, larger blocks are defended too in terms of its spatial configuration. They tend to create an open space in the middle that have a balance between solids and voids; consequently, they are ensuring biodiversity and become a part of open-green systems of the city. And further, another argument is that the spatial hierarchy from public to private spaces of buildings could be better achieved in larger blocks where smaller block size might result in the disappearance of front and back distinction (Carmona et al., 2003, p.83-84).

The second issue stressed was that streets were public scenes where complex property relations are regulated. As Kostof states "the only legitimacy of the street is as public space" where it "set out to designate a public domain that would take precedence over individual rights" (1992, p.194). Thus, the street sets basis or rules in order to provide a coherent relations within blocks, at the same time, it enables a hierarchy between public and private spheres where different interfaces might occur. In this point, Marshall denotes that "streetscape forms the basic core of all urban public space" which are all in a continuum; and he adds that the plots of private land puncture this continuum: "The plots of private land surrounded by public streets are like an archipelago of islands set in a sea of public space" (2005, p.13). This is why, the façade characteristics, active frontages, setback distances, building entrances and so on, in peculiar, street-plot and street-building relations become distinctive parts of block planning and design as well as street characteristics and its vitality. These areas are also critical from the point of view of this study since they provide the areas or zones of interface in which public, common and private spaces in an urban block began to be connected to each other.

2.3.2 Plot Pattern

After defining the reciprocal relation between street and block layout, now, it is intended to describe the plot and block relation. Each urban block, or cadastral unit as Carmona describes "are typically subdivided or 'platted' into plots or lots" in varying forms (2003, p.63). According to Doxiadis (1973), the plot or lot is described as "...a measured parcel of land having fixed boundaries and access to public circulation (quoted in Eren, 1995, p.23). On the other hand, the morphology and interrelations of plots define the space organisation of blocks. Thus, if the streets are classified as public spaces, the plot arises as private property whereas the sum of plots and their interrelations create the urban block in two dimension. Hereby, the inner block composition became paramount in order to define a common space in the urban block. (See Figure 2.13)

"These (subdivided plots) may be 'back-to-back', each having a frontage onto the street and a shared boundary at the rear. Plots may also face onto main streets at the front with service alleys at the rear. Less common are 'through' plots with a frontage onto a main street at each end" (Carmona et al., 2003, p.63)

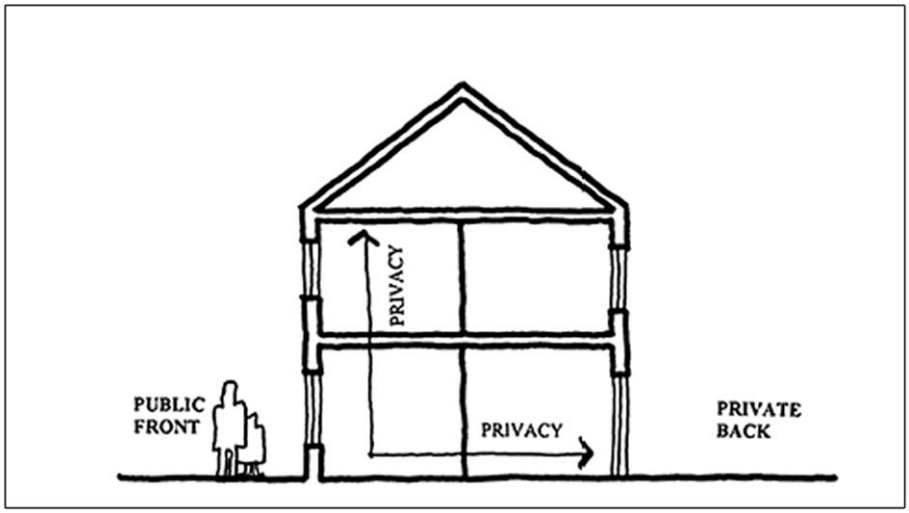


Figure 2.13 Different characteristic of Front and Back (Bentley, 2002, p.198)

According to Spreiregen (1965), lot size and its configuration generate a module for community design; due to its size, the building's plotting onto the site differs (p.148-149). The dimension of plots regulates building setbacks, street width, planting, and open spaces where the large plots and building masses might result in "overly interrupted street facades", in contrast to small sized lots which might be result in "awkward spaces between houses" whereas adjacent buildings might be preferred (p.148-149). In this context, the street frontage formed with respect to plots constitutes the core of how interfaces might occur between the street and the plot. Nevertheless, the backyards of each parcel as private spaces also constitutes such a relation around the inner block as common space. Although Trancik focuses on urban solid-void relations based on street and block layout, he emphasis on the inner-block composition as well to contributing to solid-void relations. He describes the inner-block voids as semiprivate transition zones in a residential space which can be used "for leisure or utility or a midblock shopping oasis for circulation or rest" (Trancik, quoted in Baş, 2010, p.24). This transitional zone provides a common space for the

users of urban block as well as acts as an interface zone between different plots which are private territory.

2.3.3 Buildings

The buildings –unlike urban block, plots or street layout- generate the private realm of the urban block. In this point, Baş describes urban blocks as "medium or stage where planning process turns into the construction process and where urban planning turns into architectural design" (Baş, 2010, p.77). In this sense, buildings emerge as the end product of the planning process of blocks in which the space organisation basis of urban block constituted a spatial context or frame of reference for the plots and relatively, for the buildings. Rob Krier (1988) denotes that;

> "In order to achieve a coherent total image in an urban development plan of this size, the concept of the block must be clearly formulated in geometrical terms and should not embody exaggerated structural fantasies that represent only an individual artistic conception. For the sake of unity, each of the architects taking part must [exert] as much discipline as possible" (quoted in Lang, 2005, p.302).

Figure 2.14 Casa Mila, Barcelona, Spain (retrieved from Google Earth)

Thus, the architectural style and continuity within different architectural units became prior issues about the design process. (See Figure 2.14) The relations or connections between

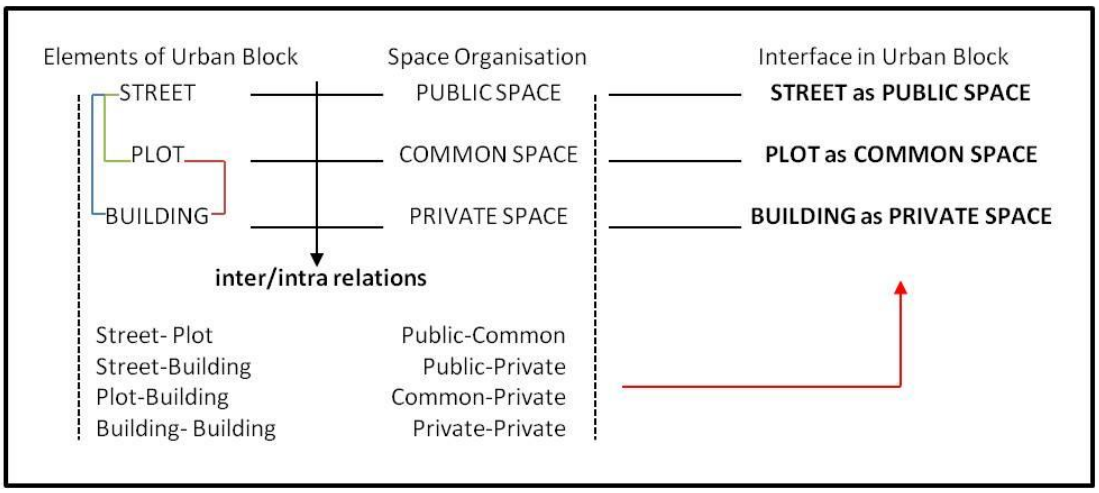
buildings, plots and block provides the formation of interfaces among these diverse territories. Thus, the formation of a space organisation context for each block emerges as the most critical point in terms of urban design, as Postrel (2003) underlines; “if you get the lots right, and the blocks right and the street right and the setback right, somebody can build crummy’ building and the ensemble is still fine” (quoted in Lang, 2005, p.302).

Then, the question of what are the components of street, plot and buildings arises as a critical point. Hence, in the following section, a synthesis part will be elaborated based on the intermediary spaces and, the physical components of urban block that constitutes the interfaces between street-plot, street-building, plot-building and building-building. While structuring the synthesis part, the urban design terms will be inserted to provide a basis for analysing the built environment in three dimensions.

2.4 Synthesis of the term Interface with the Urban Block

The relations between the morphological (street, plot, building) and social (public, common and private) components of urban blocks create different space organisation patterns in which the interfaces among these elements vary and generate spatial richness. As discussed in the previous sections, the interfaces among those elements are an outcome of their territorial relations. Considering that “most residential environments comprise a mix of public, private and communal spaces” as described in Better Places to Live by Design, “it is important that the role of each space is clear and that the boundaries between different types of space are clearly defined” (DETR & CABE, 2001). In accordance to this fact, the design of boundaries are often related to describing and designing the interface realms. As Biddulph denotes, “the boundaries between the different types of space are sometimes referred to as *interfaces*” where he exemplifies one of those realms as, “the front wall between a front garden and a public space of the street” (2007, p.45). In spatial terminology public, semi-public, semi-private and private spaces are often used to make an emphasis on gradual transition between public and private; nevertheless, in this study, the term common space will be used as the transitional zone among public and private as indicated before.

Table 2.3 The Synthesis of the Space Organisation and the morphological elements of urban block (prepared by the author)



Based on this perspective, Bentley et al. claims that "public and private spaces cannot work independently. They are complementary, and people **need access across the *interface between them***. Indeed, this interplay between public and private gives people another **major source of richness and choice**" (1985, p.12). These discussions are an outcome of the need for privacy and interaction. In this regard, Carmona et al. define two types of privacy; 'visual' and 'aural'-in which this study focuses on the visual privacy: "Issues of visual privacy typically relate to the interface between public and private realms and, in particular, the physical and visual 'permeability' between these realms" (2003, p.178).

From this perspective, in urban design terms, Carmona et al. remark that "rather than a hard and impermeable interface between public and private realms, a softer and more permeable one is often desirable. Activities in private space are not all equally private, and 'softer' interfaces may create important interstitial or transitional spaces" (p.178). At this point, the study focuses on how different interface realms could occur within the internal structure of urban blocks in relation to Conzen's method and the term interface.

Thus, the synthesis part consists three sub-headings; street as public space covering street-plot and street-building interfaces, secondly, plot as common space combined from plot-building interface and, finally, building as private space covering building-building interface.

2.4.1 Street as Public Space

Streets have a significant function in cities by defining the forms of urban blocks by surrounding them where the street-block pattern is the determinant of urban tissue. Streets provide a public life outside the buildings which enriches the quality of everyday life. In this respect, given that urban design majorly focuses on public spaces, and relatively, on streets, as Walter and Brown asserts, “this process often includes designing the architectural elements of the buildings that define and enclose those public spaces – the façades, entrance, and massing that contribute to the general appearance seen from eye level” (2004, p.2).

Figure 2.15 Greenwich Village, New York: Street as Public Space (Walters, 2007, p.69)

Thus, designing realms of interface between public and common or private spaces in an urban block arose as a critical design concern. Since the public spaces are characterized by publicly accessible spaces “streets are an obvious type of public space which people can physically enter and exit” (Biddulph, 2007, p.43). In this extent, streets emerge as public spaces. In order to provide a street where daily life generates on, it is critical to provide the interface realms; therefore, in the following part, the street-plot and street-building interfaces will be elaborated based on design terms regarding the changing relation between public-common and public-private, respectively. (See Figure 2.15)

2.4.1.1 Street-Plot Interface (Public-Common Interface in an Urban Block)

Street-plot interfaces can be analysed in relation with two different interface realms; at first, front-yard and entrance of the building; secondly, and ground floor use and sidewalk promoting the street liveliness. The architectural components might be listed as; veranda, porches, elevated entrances and stairs in the front yard, front yard that corresponds intermediary spaces as Barlas dentes (p.83-84). Moreover, the walls and fences, different pavements might be used to define these territories as well.

Front-yard and Building Entrances

In simple definition, front yard can be described as a 'narrow buffer strip' created by "a private open space at the front of houses or apartment" which helps "to keep passers-by away from the windows of their dwellings in inner urban or other high-density locations" (DoE & DRD, 2000, p.53). This front yard constitutes a semi-private zone on plot, in other words, it creates a common space used by the residents of the building in scope of to providing a transition zone between building as a private space and street as a public space. As Biddulph states "it may be desirable to allow residents of apartments on the ground level to have an access to the spaces directly adjacent to their living areas" in order to improve the ground floor life that would promote richness for streets in spatial terms and increase the active usage of front yards (2007, p.214).

Figure 2.16 Design of Front yards in Urban Block from Upton Design Code (Walters, 2007, p.124)

There are many interface elements in the front yard which provide variety in terms of space organisation. According to DETR and CABE, “doorways, thresholds, gardens and the enclosures to gardens” are some of these elements (2001). Such interface elements can be used to provide a transition between public and private spaces by creating a common space alike front garden. (See Figure 2.16) As Walters and Brown points out they provide an intermediate zone with “porches or stoops, raised semi-public spaces that create a threshold between the public realm of the street or square and the private realm of the home” (2004, p.135).

The other element, where this interface generates, is the building entrances. As Moughtin asserts, “the entrance of the housing cluster may however be designed to deter those who may disturb the privacy of the residents” in which he emphasizes that in traditional Islamic cities this transitional zone is clearly defined with semi-private spaces (2003, p.95). (See Figure 2.17)

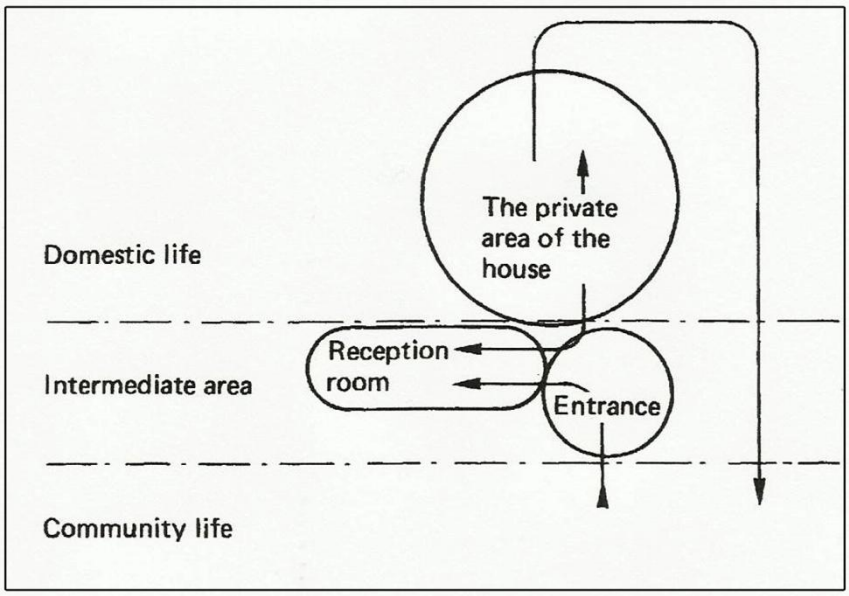


Figure 2.17 Islamic Housing Layout by Moughton (Moughton, 2003, p.95)

The building entrances might be in form of direct entrance or from a front-yard as discussed above. Both of this access patterns generate different space organisation and interface realms; “direct access to the street from ground floor premises (both housing and shops), rather than by way of communal entrances, can reduce the length of blank

façades", and on the other hand, "primary access to buildings by means of internal courtyards reduces street activity and the live connection between building and street" (DETR, 2000, p.22). Thus, a transition between building entrance and street is related to the characteristics of the street; in residential streets, a front yard might be preferred in order to provide more privacy; however, in lively streets with shops and restaurant this transition should be more direct and entrances should face with street to attract people.

Front-yards and building entrances are the publicly visible and accessible parts of plots – under a degree of control- where the common space of the apartment buildings face with public space and, a transition occurs between street and plot. Therefore, these morphological elements are an inseparable part of building design process creating a bridge between private and public areas.

Ground Floor Uses and Sidewalks

The ground floor use is a significant element of plot and street interface. As it is discussed by DETR; "facades can be enlivened by active uses (such as shops and restaurants), entrances, colonnades and windows" (2000, p.24). The ground floor uses covers "detailed alignment of carriageways, footpaths and any front garden or threshold space before the building edge involves the consideration of many elements including: pedestrian, cycle and vehicle needs; on-street parking and service requirements; underground services; and landscape features" (DETR & CABE, 2001). (See Figure 2.18) Here, another critical point is that ground floors generate a node of activity with facilities to sit and stop and, provides areas for children to play "not just in designated play areas", but also "near housing to create spaces for children to play and for parents and carers to meet" (Walton et al., 2007, p.99)

Therefore, sidewalks become a supplementary part of ground floor use. Biddulph asserts that, "sidewalks or pavements are important, interconnected, traffic-free spaces, often used for a large amount of play and socialisation by children. Unlike gardens, these spaces can be used for more expansive games and less programmed forms of socialisation" in which the necessity to design generous sidewalks emerges along streets (2007, p.214-215). On the other hand, the car parking issue is another supplementary part of ground floor uses. In this regard, it is critical to design car parking areas "that neighbourhoods and districts are conveniently accessible but not overrun by vehicles" (Walters and Brown, 2004, p.132).

Figure 2.18 Ground Floor Uses, left: commercial activities attracting people (Walters, 2007, p.70) and, left: car parking area as a buffer decreasing street building relation (DoE & DRD, 2000, p.92)

While enhancing street life, it is still important to provide privacy for ground floors as well. For that matter, as discussed in the building entrances and front-yards, "privacy for ground floors of residential development on busy streets can be maintained by raising the floor above street level" (DETR, 2000, p.24).

2.4.1.2 Street-Building Interface (Public-Private Interface in an Urban Block)

After defining the interface realms in the front of plot, namely between street and plot, in this part, the interface realms between street and buildings will be discussed in relation to public and private relations. For that reason, two realms of interface is defined; as building façades and setback in buildings; and active frontage and street edges. The architectural elements like balconies (recessed or hanging), different types of windows, porticoes or arcades that define the building edge, the bay windows, cumbas or oriels might be listed as the architectural elements providing an interface between street and building, or public and private spaces.

Building Façades and Setback in Buildings

In terms of interface between street and buildings, front façade of buildings emerge as a critical issue. Walters and Brown describe the front façade as 'public face' of buildings that encloses public rooms (2004, p.80). The significance of the front façade is related to the interface issue among public and private. As Carmona et al. state "the public fronts should

face onto other fronts and onto public space, while the private 'backs' should face onto private space and other backs" (2003, p.178).

Thus, the design of building's public face became the paramount concern to create interface realms between street as public space and building as private space. Buchanan claims that, the building façades should "mediate between inside and out and between private and public space, providing gradations between the two"; "have windows that suggest the potential presence of people and that reveal and 'frame' internal life"; "have character and coherence that acknowledge conventions and enter into a dialogue with adjacent buildings"; "have compositions that create rhythm and repose and hold the eye" and "create a sense of place" (quoted in Carmona et al., 2003, p.150). (See Figure 2.19)

Figure 2.19 Building Façades enriching the street life (Walton et al., 2007, p.92)

In this regard, the setback in buildings arises as a component that allow contact between the upper floors and the street. As Walton et al. denotes "enlivening edges with balconies, bays, porches, awnings, colonnades or other projections" could "provide a more comfortable threshold in inclement weather, prolonging activities and enabling uses to overlap into the street" (Walton et al., 2007, p.90). Further, Bentley et al. claims that "it is vital that its degree of permeability is under the control of the private users (...) by using normal building elements like level changes, windows, porches, curtains, sound-reducing glazing and venetian blinds"(1985, p.14).

Besides these features, the building setback became as a key element that is “defining the character of the street”, “determining the degree of privacy given to ground floor rooms” and finally, by “ accommodating storage and service requirements at the front of the dwelling”(DETR &CABE, 2001). They define the front yard of the plot and establish an interface realm in three dimension between building and the street. (See Figure 2.20) As Biddulph summarizes “although building lines might be continuous, it may be possible to compose the street view so that elements of the building (for example, bay or oriel windows) and roofline (for example, gables) project and recess slightly into the street. This creates added richness in the foreground and adds interest to the street scene”(2007, p.187).

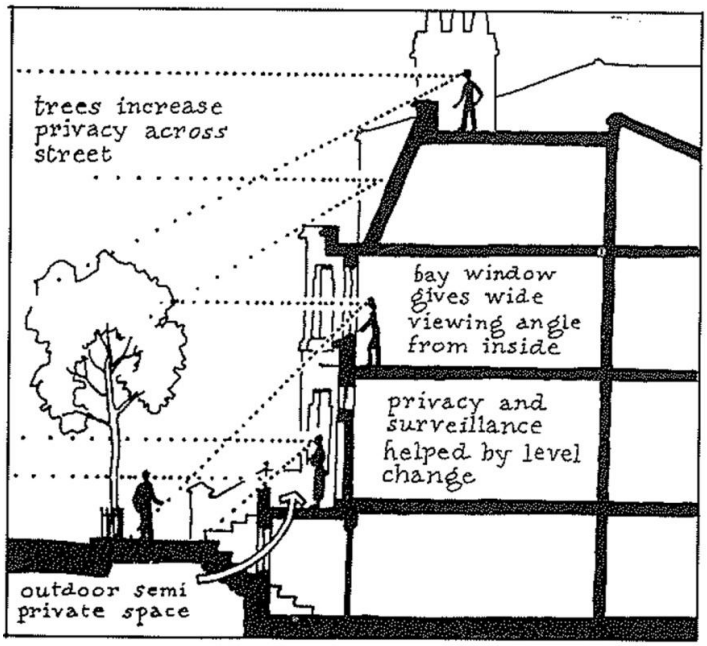


Figure 2.20 Setbacks in Buildings (Bentley et al., 1985, p.14)

Active Frontage and Street Edge

The street edge framing public space provides a boundary in which the characteristics of the building façades define the characteristics of the street. From this point of view, “the edge of the public space network provides the interface between public and private realms and needs to both enable interaction and protect privacy” (Carmona et al., 2003, p.178). In this respect, Carmona et al. asserts that, “building façades should be designed so that

buildings reach out to the street and offer an 'active' frontage onto public space, adding interest and vitality to the public realm. (...) The interface needs to enable indoor and 'private' activities to exist in close physical proximity with outdoor and 'public' ones. Views into buildings provide interest to passers-by, while views output 'eyes on the street' and contribute to its safety"(p.173). (See Figure 2.21)

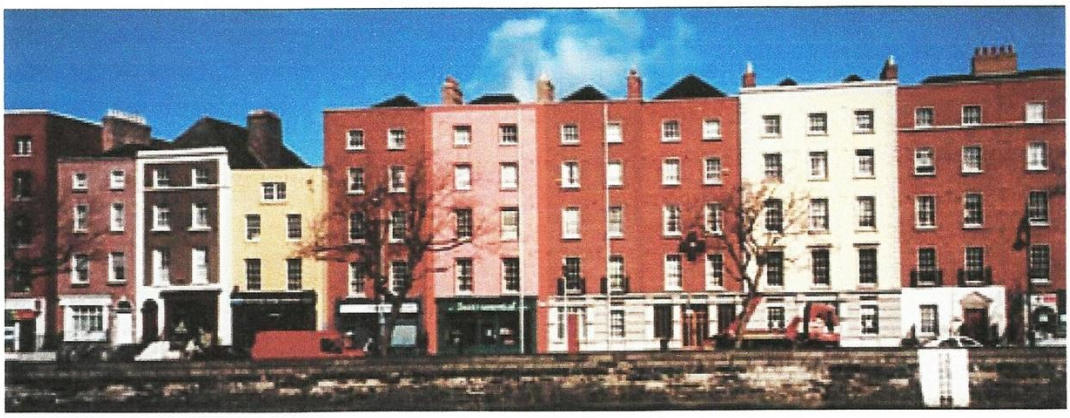


Figure 2.21 Building Edge defining the characteristics of the street (Walton et al., 2004, p.95)

Thus, Walton et al. defines those type of active areas along the continuous block edges as "'active frontage' with frequent doors and windows animating the public realm" (2007, p.64). Active frontage is directly related to land use pattern covering "retail, cafés and restaurants and high-density housing with entrances directly off the public space" which also provides pedestrian traffic which increase the attractiveness and safety of the streets (Walters and Brown, 2004, p.135). In other words, as an outcome of its attractiveness and liveliness, people would survey the street that would increase the safety of the street (DETR, 2000, p.21). Hence, people walking in the street can have a contact with the ground floor of the buildings and further, people living in the building can watch the street. Correspondingly, the interface between building and street could generate.

2.4.2 Plot as Common Space

Plots generate the semi-private space of urban block by referring to the areas that are commonly used by residents. This realm generates a transition among public and private spaces; in peculiar, between street and buildings. Biddulph describes this semi-private spaces as " a piece of the urban environment that tends to be private and which a member of the general public will only enter if they have a reason to" and exemplifies those spaces as front-yards or gardens; as "a small space that is distinguished from the paved public street by only a change of surface"; or as a communal garden "for use only by specific residents" and also as "behind houses for residents living in an urban block to share" (2007, p.44). Those realms are allocated on the plot; therefore, they generate the common space of the urban block having a semi-private character that enables transition between private and public. On the other hand, the plots and the subdivision of plots constitutes "the pattern and scale of streets, blocks and plots" as well as "the rhythm of the building frontages along the street" (CABE, 2003, p.6). In higher density areas, plots provide "private open space for apartments, maisonettes or small groups of houses" in the form of communal gardens generating the common space in the urban block (DoE & DRD, 2000, p.52).

2.4.2.1 Plot-Building Interface (Common-Private Interface in an Urban Block)

In this section, the issue of interface within the plot as a common space and the building as private space will be described regarding front-back analysis. The front and backyard constitute the morphological elements that provide such a differentiation. However, courtyards and cortiles might be described as design elements providing differentiation between the public face and private yards of the buildings by introducing common space. In addition, walls, fences, colums, arches might be other boundary marker –in Barlas's terms- that provide the interfaces among front and back of plots.

Front-Back Analysis of the Plot

Whilst the buildings allocate on plots; they generate two faces as front and back where the characteristics of the front yard and backyard of the plot have different space organisation principles. Therefore, the relation between the buildings and their front and back constitutes different interface realms among plot and building. For this purpose, in this

part, the relation of front and back of the buildings will be described in order to comprehend how the interface realms occur among plot and building.

For Bentley et al., in order to create interface realms every building should have two faces "a *front* onto public space, for entrances and the most public activities, and a *back* where the most private activities can go. This gives users the chance to do whatever they like in their private space, *including* the right to make rubbish and clutter, without compromising the publicness of public space" (1985, p.14). Front-yard of plots as discussed above generates a transition zone between the plot and the street and defines the street edge; therefore, front constitutes the public face of the building and plot. On the other hand, backyards provide privacy for the users of the building. According to Biddulph, "the idea that homes should have a back space stems from the observation that privacy is a very important feature of the domestic realm, and that people can enjoy both inside and outside the home" (2007, p.46). In this regard, "back yards or inner courtyards that are private or communally shared space are best enclosed by the backs of buildings" to enable privacy for the users (DETR, 2000, p.53). Those back yards are combined from "paved and/or grassed area that allows for sitting out, small children's play, ..."; "space for planting and garden storage" and "space for potential house extensions" (DoE & DRD, 2000, p.53). Regarding their less public face, Conzen describes backyards as ***plot tail*** referring "larger but usually less important rear part of a strip-plot" (2004, p.254).

Figure 2.22 Front and Back Analysis (Biddulph, 2007, p.45)

In this framework, Panerai et al., make a comparison regarding some block example; thus, define the external and internal of the block; in other words; the front and back of plots.

Table 2.4 External (front) and Internal (back) Differentiation (Panerai et al., 2004, p.84)

External	Internal
façade on street	façade and garden
continuous and special	fragmented and ordinary
accessible	non accessible
urban reference	reference to dwelling
representation	private life
exposed	hidden
the architect's input	the inhabitants' input

Consequently, the front and back yard of buildings have two different characteristics in which the interface realms among the plot and buildings tend to occur in two different ways. Fronts are more exposed since they face with the street; and the backs are more hidden regarding the necessity to provide privacy in the back garden that can be commonly used by the users of the buildings. Therefore, a gradation among privateness and commonness of the plot generates that end up with the emergence of two interface realms among plot and building that have opposite but also supplementary space characteristics.

2.4.3 Building as Private Space

Lastly, we shall focus on buildings that constitute the private sphere of the urban block. Conzen designates the buildings as ***block-plan of a building*** which corresponds to "the area occupied by a building and defined on the ground by the lines of its containing walls" (2004, p.241). This element of urban block provides the private space within the block; thus, they have different characteristics than plots as common space and street as public space; they provide privacy for the residents. For Biddulph, private spaces "allow private residents

complete control and a higher degree of both security and privacy, so that they can use the space for what they wish" (2007, p.44). Hence, in this respect, buildings differ from street and plots which allow social interaction in different grades. They provide private territories. On the other hand, the need for privacy grades within a single unit as well where kitchen and living rooms can face with streets; whereas, bedrooms and bathroom, for instance, need more privacy and might be located to more private parts of the dwelling unit. Thus, the fenestration varies regarding this phenomenon as well (DETR & CABE, 2001). However, the interior design of dwelling is out of the limits of this study; therefore, in this part, the interface between two buildings will be described in order to understand building types and their design criteria in relation with different buildings in the same urban block.

2.4.3.1 Building-Building Interface (Private-Private Interface in an Urban Block)

To analyse the relation and interfaces between buildings, firstly, it is critical to analyse the design criteria of single buildings. Building type is related mainly to the mass and height relation of the buildings. As it is described by CABE, "the size of the building floorplate its storey heights and means and location of access", building setbacks at upper floors and roofs, its relationship with adjacent buildings; as well as its scale referring to "the arrangement, volume and shape of a building" give clues about the design and organisation criteria of a single building (2003, p.7). Thus, the elements of building have a major impact in its design process as well. Those might be listed as "doors, windows, porches, roof structures, lighting, flues and ventilation, gutters, pipes and other rainwater details, balconies, garage doors, ironmongery and decorative features, flashings" (DETR & CABE, 2001). These elements also help to define the interfaces along thresholds of the buildings.

In this regard, the housing style became paramount in order to analyse the buildings and their relation with each other. Biddulph states that, "domestic architecture pursued will have a significant impact on the nature of the townscape"; therefore, he proposes analysis of buildings in two ways, firstly, the building elements and secondly, the composition of elements and mass (2007, p.194). The analysis of element would cover the entrances, windows or doors and railing, gates chimneys and material used, construction technique etc... Since this study focuses on the relational analysis on buildings with each other, the second analyse type might be more suitable which covers scale and massing, roof form, pattern and fenestration or the composition of elevations, as Biddulph denotes; in order to understand the design context of the block. (See Figure 2.23)

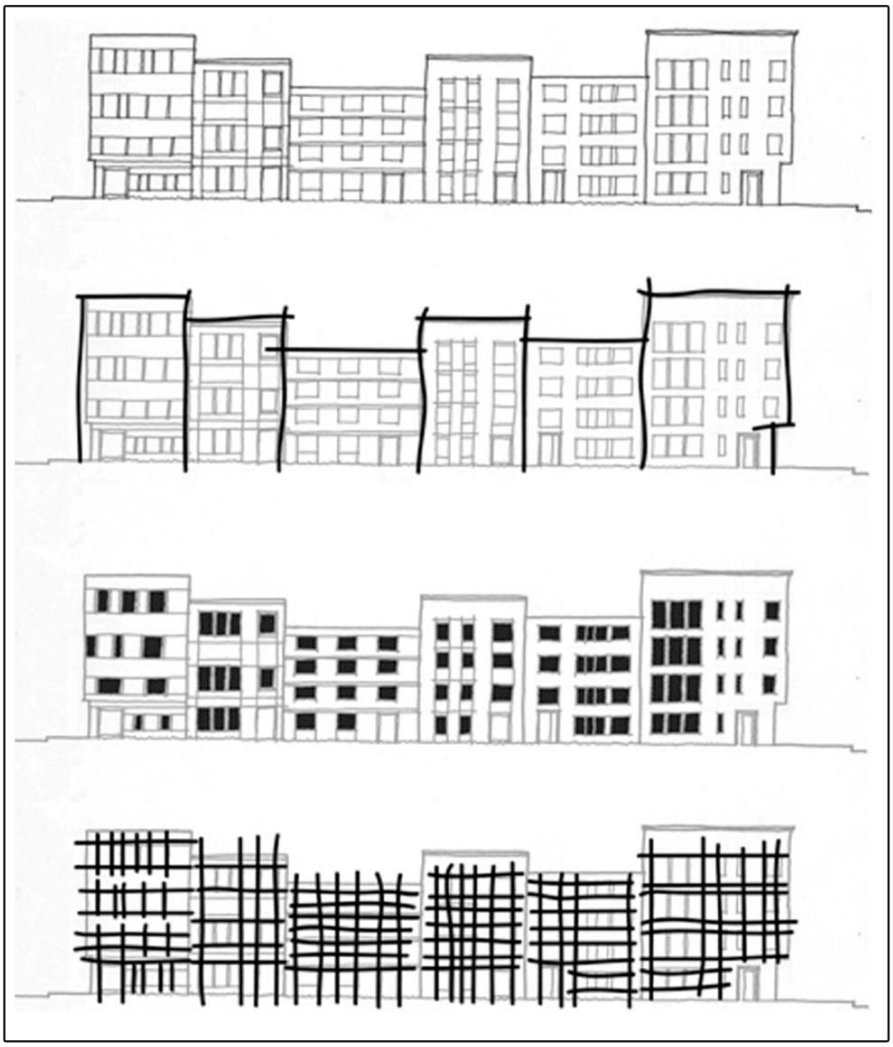


Figure 2.23 Building design (Biddulph, 2007, p.194)

The reason behind this emphasis is to analyse the interface between buildings. Since the togetherness of individual buildings forms the blocks and cities, "the character of townscape depends on how individual buildings contribute to a harmonious whole, through relating to the scale of their neighbours and creating a continuous urban form" (DETR, 2000, p.21). Therefore, as Walters and Brown underlines the design of buildings should be based on the design references of adjacent buildings and the design context of the area (2004, p.136). Within this regard, the relations between buildings constitute an interface realm for the whole block in which individual buildings and their relations with each other

establishes a design context for an urban block where the realms of interface between plot and street might have defined in a persistent way.

2.5 Conclusion

This section has explained meanings of *public* and *common* as *non-private sphere* and *private* as the *private sphere* of cities to establish the context of the study regarding space organisation. Further, it has elaborated how public, common and private spaces are in relation with each other based on the notion of interface.

At this regard, this study has approached to the topic by underlining the formation of territories as an outcome of the relation between man and the environment. As a result of this relation, public, common and private spaces and territories are established depending human behaviours that attempt to shape up the environment regarding their needs. Hence, territories, personal spaces and the generation of boundaries among territories are the outcomes of the relations between human behaviours and built-environment.

Table 2.5 Characteristics of Public, Common and Private Space (prepared by the author)

Social Components	Usage and Accessibility	Control and Property	Description
Public Space	all users	Ownership of public authorities Public property	Promotes social interaction and communication
Common Space	limited users	Possession of limited group (right to use) Public or private property	
Private Space	individuals	Possession and ownership of individuals Private property	Provides segregation and isolation from outside world

In this framework, public, common and private spaces are constantly in relation with each other along the boundaries. Thus, the boundary became the paramount element that

provides interfaces among diverse territories. Then, the generation of interfaces is an outcome of the permeability of boundaries that allows transmission. When the boundaries would be permeable alike in public and common spaces, the interaction and communication could generate between two territories. On the other hand, private space emerges as the private realm of individuals that signifies the isolation from outside world and strict control of usage and accessibility. Therefore, the boundaries of private territory could be described as less permeable with the help of the barriers that control the access. Thus, the hierarchy among those territories provide the well definition of territories and relatively, the behaviours of people on space. Therefore, balancing the permeability and defining the interfaces emerges as one of the major concern of urban design field.

Within this framework, urban block emerges as the smallest urban part that provide the hierarchy among the very private realm of individuals as home and the very public spaces as streets. Considering the definition of urban block, it is the togetherness of plots where buildings allocate on that represent private property and encircled by streets that are public spaces. Thus, diverse block types established diverse space organisation based on changing relations among its elements as street, plot and buildings. A perimeter block type with courtyards as common spaces provide a hierarchical passage form public through private realm of block; whereas, the linear block define only public and private separation. However, in each type, the urban block is described by the relations between street, plot and building.

Hence, since the urban block constitutes the core of this study, in this part, the scope was to comprehend how interfaces among public, common and private spaces can be designed urban block in relation with the street, plot and buildings in order to fill a gap on urban design based on this relational analysis of urban blocks. Thus, the intertwined spaces and the formation of intermediary spaces that provide a soften passage among the territories reveal as the critical design approach for the re-evaluation of space organisation in urban blocks as regards to the literature review carried in this chapter.

CHAPTER III

URBAN BLOCK IN A HISTORICAL CONTEXT

The changing characteristics of urban groupings in time, and of urban blocks in peculiar, is a critical point in order to comprehend how they are produced historically; regarding the principles, needs or necessities by which they are shaped up and how their intra and inner relations transformed in time. For that reason, this chapter aims to remark the transformation process of urban blocks depending to their space organisation where the changing property patterns, the morphology and the social sphere of urban blocks would constitute the historical content on which the study will be developed.

The chapter is composed of seven sub-headings covering different historical periods from earlier settlements until today in a persistent framework to understand how urban block evolved in time. Hence, in the further parts of this chapter, initially a brief summary of each epoch will be discussed and it will be followed by the description of morphological characteristics of both city and further of blocks in relation to space organisation basis and to property relations regarding the framework defined in the previous chapter which is basically the interfaces between public, common and private spaces as counterparts of street, plot and buildings in an urban block, respectively.

3.1 Earlier Settlements and the rise of block

The rise of urban block stems from the beginning of very early settlements and has transformed since then. Earlier settlements could be classified under three fundamental phases regarding the block characteristics. At first, the primitive societies comprised of

hunting, gathering and fishing communities used the caves due to its self-protective nature for settling. However, according to Acar, the usage of cave was limited due to their 'scarce and scattered locations'; therefore, he claims that, "a more common and widespread form of shelter utilized by these bands of gatherers and hunters" and describes those shelters as "generally round-formed dwellings covered by light materials such as skins, reeds, branches or mud, and easily abandoned as constructed" (1996, p.380). These circular forms of settling led to the formation of a common space in the middle of the settling where the social interaction and collective activities took place 'around the fire' (p.380). According to Eren, these circular settlings around an open space were generating a single ***clan block*** where the common space and relatively common property emerged (1995, p.51).

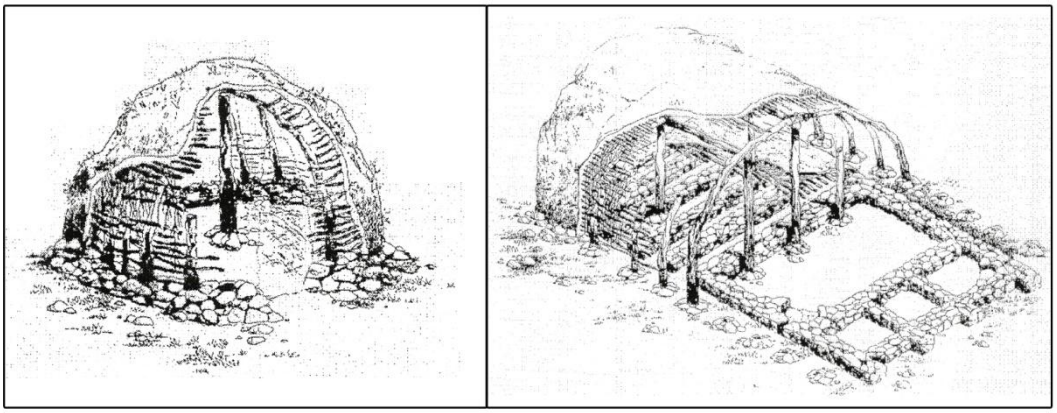


Figure 3.1 From circular dwelling to rectangular dwelling (Acar, 1996, p. 382-383)

In the beginnings of the Neolithic period, shape of houses had begun to change which had also affected the settlement pattern. In the late Palaeolithic period, as Acar denotes, the basic shelters turned into round type houses with respect to its increasing usage as a storage for food in addition to accommodation purposes (1996, p.381). (See Figure 3.1) This transformation is followed by rectangular houses in early Neolithic period which were "expandable and divisible" facilitating the storage issue (p.383). This transformation was related to the increase in agricultural production and, relatively, storage problems of the obtained products: "Compared to the more communal practices of production, sharing and interaction in gathering societies, the continuous relation with delimited pieces of agricultural land may be expected to promote more private practices by relatively smaller

living units" (p.383). this phase could be classified as the second type of block formation in early settlements. As an outcome, the house generated the private space, and consecutively, the common space based settlement pattern of circular settling started to change its spatial characteristic relevant to the increasing privacy needs. These rectangular houses tended to settle adjacently and created a cellular pattern. This spatial transformation led to the generation of first primitive block that is differentiated from the whole settlement pattern (Eren, 1995, p.53).

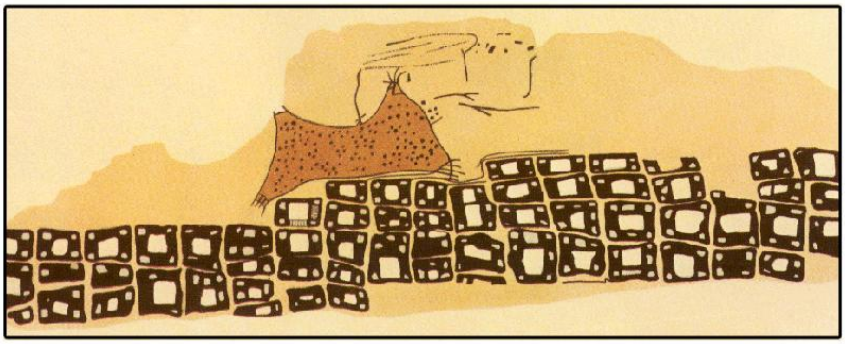


Figure 3.2 Cellular Pattern of Town, wall painting from Çatalhöyük retrieved from http://www.unc.edu/courses/2005fall/art/080a/001/Part%201%20Home.htm (accessed:May,2012)

With the transformation of circular settling covering a limited space into a cellular pattern which is formed of different rectangular units capable to expand, the notion of village emerged eventually. (See Figure 3.2) According to Eren, as a result of the necessity to expand the agricultural land and, correspondingly, the need to defend this hinterland, housing groups tended to create clusters for artificial defence (1995, p.55). Thus, the groupings of rectangular houses changed; "the settlement texture start[ed] to loosen in upper levels, giving way to some passages and lanes that approach wider courtyards" (Acar, 1996, p.387). Thus, the emergence of street and courtyard started to be traced in the settlement structures of those periods. In results, the primitive block structure became more legible in terms of solid-void relations until the late Neolithic and Chalcolithic Periods. (See Figure 3.3)

With the upcoming bronze age, the technology advanced and affected both agricultural production and trade. Since then, the settlement became more than a place for

'accommodation', but also a 'storage of production' and a 'trade centre' (Eren, 1995, p.56). For Kostof, "it is with this concept of a surplus, i.e. that cities started when there was a shift away from a simple, self-satisfying village economy" (1991, p.31). Furthermore, according to Hilberseimer, "… advanced technology brought changes in the pattern. Villages turned into towns" (quoted in Eren, 1995, p.54). This change, constituting the third phase, had mainly two effects on towns and, relatively on block structures; firstly, the emergence of surplus and trade and its effects on the structure of the settlement and secondly, the plotting of agricultural land.

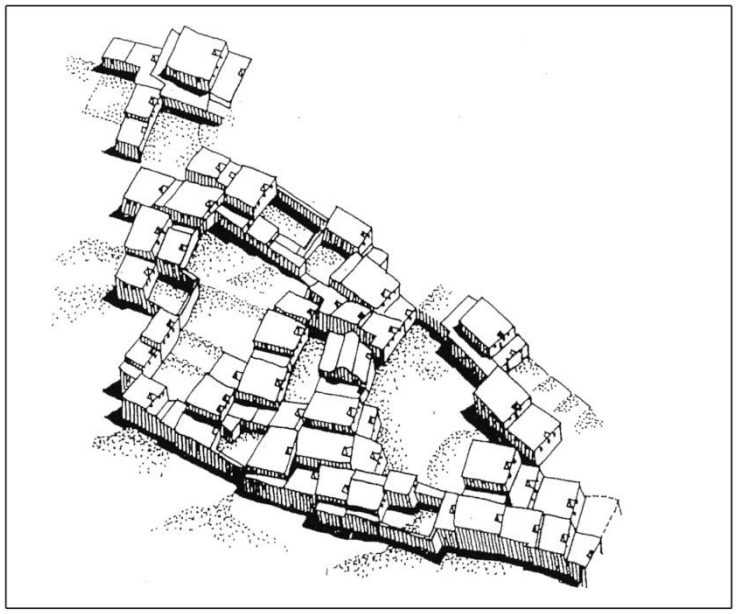


Figure 3.3 Housing Cluster in Çatalhöyük with courtyards and small passages (Aktüre, 1994, p.32)

To begin with, with the generation of surplus, the necessity to carry and distribute it from the agricultural area outside the settlement through the interior storage area emerged; therefore, the housing clusters tend to dissolve and led to the generation of passages in order to allow circulation and also to control the surplus (Eren, 1995, p.56). These passages could be described as the primitive streets. The first street, for instance in Hacılar, rose as a narrow pedestrian lane between houses, whereas at Khirokitia, it was an elevated stone ramp between two hills; nonetheless, in both examples they were a place for social

communication and interaction (Kostof, 1992, p.190). (See Figure 3.4) Consecutively, the emergence of street changed the town pattern in two aspects, firstly, blocks started to be defined by the streets and the street-block layout emerged where solid-void or figure-ground relations became more legible. Secondly, the spatial organisation of communal spaces tended to differentiate due to the appearance of hierarchy notion among private houses and streets.

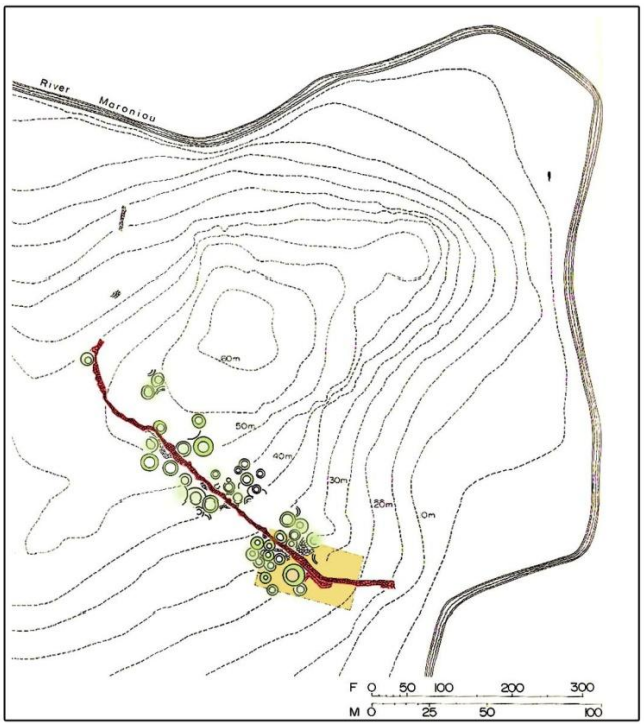


Figure 3.4 First Street Khirokitia (Malukani, n.d.)

On the other hand, the second effect of surplus can be defined as the plotting of agricultural lands. As Spreiregen denotes, “agricultural societies needed a system of easy land division for crop planning and land ownership. They also needed a system of land plotting for re-division and reapportionment after a flood (…). Rectangular plotting suited all these needs perfectly. It enabled men to plan the use of land” (1965, p.1). These land divisions in the agricultural areas in exterior also shaped up the interior of towns. Spreiregen underlines that, “as the logic of the plow led to rectilinear plotting in the field, the geometry of mud-brick house construction, as well as the need for easy land division, led to rectilinear plotting in the town” (p.1). As a result, rectangular setting pattern began

to shape up the cities. Some examples from Indus Valley, such as Mohenjo Daro can be given as an example of first grid block layout.

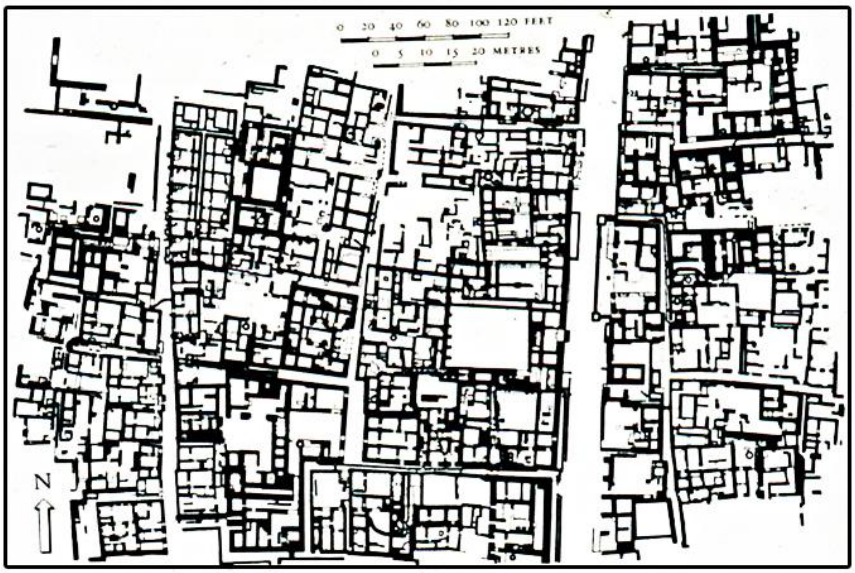


Figure 3.5 Mohenjo Daro Plan retrieved from http://www.hist.umn.edu/hist1011 /calendar/ 07-ancientindia/pictures.htm (accessed:May, 2012)

Kostof describes Mohenjo Daro as a settlement having a rectangular layout with the blocks in equal size approximately. (See Figure 3.5) There was a distinction between the main street and relatively minor alleys serving the houses (1991, p.34). However, grid layout was not a common phenomenon in all cases, they were also some examples of non-geometric or irregular towns and blocks. “Some Mesopotamian towns, probably owed their shape as much to some erratic social agglomeration around an institutional core as they did to natural adjustments or biological rhythms” (p.34). Therefore, in contrast to Mohenjo Daro, the blocks were having irregular forms.

Moreover, there actualised some transformation in the social structure of communities as well with the increase of agricultural production and surplus. The dominance of rulers increased: “The father and son hierarchy of master and apprentice in a mode of production centred around masculine labour”, the rulers, kings and emperors arose and this hierarchy affected the space pattern (Acar, 1996, p.391). This hierarchical settling increased with the division of labour and specialization as workmanship. This transformation could be described as “a shift from motherhood to fatherhood communities” or else as a shift from “circular to angular” (Eren, 1995, p.57). (See Figure 3.6) Although different classes occurred

in this period, the only ownership was still communal property and, what is changed was that the rulers were possessing these communal lands privately. There were neither differentiation between private and common property nor the emergence of public property despite the emergence of first street.

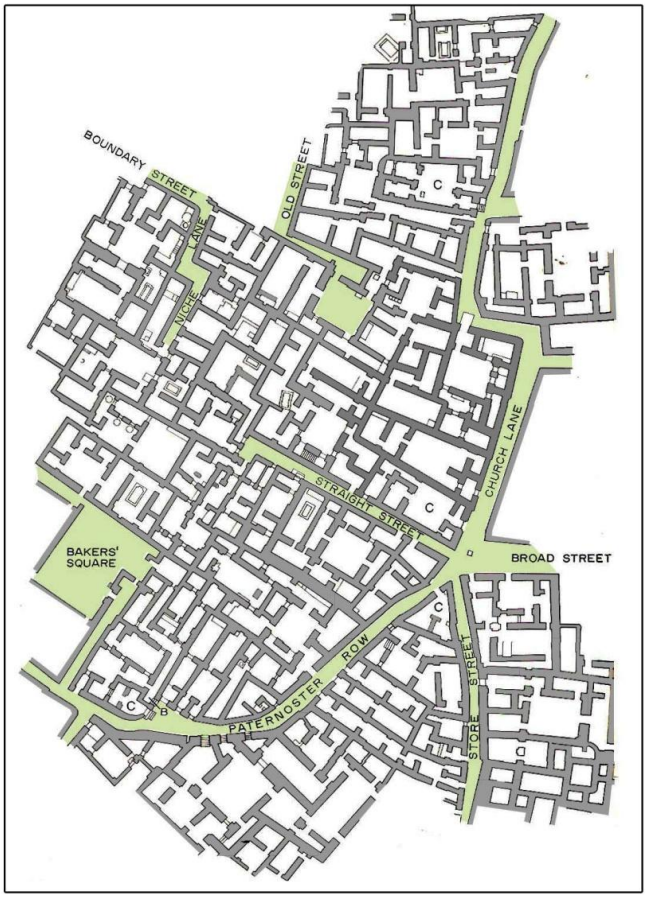


Figure 3.6 Plan of Ur (Malukani, n.d.)

Although angular planning or grid layout started to be seen in towns and blocks of this era, they were not still reflecting the overall characteristics of an orthogonal pattern. They were no coherent relation between public space which is the street, private spaces which are the residential units and common spaces. Hence, blocks are only determined from the 'inner courts' and surrounding rooms or houses; "so planning here actually consists of only of laying out the main streets, and allowing for the formal arrangement of public complexes like temples and palaces " (Kostof, 1991, p.104). It is in later periods that planning of towns, blocks, streets and plots emerge.

3.2 Greco-Roman Period and orthogonal block

After the early settlements, where the orthogonal town planning practices came into the picture, it is in the Greco-Roman period that the spatial basis of orthogonal planning was established. Thus, the block patterns were transformed from irregular to rectangular ones. To begin with the characteristics of Greek cities, they used the term 'polis' for the city; where the man was seen as a town it-self, as its creator (Kostof, 1991, p.36). These polis were seen as political entities apart from satisfying the dwelling needs. As Benevolo points out, physically, Greek polis was an 'open-city', that combined from integrated urban parts adapted to nature which generated balance with its rural in addition to be economical, affordable and controllable within its interior (1995, p.20-21). On the other hand, Spreiregen claims that "the attitude of the ancient Greeks toward town design stems from their sense of the finite, the idea that all things should be of a definite size to be comprehensible and workable" (1965, p.3). This Greek approach, reflected itself in town planning practices as well as the block patterns which were suitable to human scale. The size of polis were small, therefore once the population reached to a maximum amount and relatively for the surrounding farmlands, the colonies were beginning to be established to create a new settlement elsewhere.

The old Greek settlements "were quasi-rectilinear, the houses being small cubicles and the early towns a jumbled mass of irregular rectangular cells. The street was not treated as a principal design element but as the minimal leftover space for circulation (Spreiregen, 1965, p.3). On the other hand, Owens exemplifies a Greek polis; Delon, as follow; "the houses crowded together without order. The streets are narrow and tortuous and, apart from those which act as major routes of communication, serve only to divide the successive blocks of houses and give access to the individual properties" (1994, p.23). Then later, the famous orthogonal Greek town planning practices began to appear in which the emergence of private property lies behind. (See Figure 3.7)

The rise of orthogonal town planning in Greece is often associated with Hippodamus of Miletos. For Günay, "the coming out of Hippodamus coincides with the foundation of private law, and what he has done is to produce a comprehensive master plan rationally arranging real property, the outcome of which is the gridiron plan" (1999, p.114). Aristotle describes the practices of Hippodamus as "the method of dividing cities, that is, of laying

them out in rectangular blocks" (quoted in Pounds, 1971, p.24). Thus, this laying out was directly an outcome of the need to subdivide the land into private properties and control them where Hippodamus aimed "the rationalisation of private ownership of urban land" (Günay, 1999, p.115).

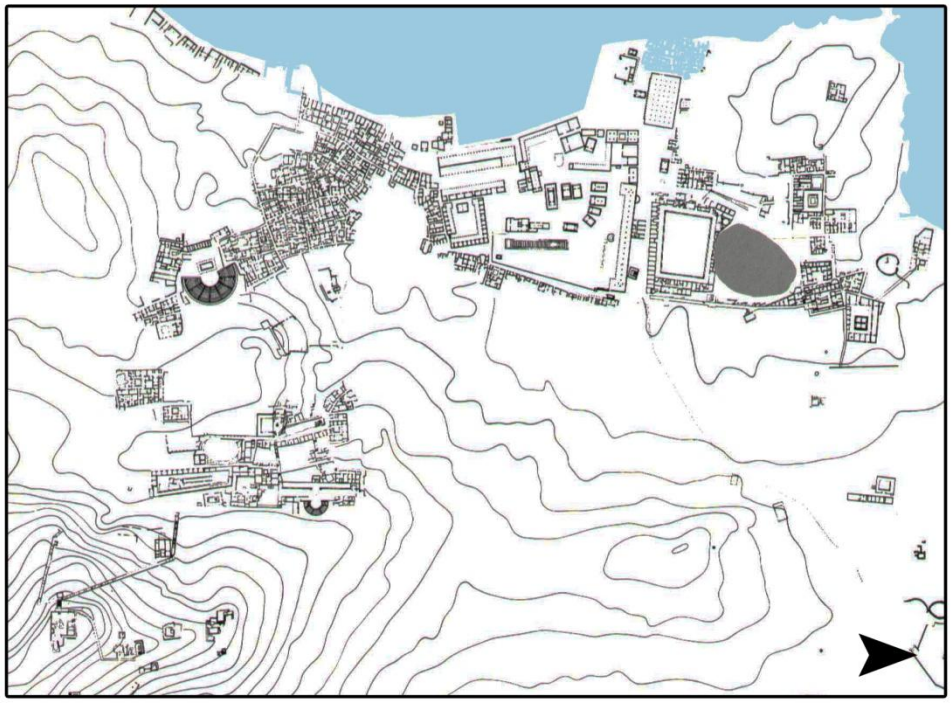


Figure 3.7 Delos as an example of Old Greek City (Bacon, 1982, p.76)

Hippodamus, indeed, was not only interested in the private property. For him, the land was divided into three; sacred, public and private (Kostof, 1991, p.105). Within this framework, it is possible to claim that the typical three phenomenon of Greek settlements are Athenian Acropolis; the Athenian Agora; and the Greek colonial towns, as Spreiregen denotes (1965). These were a reflection of these urban land divisions that Hippodamus categorized. Acropolis were constituting the sacred area mostly located on hilltops attracting common focus, in contrast to Agora which was an open space enclosed with modest low buildings with little pathways reaching to housing area that generated the first organized public space; then, lastly, the Greek colonial towns with orthogonal layout were reflecting subdivision of land into private property. Thus, the recognition of private property is followed by the recognition of public and sacred property as well.

Then, the question arises about the characteristics of orthogonal planning and blocks of this era eventually. The planned cities were majorly established with new colonies which were ignoring the previous property and settlement pattern and were designating gridiron patterns. According to Owens, 'regular grid layout' and 'zoning policies' were two dominant features of Greek towns where land was separated into public, private and sacred areas (1994, p.48). Another dominant feature is the street network with avenues and pathways structuring the residential areas by "creating long, rectangular house blocks for private development" (Owens, 1994, p.48). Kostof claims that Greek grid divided into 'strips rather than block' which was surrounded loosely by city walls (1991, p.105). Then, these strips were divided into building plots constituting the private property. (See Figure 3.8) These plots were differing in number due to the length of streets between 4 to 10 attached back-to-back houses (p. 147). Hence, the series of plots created the block that was shaped by the street pattern where the street become a determiner of block morphologies.

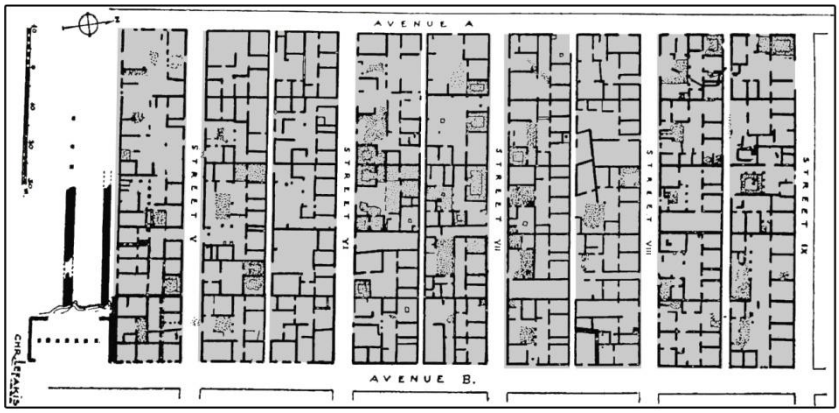


Figure 3.8 Plan of Olynthus, Greek blocks as strips (Lynch, 1981, p.18)

In the early Greek Colonies, the subdivision of grid pattern were not equal and were differing in size. The main concern was "perpetuating the privileges of the property-owning class descendent from the original settlers, and bolstering a territorial aristocracy" (Owens, 1994, p.49) whereas in late settlements, it started to be uniform and became a 'democratic device' in order to provide "an equitable allotment of property to all citizens" (Kostof, 1991, p.99). This shift from diverse sizes towards an uniform size of block is parallel to the change observed in the street-block relation as well. Street was no longer the determiner of block's

size and length, but the block it-self turn into an entity as a settlement tool in relation with the street grid pattern.

For instance, Miletus of the Classical Period as one of the typical example of Greek orthogonal planning, introduces the 'insulae-unit' (as block-unit) where the settlement organised as the repetition of those units which modulate the development of the town instead of streets as it was in the previous periods; even public buildings were in proportion of defined insulae-units. (See Figure 3.9) As Owens claims that there were mainly two residential areas differing in block size; in northern part, there is a larger avenue together with the public buildings in the middle of the two parts, where the block size were smaller, on the other hand, the southern part were arranged with two major streets and having comparatively larger block size (1994, p.54). Thus, it is possible to assert that with the transition from street oriented strips to insulae-unit oriented planning, the block began to serve as a tool to structure the settlement in Greek cities .

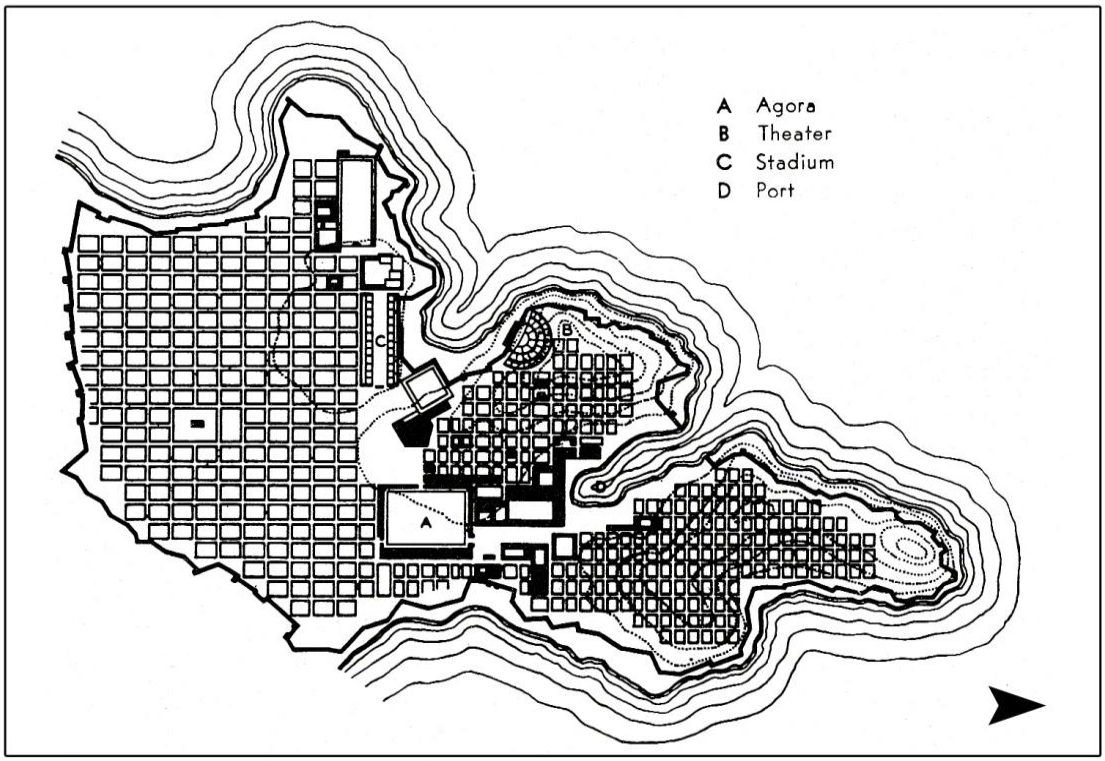


Figure 3.9 Plan of Miletos: Famous blocks of Hippodamus (Gallion and Eisner, 1986, p.26)

With the conquest of Greek cities by Alexander the Great, the Hellenistic Age began and brought also economical, political and social changes with it (Cook, 1982, p.180-181). Monarchy was the dominant political idea and Hellenistic rulers of cities as successors of Alexander were making propaganda of their greatness. Owens denotes that these changes also affected the urbanisation and town planning process upon two features; firstly, changes in grid layout and secondly changes on urban architecture. To begin with, he underlines that grid planning were still the convenient method to establish a new city; however, the variety in block size and street pattern in Greeks changed in Hellenistic Age. (See Figure 3.10) Instead of this variety, uniformity arose relevant to the military nature of the new system where the city was surrounded by strong defensive walls. Further Owens describes second aspect affecting the architecture and civic design as the 'monumentality' (1994, p.74-75). The city "...became the scene of luxury, ruddy with the display of the empire" (Gallion and Eisner, quoted in Eren, 1995, p. 69). The outcome of monumentality on town planning and block pattern was 'the barrack-like rectilinear blocks' in varying forms and dimensions whereas, the block was still as a tool to organize the settlements like late Greek periods.

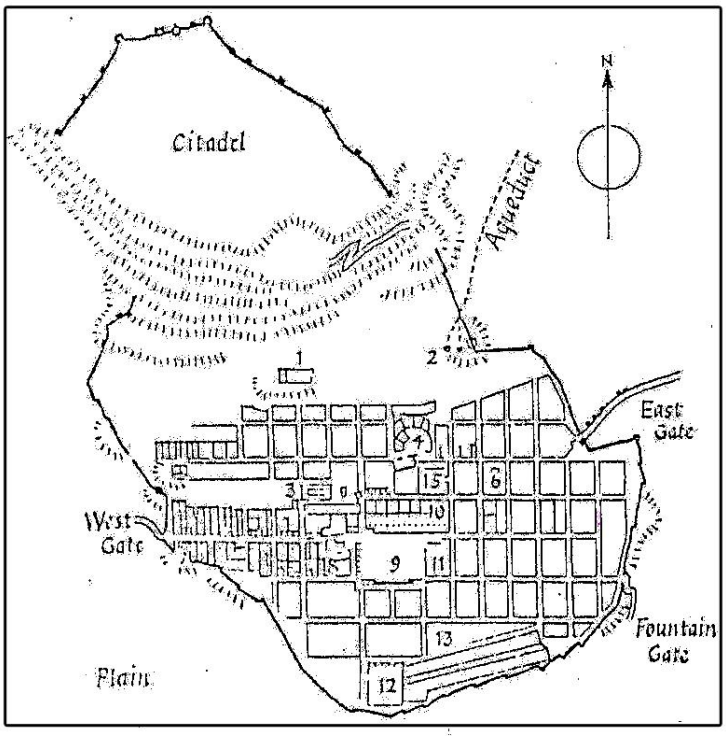


Figure 3.10 Priene in Hellenistic Period (Cook, 1962, p.182)

Considering the concept of monumentality, it was the driving force shaping the Roman cities alike Hellenistic Period. According to Kostof, the city was seen as 'a work of art' in Hellenistic-Roman era (1991, p.37). Spreiregen denotes that, Roman civilisation made emphasize on 'political power and organisation' in terms of town planning and architecture practices; where the notion of human scale in Greeks were replaced by the notion of proportion in which convenience to human scale was neglected by Romans where the proportion is systematised with 'module', where Romans preferred larger ones in order to display their 'overpowering grandeur' (1965, p.5-6). These spatial practices could be interpreted as the reflections of 'monumentality' in Romans.

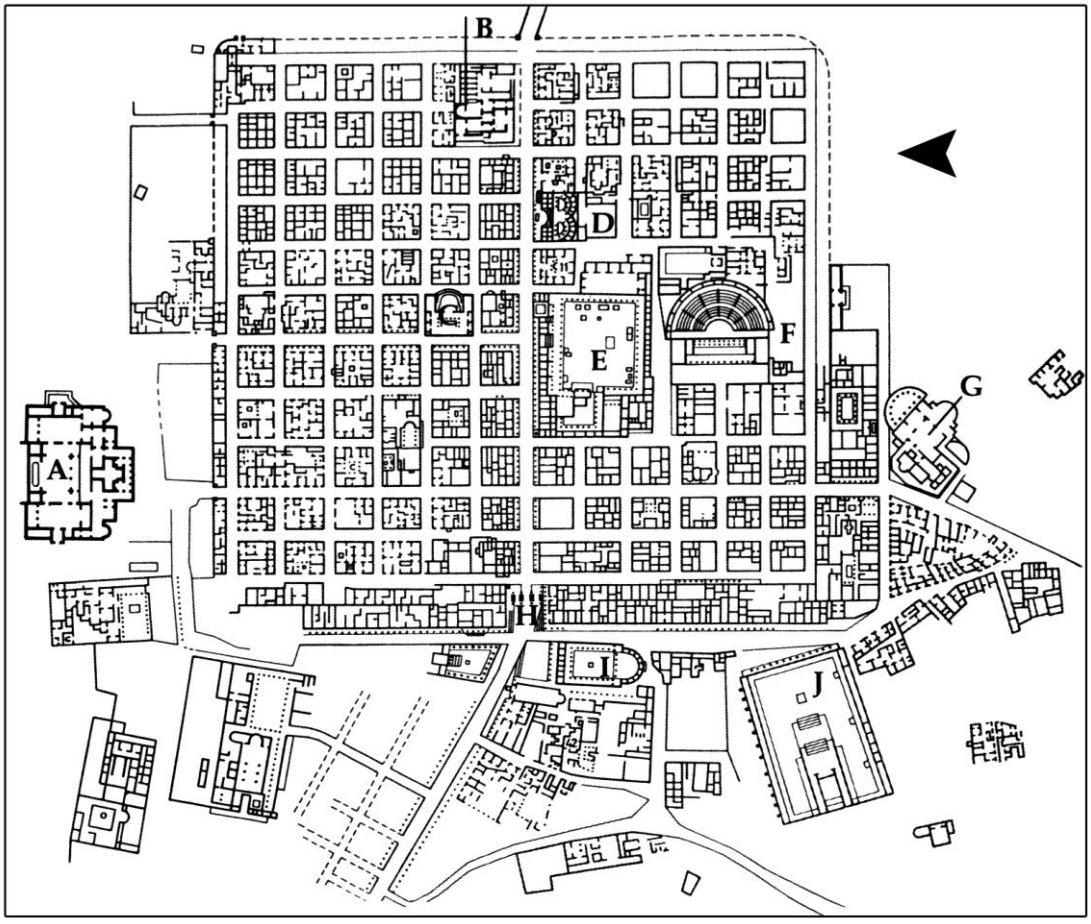


Figure 3.11 Typical Roman city: the Plan of Timgad square sized block along cardo decumanus and retrieved from http://muvtor.btk.ppke.hu/romaimuveszet/ (accessed:May, 2012) Retrieved May 31, 2012

Although Romans used the grid layout, the main characteristic of cities was the uniformity of street-grid pattern in contrast to Greek cities which were different for each city. (See Figure 3.11) Mostly square sized block were called 'module' in roman cities where "relative to previous urban settlements, block dimensions were larger and proportions were variable, but homogeneous in each settlement" (Eren, 1995, p.71). Furthermore, in relation with the modules, the Roman cities were structured by two major streets at right angle in north-south and east-west direction, named as 'cardo' and 'decumanus' respectively (Spreiregen, 1965, p.6). Another typical spatial element of Roman cities is forums which could be interpreted as the equivalent of Greek's Agora generating the public space.

In Roman Law, the term public, common, private, sacred that are started to be used in Greek settlements or even in Earlier settlements became legalized. Therefore, the block as a sum of different private properties is legitimated in Roman times (Eren, 1995, p.70). Thus, within this framework, Günay stresses on the fact that, "property is being recognized in the Greco-Roman world, and the Hippodamian school is producing the basis of legal land subdivision in urban areas" and further, he emphasises on the division between public and private regarding Roman Law by denoting that this division established the roots of western cities and affected space organisation patterns of later settlements (1999, p.115).

3.3 Medieval Period and organic block patterns

With the fall of Roman Empire, a shrinking is experienced in the cities around 5th century, where the population were migrating to rural areas corresponding to the decline of urban qualities in cities. As Eren denotes, within this process "a transition from superimposed planned to spontaneously developing patterns" generated (1995, p.73). This process is followed up by the rise of new feudal system and increasing power of church(Benevolo, 1995, p.59). In addition, people could not find jobs at rural areas anymore and started to migrate to cities, nevertheless, not as farmers but as craftsmen and merchants (p.59). This progress led to the transformation of cities where the economy shifted from agricultural production to commercial activities and new social, physical and religious circumstances established the Medieval city.

Benevolo summarises the relevant spatial transformations in the Medieval towns in four headings. First is the togetherness of public and private buildings creating an integrated organism due to the articulation of spontaneously and collectively developed parts; second

is the complexity of both physical environment and social organisations where the city is comprised of religious, political and one or more commercial centres (church, civic administration, guilds for craftsmen and merchants) with different social classes dwell on different autonomous neighbourhoods; then, third one is density of city due to its physically limited size and increasing population; and lastly, fourth heading is its dynamic character reflected in incompleteness of public buildings or churches in parallel to the spontaneous spatial development of Medieval towns and its architecture. (See Figure 3.12)

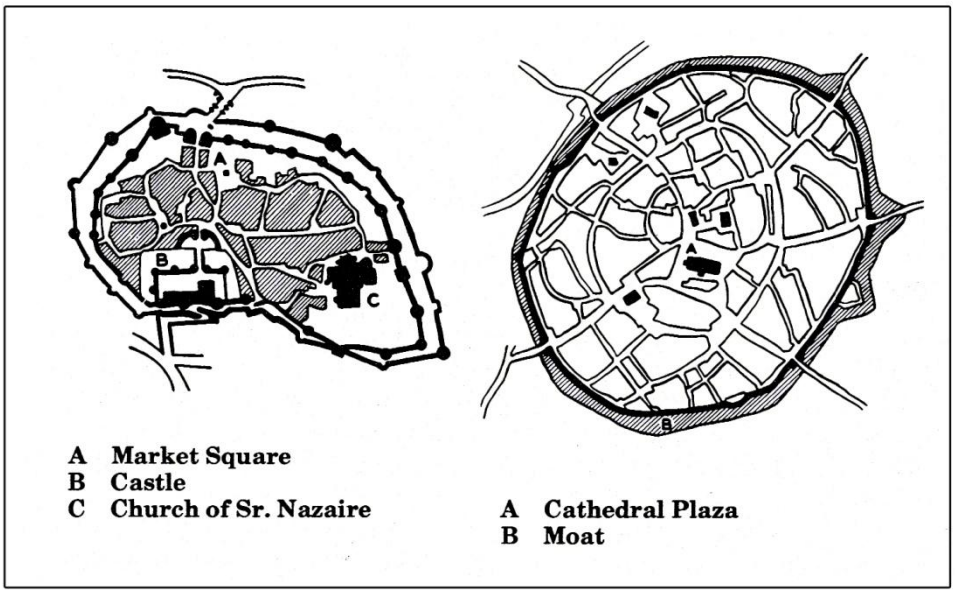


Figure 3.12 Typical Medieval Towns with organic block pattern relevant to topography (Gallion and Eisner, 1986, p.36)

The typical physical characteristics of Medieval Towns are naturally outcomes of the mentioned social, economical, political and religious dynamics. Spreiregen described the Medieval City as a caste dominated town having a 'radiocentric pattern' due to increasing accessibility necessity, built on hilltops, and enclosed by 'circular walls' which were growing around monastery or castle and extending along the roads through gateways; with the enlargement of accommodation necessity, new walls had been constructed encircling town's expansion (1965, p.9). Firstly, only the nucleus of towns were enclosed; relatively fortifications were allowing to control the countryside surrounding the town and also creating a concentration in the closed area having a dense physical structure inside the

fortifications where a tension lying between interior– and dense urban pattern allowing vertical growth, and exterior –countryside of the settlement (Eren, 1995, p.74).

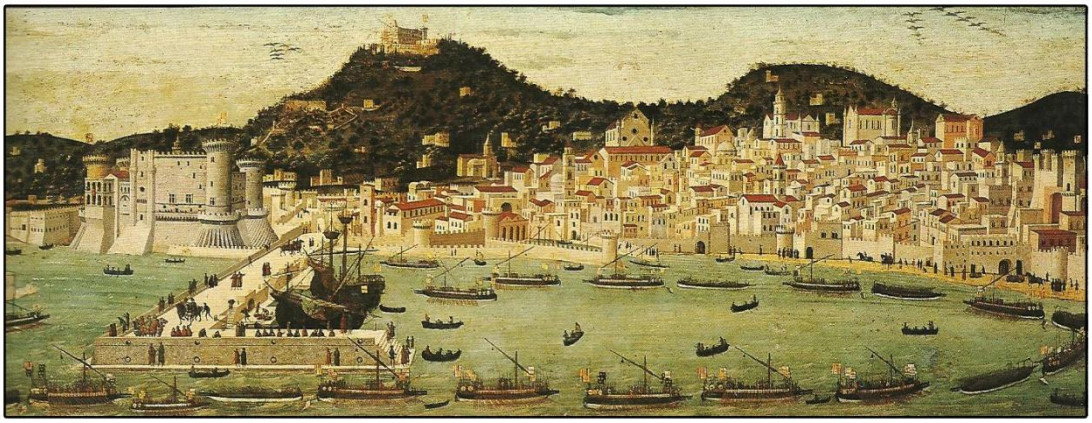


Figure 3.13 Schematic Profile of Naples: Medieval Town in harmony with the nature (Kostof, 1991, p.21)

Moreover, as Spreiregen states another feature of this epoch is that like Greek settlements' understanding of finite size, in Medieval towns, human scale was regarded in order to 'reassuring the surroundings'. Although medieval city could be classified as a trade city, the 'military defence' was still a critical component shaping the cities; therefore, human scale and the generation of 'vistas' were a significant part of Middle Age town planning practices. (See Figure 3.13) In addition, this physical configuration is accompanied by the coherence to the topography which affected mostly the morphology of block-street pattern. As an outcome, regarding topography, the human scaled configuration of town and its architecture with smaller houses created the 'clean and modestly' medieval towns which are in harmony with the nature (Spreiregen, 1965, p.9-10).

In order to turn back to the street-block configuration, it is critical to underline that the prior determiner was the topography. This resulted in the generation of organic or irregular patterns. "... [C]irculation and building spaces were molded to these irregular features and naturally assumed an informal character" (Gallion and Eisner, quoted in Eren, 1995, p.75). The block in Medieval town were associated with the street pattern which is spontaneously evolved. (See Figure 3.14) Indeed, it is possible to claim that in contrast to the Roman period where the settlement is shaped with the modules called as insulae, in this epoch,

the street layout was dominant and shaped up the blocks. Hence, the space organisation of blocks were street oriented. Then, what was the characteristic of Medieval street? The street layout has a hierarchy due to the increase in traffic and street types are differentiated. Major street was oriented from gate through central area directly and “the streets that led to houses were narrower and more irregular, and often dead-ends” which generated curvilinear narrow streets and cul-de-sacs feeding the housing areas (Spreiregen, 1965, p.11). The togetherness of irregular street layout with small, but tall and narrow houses with gardens generated the new block pattern of Medieval Town.

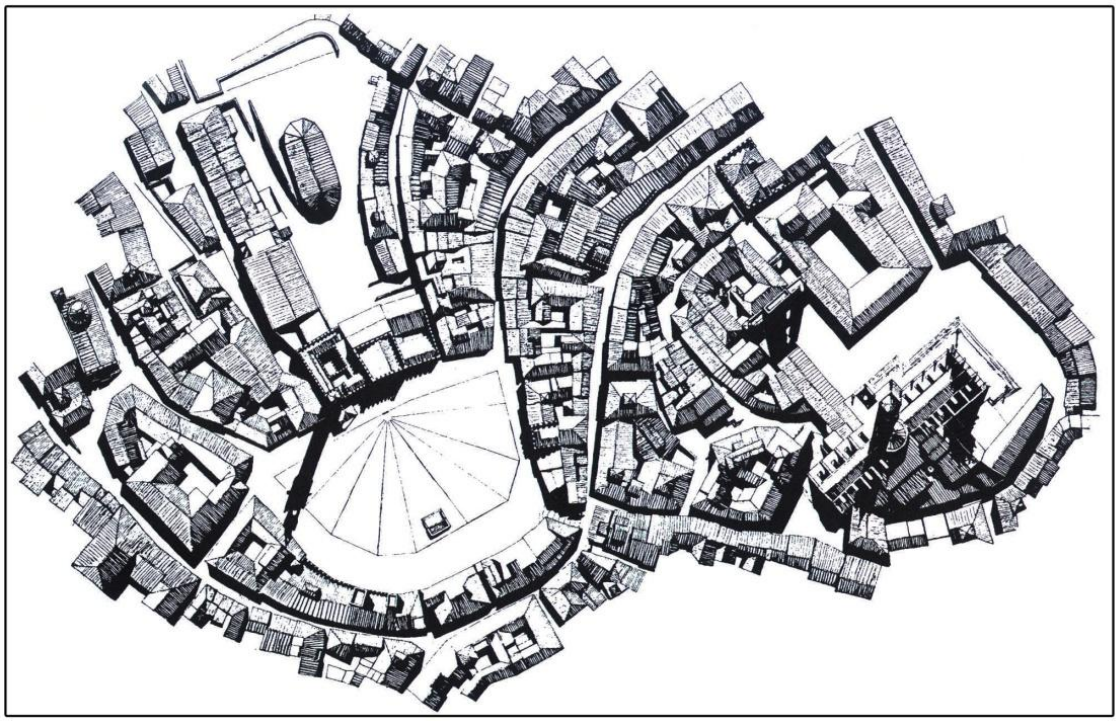


Figure 3.14 Siena, Italy: Organic Block pattern (Gehl, 2011, p.40)

Kostof describes the transformation from Roman blocks through street-oriented organic Medieval blocks as follows: “The tall, narrow, street-oriented rowhouses of the later Middle Ages were not very well accommodated in such blocks (Roman insulae). Where the Roman gird underlines a medieval town, the original blocks will often have been consolidated in pairs and subdivided lengthwise into strips” (1991, p.147). That is, the shapes of blocks were formed of long strips of parcels having sometimes a curvilinear form regarding the street and topography. This type of block configuration is named as ‘burgage plots’ ; “long

narrow blocks accommodated a tight series of deep parcels with narrow street frontages" which are "determined at the outset by the types of buildings and uses intended to occupy the town parcels" (Kostof, 1991, p.148). He also exemplifies such narrow parcel dimensions as follows: "13 by 150 feet (4 by 46m.) in Basel, 23 by 175 feet (7 by 53 m.) in Bern, and 23 by 213 feet (7 by 65 m.) in Genova (Kostof, 1991, p.148). To sum up, the street layout and housing type became determinant in the evolution of 'burgage plots' in Medieval Town.

Although Medieval towns were mostly associated with the organic patterns, not all of them were reflecting the similar scheme. "The familiar geometry of the grid layout is sometimes found in medieval towns, usually in those built as colonial outposts" (Spreiregen, 1965, p.11). These colonial cities were reflecting the aim to create a 'planned town organism' in a conceptual framework (Benevolo, 1995, p.89). (See Figure 3.15) In those settlements, orthogonal planning and relatively rectangular or square block modules have begun to be established. In contrast to organic medieval towns, these colonial cities did not develop spontaneously, but "... the allocation of sites to settler was planned and plotted in advance of settlement (Gallion and Eisner, quoted in Eren, 1995, p.77).

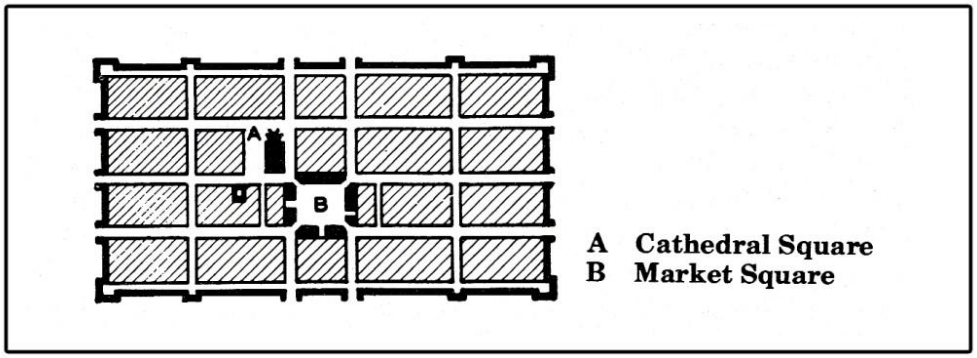


Figure 3.15 Monpazier, France : an example regular development in Medieval Period (Gallion and Eisner, 1986, p.37)

The changing political, religious, social and economic conditions had also a reciprocal impact on property relations that affected the spatial arrangement of cities. Two dominant factors, feudal system and religion were now dominant in the functioning of the society. "Christianity, in this framework provided the immediate communal order" which was against to private property, and further, with the rise of feudalism, lords and the churches were having 'absolute possession' over things; however, new rising social groups like

craftsmen and merchants were also having the right for possession with the emergence of new social regulations like neighbourhood units and the concept of mayor resulted with a new understanding of the city in which it became a place of 'communal life' (Günay, 1999, p.116-117). The right of possession is also supported in spontaneously growing organic patterns of cities and generated different hierarchies grading from public to private spaces (Eren, 1995, p.74-76). As a result, the hierarchy of streets and generation of cul-de-sacs as semi-private spaces with the togetherness of public and private buildings side by side affected the block and became the examples of the transformation of social, religious, economical dynamics in this epoch.

3.4 Renaissance–Baroque and block as a public facade

After Medieval Epoch a gradual transition had experience through Renaissance era. Three event had driven this transition as "the dawn of science; the fall of Constantinople; and the discovery of the New World" (Spreiregen, 1965, p.11). Within this era, the mercantilism was the new rising phenomenon with the decline of the feudality and guild system where wealthy merchants were, now, the dominant power in society and "forced their environments to be the expression of their dominating status" with the newly obtained rights of land ownership (Eren, 1995, p.83). This transformation resulted in the emergence of a new understanding in which science, humanism and art came into prominence.

New practices in Renaissance were based on aesthetic concerns and the rediscovery of perspective brought new orders to the city design principles. All of them together created two basic components of the era; geometric perspective and references to the Antiquity (Benevolo, 1995, p.104-105). In such conditions, the heritage of Middle Ages as "sense of scale" and "intimate relation between house and street" were ignored and new ideas of Renaissance dominated the city form (Spreiregen, 1965, p.11-12). Thus, "a new rational basis for city extension in accord with the new scale of city growth" is introduced (Bacon, 1982, p.107). Here, the concept of perspective is critical since according to Bacon, this new idea "led to a liberation of the designer's thinking, and set into motion a new ordering principle in city design" (1982, p.123). In result, a new rational understanding is introduced affecting both city design and block formation.

This new type of Renaissance city took place in literature as Ideal City which is associated with Leon Battista Alberti. (See Figure 3.16) For Alberti, the medieval town pattern with cul-de sacs and narrow streets were inappropriate in terms of sanitary conditions in towns and thus, he encouraged the 'geometrically organized city form' (Kostof, 1991, p.70). Ideal cities where having mostly star-shaped or polygon forms with streets radiating from a focal point in the centre where either a church, a castle or palace allocates on and, reflecting a pure 'symmetrical compositions' (Spreiregen, 1965, p.12). For Alberti, city was the orderly organisation of streets, squares and buildings in which these principles oriented the architecture into designing "ideal cities with fixed perimeter and fully composed parts" (Kostof, 1991, p.131).

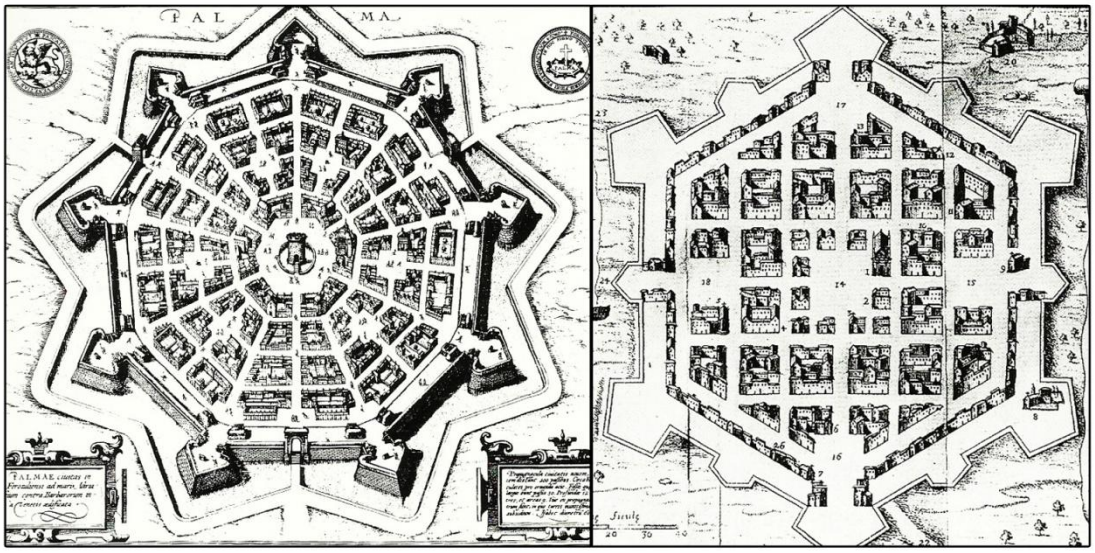


Figure 3.16 Ideal City examples (left: Palmonavo, Italy (Kostof, 1991, p.161) , right: Avola, Sicily (Kostof, 1991, p.144))

These geometric-oriented new cities also affected the block patterns in the cities where visual continuity and orthogonal lines became significant elements of block-street layout depending to perspective rules. Thus, the organic and irregular narrow block form of Medieval towns started to transform. Furthermore, Günay indicates that there is "a basic difference between middle ages where property relied on gradual possession and creation of urban fabric of individual parcels in the Renaissance each to be occupied and developed by either individuals or state agencies (1999, p.121). Hence, the block was not a determiner

of urban fabric anymore but the single parcels and the buildings located on was. Therefore, since the main aim of Renaissance was to deal with the aesthetic problems and the depth in design, streets as well as building facades were majorly operated components of the city rather than the organisation of urban parts.

On the other hand, the centrality of plans were reflecting the characteristics of autocracy in which the focal point was 'the centre of an autocratic state' (Eren, 1995, p.86). This was related to the changes in socio-political conditions with the rise of mercantilism, and eventually, affected the ownership pattern. Now, communal ownership and individual possession of Medieval times is replaced with rationally ordered ownership patterns with geometric units (Günay, 1999, p.119). As a result, due to the autocracy and mercantilism, private property and state property emerged. The block, hence, is clearly defined by streets as a private unit in the Renaissance city. (See Figure 3.17)

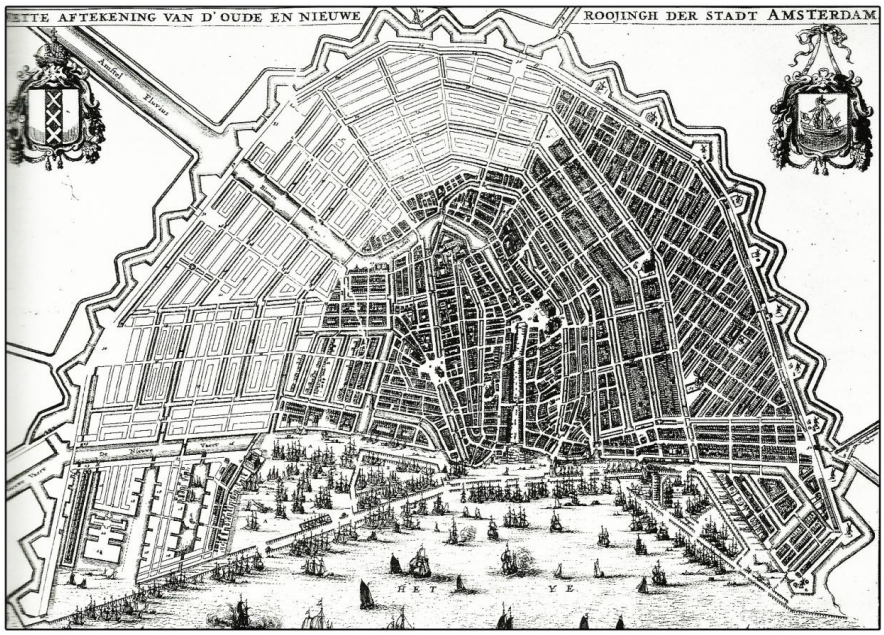


Figure 3.17 City Extension in Renaissance, Amsterdam example (Kostof, 1991, p.137)

In such conditions, the city which were constantly growing became denser, the pedestrian circulation had been replaced by wheeled traffic and the vertical growth in the blocks had experienced. Thus, sanitary conditions of the cities decreased and new approaches to the city design emerged; and the Baroque City emerged. This transition is also shaped with

other progresses such as “the rise of authoritarian, one-man rule” relevant to ‘absolutism’ (Kostof, 1991, p.215).

Baroque period is likely to be a continuation of Renaissance era where the ideas of Renaissance continued to developed. In this point, Ed Bacon claims that, for instance, the idea of ‘single movement system’ or ‘axial movement idea’ developed in Renaissance and continued to evolve till Baroque and provided spatial fundamentals for the city: With the discovery of perspective, the understanding of movement and design shifted from “a single axial path” to “an extension of a movement system” in Baroque Era (Bacon, 1982, p.124-125). Another change observed in this epoch is that the efforts putted to the design and renovation process of both interior of buildings and facades, now, is directed to the ‘inside-outside relations’ of buildings in which the designer was searching a new way to create connections between the structure and its setting with new terms introduced to the design process such as transparency, continuity and simultaneity (Bacon, 1982, p.126). Together with axial movement system, this approach constituted the basis of Baroque city form and street -block formations. Moreover, the notion of Grand Manner and Monumentality affecting majorly the architecture of this period eventuated the final characteristics of Baroque city whereas the city was seen as a ‘work of art’ (Kostof, 1991, p.217).

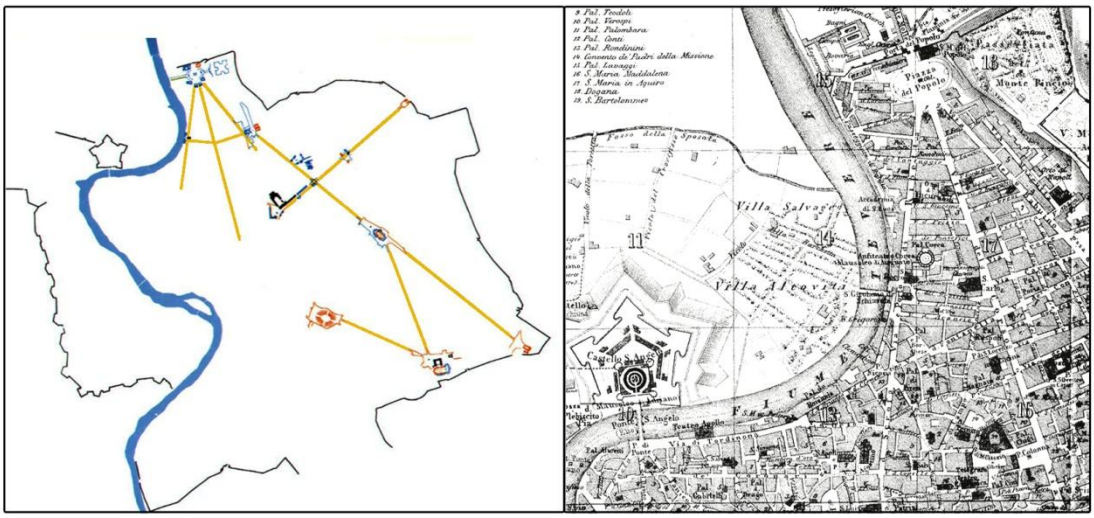


Figure 3.18 left: Sixtus V’s Plan for Rome (Bacon, 1982, p.143),
right: Piazza del Popolo, Rome (Kostof, 1991, p.237)

Lynch describes 'Baroque axial network' as a "the structure consists of a set of symbolically important and visually dominant nodal point, distributed over an urban area on commanding points of ground. Pairs of these connected arterials, which are designed as visual approaches to the nodes and to have a continuous, harmonious character of land and building facade" (1981, p.380). (See Figure 3.18) This new pattern of Baroque stands out as an 'access system' in order to answer the increasing necessity for accessibility in parallel to the economic conditions of the era. On the other hand, Kostof adds that the Baroque model reflects a radial-concentric scheme with "the fast diagonals of Baroque urban design that opened a modern, post-military chapter"(1991, p.192). Rome's Sixtus V's Rome, L'Enfant's Washington and Haussmann's Paris may be classified as examples of this model. In this point, Kostof juxtaposes the elements of Baroque city as; the straight street – as an outcome of axial network system, the 'Baroque' Diagonal – in gridiron networks, trivium and plyvium – in focal points where the arterials meets, boulevards and avenues, uniformity and the continuous frontage, variety in unity, the vista, markers and monuments and the ceremonial axis (p.230-275).

In this framework, "the avenue originating from the city centre, or a palace, or a government building extends into the countryside, since the fortifications are then obsolete and the town is growing" in which the urban areas were extending through the fringe and new property relations are produced; hence, the absolute property of the state and capitalist class were dominant (Günay, 1999, p.123-124). This transformation majorly affected urban blocks and street layout. In one hand, this axial network pattern provided a flexibility in terms of block organisation because of the fact that "changes can occur within the blocks created by the linkage network without disturbing the general pattern" (Lynch, 1981, p.283). On the other hand, this new understanding changed the street configuration as well. Unlike Renaissance where the street was 'the space left over between buildings' as independent entities, in Baroque cities it transformed into 'a spatial element with its own integrity' in which 'the sense of continuous planes' and finally 'continuous uniform façades ' are introduced (Kostof, 1991, p.215). (See Figure 3.19)

Thus, the block with its interior configuration was still neglected in terms of design but the street's integrity arose as a significant issue to deal with. Bacon distinguished Renaissance and Baroque by two characteristics; in Renaissance, the city shaped by the "single, self-sufficient buildings, detached from surroundings" where the block were mostly single-parcels with a geometric form, while in Baroque, it is shaped by "structures related to

movement along a single axis" in which the street became an active part of urban design (Bacon, 1982, p.31).

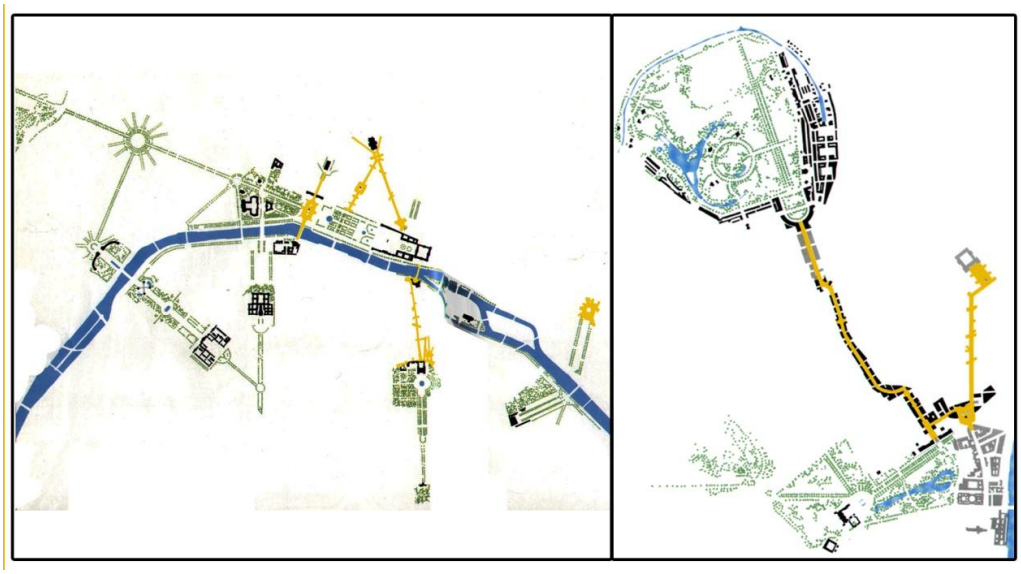


Figure 3.19 Baroque City Avenues of Paris, France (left), and of London, England (right): (Bacon, 1982, p.92-93&200)

Hence, the street in Renaissance, was an outcome of the "conflict between the continuity of the street wall and the integrity of the single building mass. It conceived of the street, in its ideal state, as the orderly array of heterogeneous buildings, each preserving and expressing its own three-dimensional mass while assisting in the volumetric definition of coherent public space" (Kostof, 1992, p.215). Then, the block was only a geometric part of the whole and comprised of single buildings in single parcels while the buildings' interior configuration shaped the blocks. Although "this solicitude for the single building block, exceptional even in the Renaissance, faded away entirely in Baroque period, in favour of a continuous and uniform street wall. The trend indicated a move away from an interest in the design of the solid to an interest in the design of void. The street perspective composed of heterogeneous buildings, and even styles, graduated to a perspective to unified building types and styles" and therefore, the integrity of block is seen as "a corridor defined by individually articulated units" (Kostof, 1992, p.215). (See Figure 3.20)

As a result, "unparallel portions and scales of incomprehensible size of blocks emerged" in order to accomplish the street integrity (Eren, 1995, p.90-91). Although street-block layout defined the block pattern, the morphology of urban block was not a concern. Urban block

in Renaissance and Baroque played a role to create a continuing public facade in streets where the aesthetic concerns were prior rather than to create an integrity among parts.

Figure 3.20 Haussmanian Blocks in Paris: irregular block typesafter the 'radical surgery' (Panerai et al., 2004, p.15&20)

While these developments were actualising, after the exploration of America, a different progress had been experienced in newly established American colonial cities. "For simplicity in land surveying, easy parcelling and selling, (...) the grid became the commonest pattern as a speculative venture for the whole country in the beginning, then for the planned cities of the following decades" (Eren, 1995, p.94). This gridiron plan is named as Jeffersonian grid (Thomas Jefferson) and shaped majorly the American cities. Here, the critical point is that "there were no ownership or possession references to count in the subdivision of land" and thus, the gridiron principles of antique Greek of colonies set by Hippodamus and Vitruvius constituted the basis for new cities in America by Jefferson (Günay, 1999, p.125). As an outcome, this progress created rectangular and square block patterns which dominated American cities. (See Figure 3.21)

At the end of Renaissance and Baroque Period, the pre-industrial era for the cities come to an end, although the mercantilist societies and the commercialisation progress is followed by the industrial revolution and new modernist period where the design principles of Baroque still dominated space organisation of reconstructed or newly established cities.

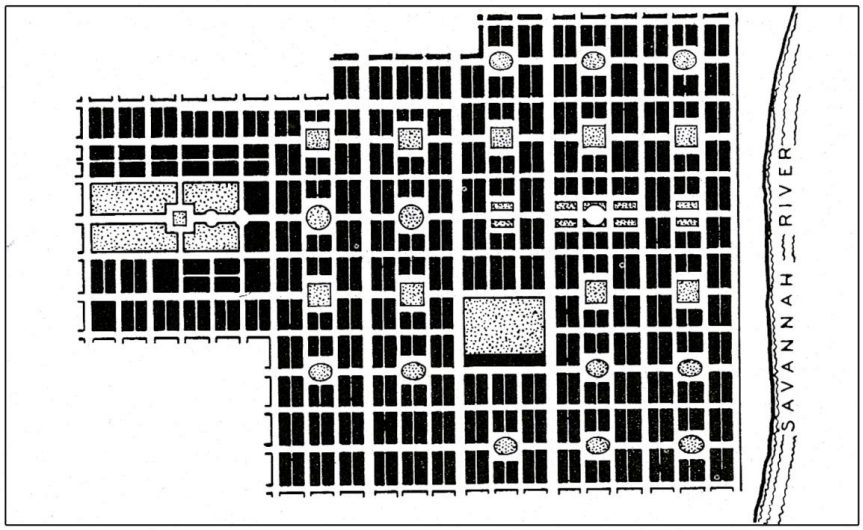


Figure 3.21 The Plan of Savannah: Jeffersonian Grid Pattern (Gallion and Eisner, 1986, p.53)

3.5 Industrial Revolution and Rapid Transformation of Blocks

The transformation of cities and consecutively of urban blocks reached to a breakpoint with the Industrial Revolution. "The industrial revolution is characterized by certain basic changes which occurred first in England, from the middle of the eighteenth century onwards and which were repeated, sooner or later, in the other countries of Europe: increase in population, increase in industrial production and the mechanization of productive systems" (Benevolo, 1989, p.xix). With the beginning of Industrial Revolution, pre-industrial cities started to be replaced with new industrial cities and metropolises; eventually, the roots of modern cities began to be established. Thus, as Günay asserts this, industrial cities depending on inorganic energy also faced a series of urban problems like; "fast growing of the city, industrial growth in the city and pollution, housing, transportation and infrastructure and high densities and congestion" (1988, p.24). These problems led to the creation of different attitudes, regulations and spatial researches seeking to overcome the problems faced in industrial cities. As Spreiregen denotes, these ideas were leaning toward one objective which was "the design of cities as a place to live for all, with particular emphasis on the needs of the working classes" (1965, p.29).

Hence, the classes that emerged in pre-industrial period also started to transform; "the magnitude, power and aspirations of the new classes have begun to shape up the urbanization and architectural theory and practice" (Günay, 1988, p.24). The new classes

started to transform the cities in which “the urban landscape was fundamentally transformed when urban land came to be seen as a source of income, when ownership was divorced from use, and property became primarily a means to produce rent” as Kostof depicted (1991, p.27). This progress might be interpreted as an outcome of new economical processes and understandings dominating the world in which cities became “exchange point of production and world trade” (Eren, 1995, p.99). As a result, accessibility became a physical determiner mostly shaping the city and block formation; “the blocks then developed and gained values by the generalized rules of access and became the by-product of the circulation system that is now more diversified and branched” (p.99).

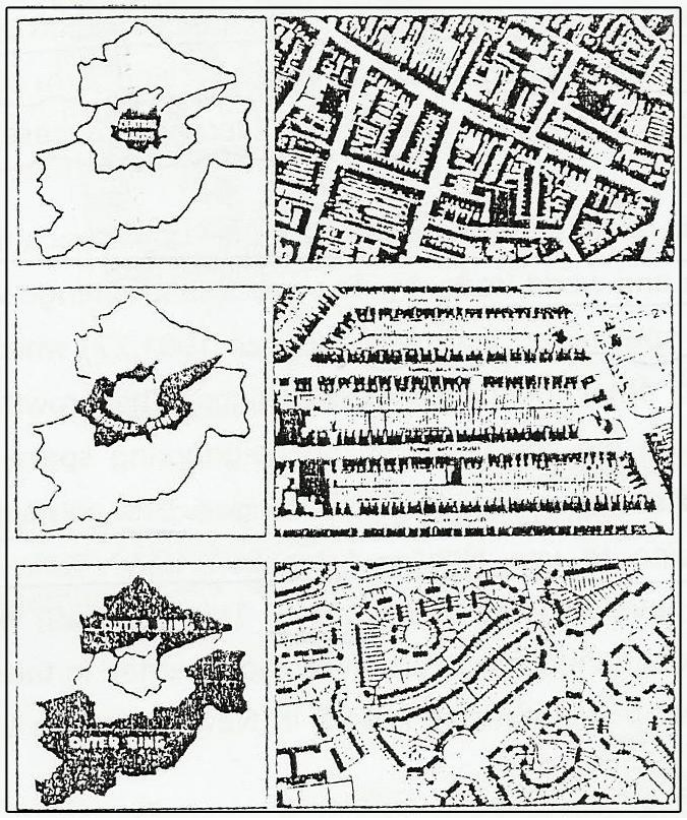


Figure 3.22 Birmingham: The city from city centre with regular blocks through the fringe with irregular blocks (Hiorns, quoted in Eren, 1995, p.100)

The changes manifested on urban land are mainly outcomes of accelerated urbanisation process which transformed the cityscape towards a factory oriented compact industrial town. Thus, “the places where industries concentrated rapidly became fast-developing centres or, if they grew up near existing towns, produced an enormous rise in their

population" (Benevolo, 1989, p.39). Therefore, depending on new urbanisation process, urban-rural relations and differentiations are redefined with increasing attractiveness of cities where their impact on block characteristics reflected on new cityscape which became denser, in time. New space requirements of modern and denser industrial city eventually affected the block configuration as well. (See Figure 3.22) Kostof identifies this process in relation with the increasing pressure on urban lands to provide rental housing for industrial workers. As he exemplifies, in England, the solution for increasing housing need was "thin blocks of row houses on the cheap land at the city edge which skewed patchwork of grid patterns"; allocated with double back-to-back row houses "with no intermediate space" in vacant land or agricultural lands surrounding the industrial towns (1991, p.149).

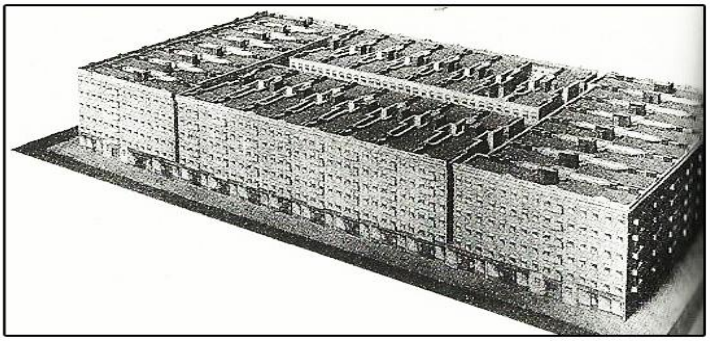


Figure 3.23 Dumbbell Tenements as an urban block type in New York in 1990 (Kostof, 1991, p.150)

On the other hand, the burgage plots inherited from Medieval towns with long narrow plot type in inner city was filled with several buildings where only a narrow passageway for access and ventilation is left (p.149). Parallel to England, in America the answer for increasing housing need in inner city was to adopt the modern urban densities to existing urban grid of colonial cities; in which, for instance, in New York, led to the creation of 'dumbbell' tenements with eighty percent of solid building blocks with only small alleys for "minimal air and light shafts along each party wall" (p.150). (See Figure 3.23) With these progresses, the inner block composition of the previous block patterns with larger voids had been replaced with small alleys where the balance between solid and void and open space and solid space started to dissolved. Now urban blocks were referring to a block of buildings with no intermediate spaces between its units in which the distinction was between solely public and private spaces and the notion of common space has lost.

Meanwhile, reactions to this dense type of urban development brought about different approaches towards the city planning principles. Baş classifies this approaches based on three headings: the pragmatic approaches which forms the origin of modern planning legislation, the Haussmanian approaches forming 19th century cities as the space of Bourgeois and the utopist approaches trying to overcome existing social relations. To begin with, Public Health Acts in England dealt with sanitary conditions of towns based on "a whole series of complex regulations (...) concerning every aspect of town life " (Benevolo, 1989, p.44&47), from epidemics to river pollution or from infrastructure to buildings and street characteristics and so on... For that matter, Benevolo states that despite the aim of the Acts which was to handle sanitary problems of the cities, "the point of arrival was a complete programme of town-planning" (p.49).

From this regard, Public Health Acts in years of 1848, 1858 and 1866 proposed "bye-law street" that defines street width as 12 meters consisting "of long stretches of terraces cut through by infrequent cross-streets" with a long and narrow alley in between the double row houses (back-to-backs) (Kostof, 1992, p.205-206). Thus, new codes and design basis has begun to be introduced in order to shape up the existing towns. Günay describes these laws together with the Utilitarianism approach as "genesis of city planning as a profession" which had "generated a new institution of control over the city, rather than building it" where the municipal control over the city building process increased (1999, p.133). This progresses is critical where the urban block development is regulated based on plot and street relations referring to the block-plot development that this study focuses on. (See Figure 3.24)

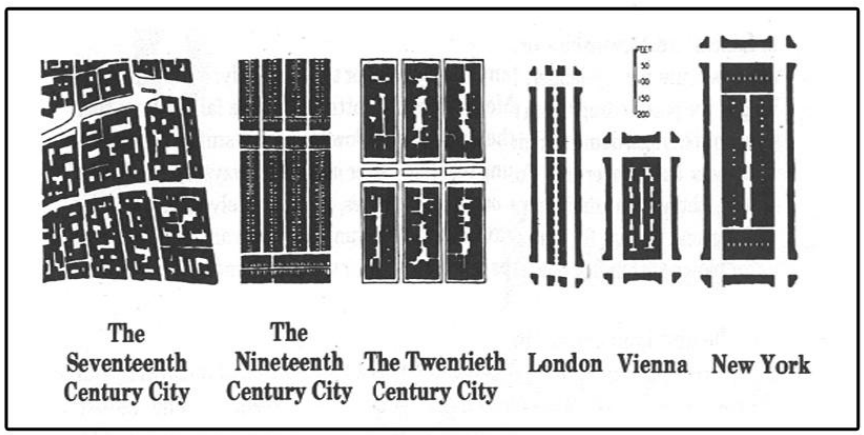


Figure 3.24 Bye-law blocks of industrial Era (Gallion and Eisner quoted in Baş, 2010, p.91)

On the other hand, the new ruling classes were now in charge on the transformation process of urban lands and blocks which led to the reconstruction of existing cities. According to Günay, , the second approach was best observed in the transformation of Paris by Haussmann operation (1988, p.24). Different to public health laws in England, in Paris, the city core was reconstructed after a 'radical surgery' with the help of State; "expropriation and demolition on a massive scale remade the urban block pattern, "demapping" the fine-veined system of medieval streets and lanes and merging plots to shape ample new building sites" (Kostof, 1991, p.150). This new configuration of large urban blocks was realized through the creation of new boulevards irrespective to existing urban tissue, that "would constitute a badly needed road system for Paris as well as opportunities for private real estate ventures" (Spreiregen, 1965, p.27). (See Figure 3.25) Thus, this type of city reconstruction led to the transformation of existing city and relatively ownership pattern. Günay claims that "towards the 19th century, it is no more the simple merchant controlling the property relations, but a huge of businessmen doing overseas trade, banking, brokerage, etc., who are competing for space in the central areas of cities" (Günay, 1999, p.129). Thus, reconstruction of existing city is driven by the reconstruction of social structure of the society and vice versa.

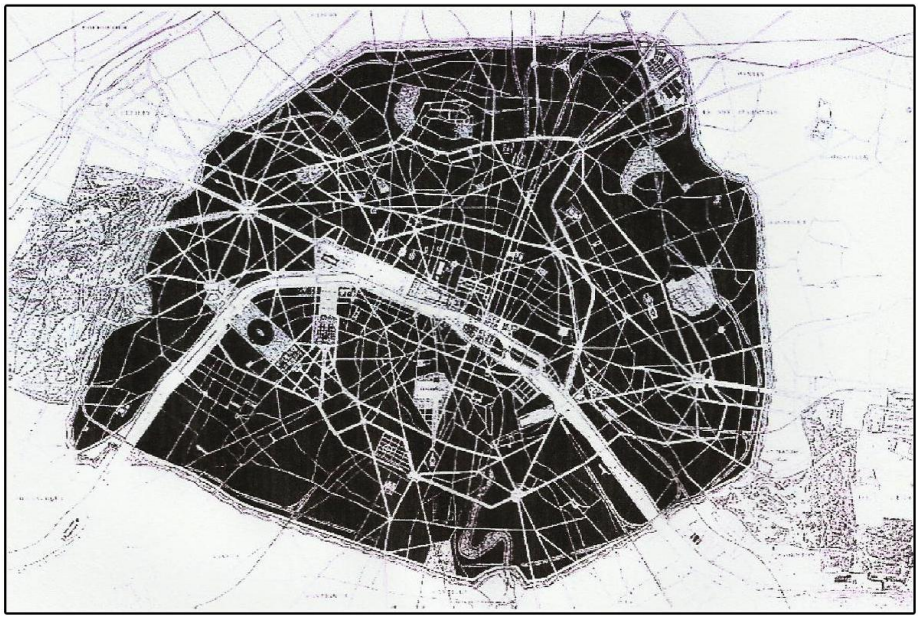


Figure 3.25 Haussmann's Paris by Alphand (Panerai et al., 2004, p. 12)

This type of reconstruction of the inner city resulted in the transformation of block patterns has been also experienced in other parts of Europe. For instance in Vienna, a huge area of fortifications had been demolished in order to construct new public and residential buildings in Ringstrasse (Kostof, 1991, p.151). On the other hand, Cerda's Barcelona plan emerges as another example in this respect where the inner-city was not demolished; nonetheless, new gridded extension with square blocks in the extent of traditional core intersects with two diagonal boulevards providing new urban spaces for different classes to use (Kostof, 1991, p.152). (See Figure 3.26)

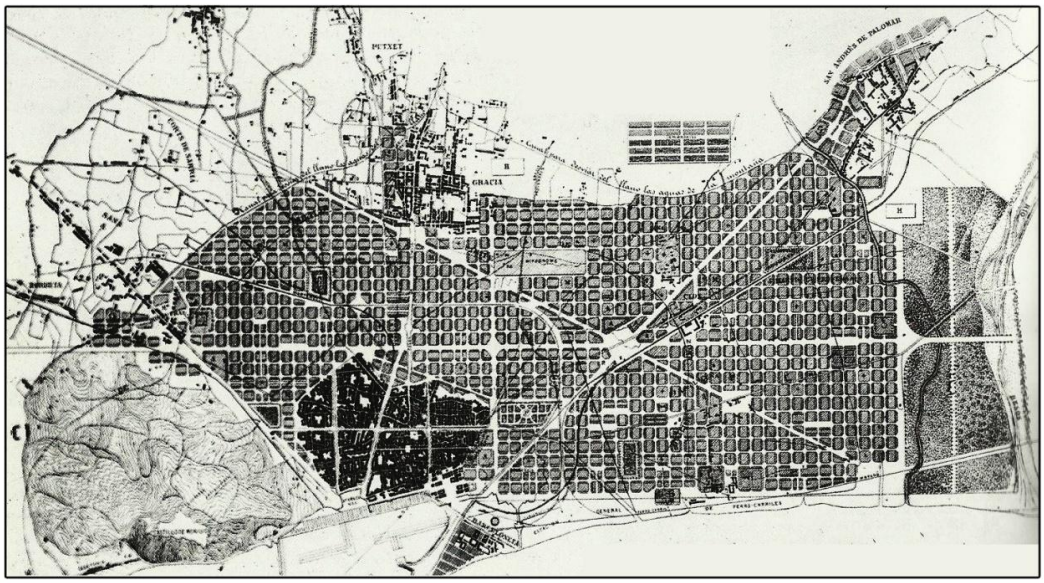


Figure 3.26 Cerda's Barcelona Plan (Kostof, 1991, p. 152)

As parallel to new developments in inner-cities of Europe to adjust the necessities of new industrial cities, in America, a similar transformation realized. "Berlin, Turin, Athens, Mexico City, and innumerable small cities" became models for America where City Beautiful Movement emerged. (Spreiregen, 1965, p.28). The main aim of this movement was "to impose diagonal avenues, all highlighted with state structures expressing the neo-classical forms imported from Europe and public parks" by the state (Günay, 1999, p.132). The smaller urban blocks of inner-city begun to transform into larger urban blocks with the intervention of the state in order to provide new vacant urban areas for development. In this respect, the urban block became a mean to obtain rent as mentioned above. Washington, arose as an example of City Beautiful Movement in which the city is shaped by

the Baroque diagonals suiting the Baroque city's characteristics. (See Figure 3.27) One of the L'Enfant's aim in this project was to decrease the distance from one place to another with "wide straight streets, open prospects, and the generous distribution of green reinforced the preachings of the increasingly vocal sanitation movement" (Kostof, 1991, p.217).

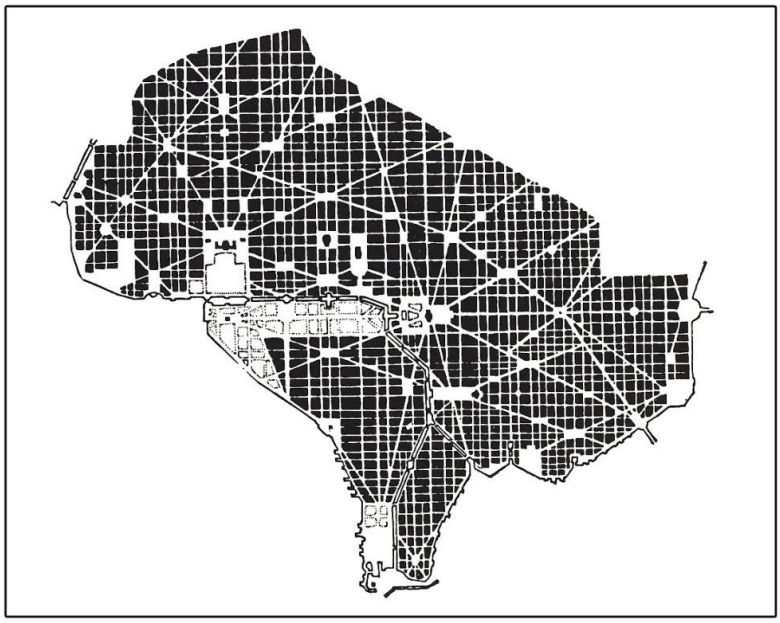


Figure 3.27 L'Enfant's Washington Plan (Lynch, 1981, p. 282)

The industrial era also introduced new development pattern in the fringe besides the redevelopment projects in the inner-city or new regulations of town-planning. Whilst the city became denser and compact, land developers chose vacant lands at the fringe of cities to develop for new housing areas for workers. The main determiner guiding the land development process was the private property in which street-plot relations shaped up the new developments in the fringe. Therefore, "regular lots and irregular blocks started to appear" with respect to ownership pattern (Eren, 1995, p.102). Thus, together with the decreasing housing conditions at the inner-city, the fringe development also led to the generation of new understandings and utopias in a spatial manner "around two dominant principles; creation of new towns (utopist schemes, company towns) and partial (suburbs, garden city) developments in the fringe" (p.105).

According to Günay, “the models developed in the industrial society searching for new forms of urbanisation are classified by Françoise Choay under the headings of “progressist” and “culturalist” having a dialectical relation (1988, p.24). In one hand, progressist models focussed on “self-sufficient settlement units for workers” whereas culturalist models concentrated on the space characteristics of pre-industrial cities and “try to adapt its space understanding to that of the pre-industrial society” (p.25-26). Thus, Choay denotes that progressist model seeks to look to the future and it is “inspired by a vision of social progress” where the main space consideration is the ‘continuity of voids’ with “a simple geometric order” (quoted in Günay, 1988, p.25) as the two dominant factor of this thinking which eventually affected urban block configuration.

The first self-sufficient housing utopia for workers was produced by Ledoux for Chaux in France. The plan had been revised three times and finally, it is formed from “a semi-ellipse with roads radiating into the surrounding countryside” (Spreiregen, 1965, p.30). The main principle of the schema was a central space that is surrounded by buildings in a homogeneous way with radiating avenues. On the other hand, Owen proposes a scheme of parallelogram which is surrounded by the private apartments without kitchen varying from one to four storeys and ‘store-rooms or warehouses, accommodation units for strangers (Benevolo, 1989, p.150). Then, another ring surrounded the centre occupied “with church, or places or worship, the schools; and kitchen and apartments for eating” (p.150). Hence, in all of these schemes, the accent putted forward was the centrality of the plans in which the blocks designed as large entities. At the same time, the distinction between private, common and public became undefined. (See Figure 3.28)

Although Ledoux and Robert stresses on a central diagram surrounded by homogeneous buildings and block, Fourier proposes a different scheme which is more rigid than the other two examples and composed of “one large palace-like building” called Phalanstery (Spreiregen, 1965, p.30). Unlike, the large urban blocks of previous two utopias, this scheme contained one single plot for a single building. For Benevolo, Fourier “did not envisage separate accommodation for the inhabitants of the phalanstery; life would be completely communal” (1989, p.152). (See Figure 3.28)

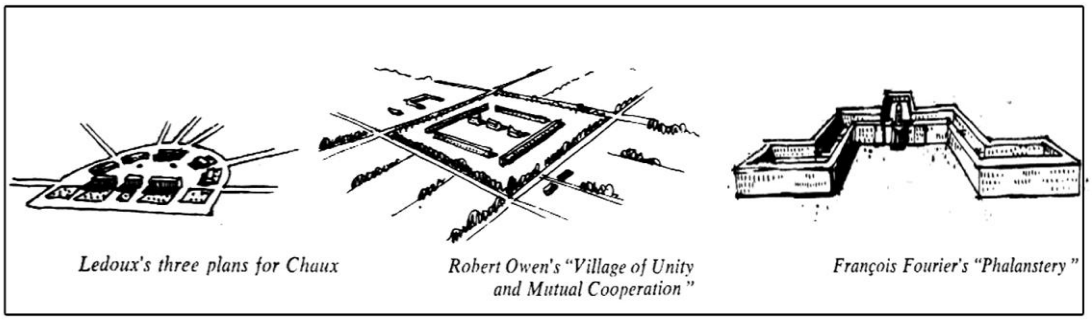


Figure 3.28 Three progressists Utopia (Spreiregen, 1965, p.30)

The striking point about the utopias is "the collectivization of property" in which "the property is absolute, be it state or private ownership under the domination of an authority" (Günay, 1999, p.127). In relation with the collective property, the space was also used collectively and the hierarchy within public, common and private spaces observed in the previous block types started to be replaced with a different space organisation where the open spaces were dominant and relatively, the emphasis on the street decreased. Kostof depicted this transformation as "the town disintegrates into a series of isolated buildings" and defines as "an arrangement reminiscent of Modernist predilections in this century when the city would be seen as open land into which buildings are introduced as objects" (1992, p.215). Thus, the street-block relations were changing in these schema in which the large open areas; that is, urban voids were predominant.

Further, the later utopias started to deal with integrated urban networks. First, Soria y Mata proposed a linear city diagram where the urban transportation was the major concern; "the logic of linear utility lines should be the basis of all city layout" in which "houses and buildings could be set alongside linear utility systems" (Spreiregen, 1965, p.32). In this diagram "the streets were laid out on the old grid system, but the houses were placed in isolation from each other" (Kostof, 1992, p.215). Then, Tony Garnier's Cité Industrielle proposed a more complex system for industrial towns consisting different zoning carrying an orthogonal street network (Günay, 1988, p.25). This grid plan was consisting "short cross streets [that] would accommodate major circulation" (Spreiregen, 1965, p.32). Different from mentioned utopias, this model intended to create a street-block pattern which is composed of homogeneous rectangular blocks. (See Figure 3.29)

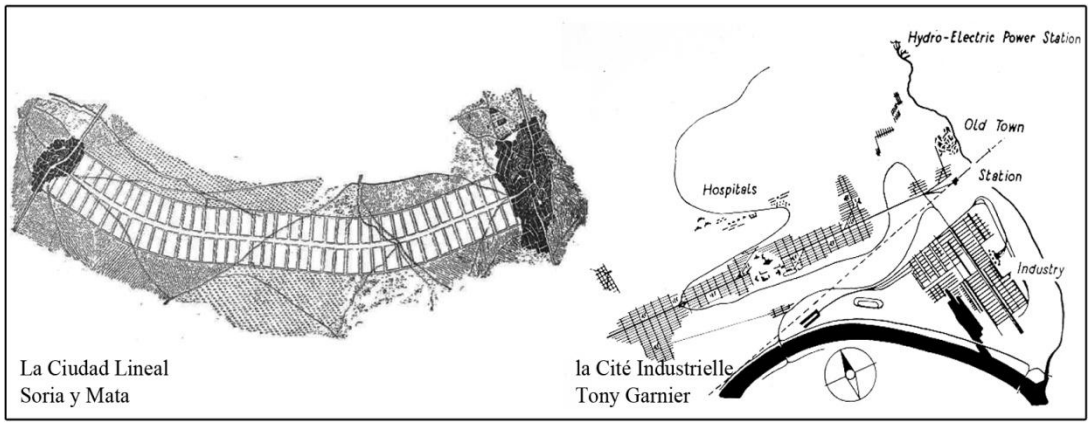


Figure 3.29 left: Soria y Mata and 'La Ciudad Lineal' retrieved from http://www.alu.ua.es/a/arg18/Web/imagenes/cl1.jpg, (accessed: May, 2012) right: Tony Garnier and 'Cité Industrielle' retrieved from http://community.middlebury.edu/~slides/HA220/views/aoc263_view.html (accessed: May, 2012)

The last industrial utopia under progressist model is La Citta Nouva by Antonio Sant'Elia; "an enormous metropolis –La Citta Nuova- based on motion, with every element of its design implying either horizontal or vertical circulation" (Spreiregen, 1965, p.33). In this utopia, the block pattern was no longer a part of the scheme. Nevertheless, Günay states that the common phenomenon of the progressist model is "buildings in open spaces formed of discontinuous blocks and functional separation reacting to the existing urban order" (1988 p.26). Thus, the defined urban block of the previous era starts to be dissolved in those models where the dominance of solids in pre-industrial block is replaced by the dominance of voids.

As the second one, the Culturalist model as Choay states does not emerged a "revolutionary vision but from criticism of an existing urban situation" (quoted in Günay, 1988, p.26). In this point, Camillo Sitte, Patrick Geddes and Ebenezer Howard produced the exemplar models of culturalist approach seeking to overcome the problems of industrial towns by looking to physical characteristics of pre-industrial cities. Sitte put emphasize on "the principles of arrangement, proportion, scale, and purpose with clarity and objectivity" regarding space characteristics of Medieval and Renaissance era (Spreiregen, 1965, p.36). For that matter, he defended the street pattern of the previous cities; "a network of streets serves only the purpose of communication, never of art, since it can never be comprehended sensorily, can never be grasped as a whole except in a plan of it" (Benevolo, 1989, p.349) and criticised the isolated structure of the modern cities regarding "the straight line, regularity and symmetry" in addition to the accent on "irregularity,

imagination and asymmetry" in the distribution of solids and voids (Günay, 1988, p.26). (See Figure 3.30) Therefore, the street-block pattern became the dominant component of his model in which the irregular block types emerged.

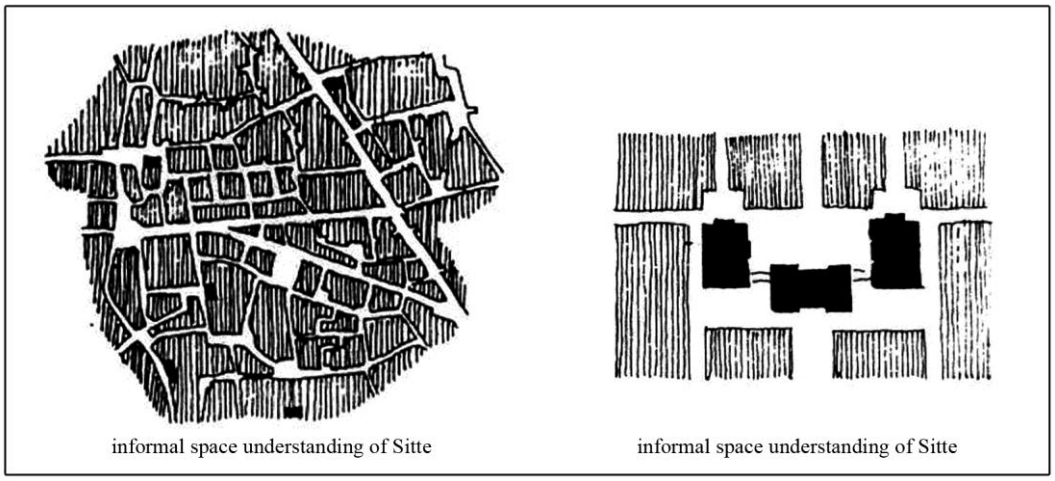


Figure 3.30 Camillo Sitte's formal and informal understanding of space (Spreiregen, 1965, p.36)

Lastly, the Garden City Movement of Howard focuses on the meeting of country and town to take advantage of both town and country life (Kostof, 1991, p.203). According to Benevolo, the Garden City movement is having two sources, first is Owen's utopia in terms of self-sufficiency and town-country togetherness whereas the second is the single family houses in a greenery related to the Victorian thought "with the emphasis on privacy rather than social relations" (1989, p.351). (See Figure 3.31) Thus, in such terms, this model brought up a different understanding for the urban block, and relatively, for property relations. The model was proposing an optimum size for each settlement within a cluster; in which central city will be surrounded by small garden cities which are separated by green areas consisting of farmlands (Spreiregen, 1965, p.36). Thus, in this respect, Garden city appears as a peculiar example since besides the physical aspects of the model, it also dealt with the appropriation and development process in which "first time in history public and private enterprises were cooperating in the creation of urban space for the middle class" (Günay, 1999, p.135).

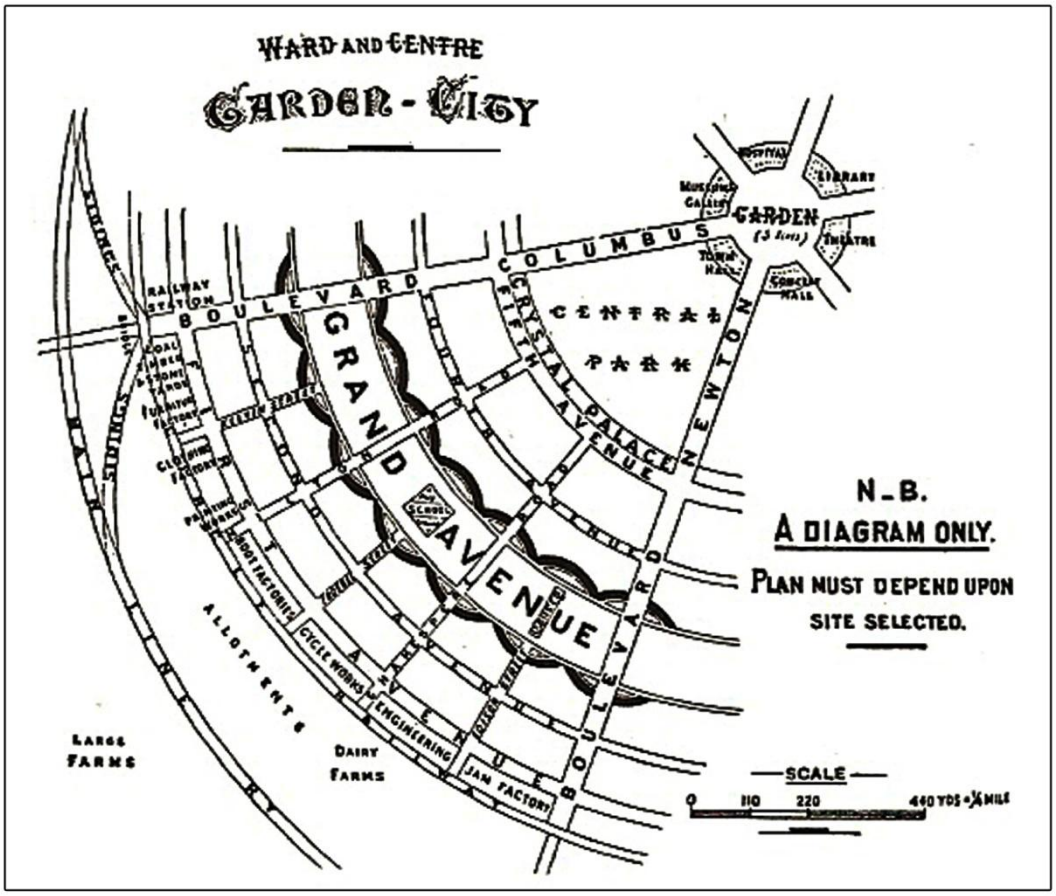


Figure 3.31 Garden City Diagram (Benevolo, p.352)

In spite of progressist model, in culturalist model, the property was not absolute but "possession governs the relative property rights, where the authority only regulates"; it is "flourished when an aggregation of many owners or possessors of a 'community' begin to dominate urban space" (Günay, 1999, p.127). Thus, the common characteristics of culturalist models are a centre for communities, and 'irregular pattern geometry' around this common centre, that is detached residential groups in irregular forms of urban block (Eren, 1995, p.109). Later, this new type of urban development is produced to give a way to suburban block development in regular plots but irregular urban block forms.

3.6 Modernism and changing space organisation of urban block

The developments made in Industrial Period has opened a new way through Modernist Era where new principles, different design approaches and diverse utopias of industrial era

began to be observed starting with the early 20th century. By this date, the City Beautiful Movement in USA, outcomes of Haussmann's redevelopment understanding and Howard's Garden cities were mostly shaping up the cities. At the same time, new regulations starting with Public Health Acts were leading to the development of planning practices which ended up with 'comprehensive planning' in Modernist Era in order to overcome the problems faced in the cities.

Figure 3.32 Perimeter Blocks in Milano, Italy (aerial photo from Google Earth)

To begin with, according to Kostof, "protagonists of social reform – those, at any rate, who had not been converted to Garden City ideology– had championed the perimeter block as the answer to tenements" (1991, p.153). This perimeter blocks were referring to "enclosed blocks with large open courtyards" and started to be built in Berlin and in New York where the aim was to separate "courtyard and street volumes" as a rejection to tenements (Kostof, 1991, p.153). Thus, the perimeter block started to be used in contemporary town planning practices since then, by providing a differentiation between public, common and private spheres of urban block where the inner-block had been the dominant concern configuring the block organisation and solid-void composition of the city for first time. (See

Figure 3.32) As a result, “this inner structure is repeated, a scale and proportion difference between blocks and masses were achieved and masses became more dominant” (Eren, 1995, p.119).

On the other hand, Howard’s Garden Cities started to be implemented; “low-density planning and grouped housing designs were advocated and acclaimed” in United States by English architects trying to realise Howard’s model (Spreiregen, 1965, p.39). Afterwards, garden city movement and suburban development in the fringe of the cities also started to be criticized in terms of whether these models were appropriate to satisfy the all of residential needs or not (p.39). Therefore, the emphasis shifted for some of the architects through to create ‘better communities’ instead of producing ‘only better homes’ which led to the emergence of New Communities Movement (p.39). According to this movement, “the common practice of laying out block-pattern streets long before the builder arrived on the scene prevented clustered community design and the interspersal of open and built-up spaces”; as a result, for instance in Sunnyside, a different attitude towards to create a new urban block has developed in which a ‘common garden space’ is conducted into urban block (p.39). (See Figure 3.33) These type of urban block might be interpreted also as a perimeter block with a open space in the middle with surrounded buildings creating a clear composition of public, common and private spaces among the urban block.

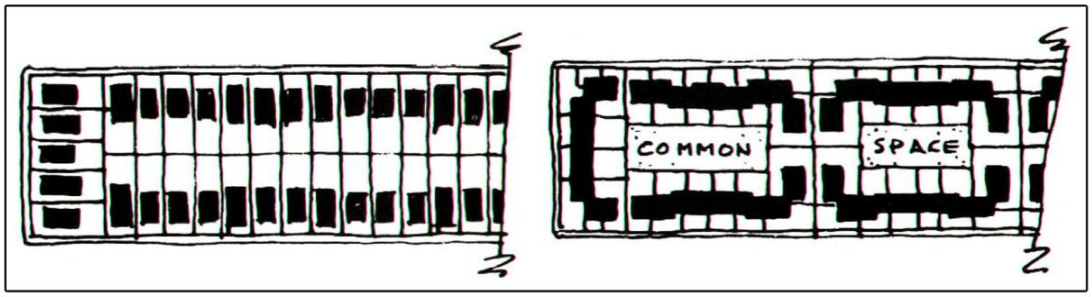


Figure 3.33. left: “typical block development in Long Island in the 1920s. Duplex houses: narrow side yards: poorly lit and poorly ventilated side rooms; no common play space” &

right: “The Sunnyside Idea. Row houses eliminating useless side yards; well-lit and well-illuminated rooms; useable private yards plus ample common play space” (Spreiregen, 1965, p.29)

The other development, in this manner, was Clarence Stein and Henry Wright's Radburn plan seeking to overcome the problems occurred with "the spread of automobile transportation" (Baş, 2010, p.96). The Radburn plan was proposing a new type of urban block configuration called 'superblock' referring to "an inturned superblock bounded by major traffic arteries" (Kostof, 1991, p.153). The design principles of Radburn, as Spreiregen mentioned, were clusters around the cul-de-sacs serving as a service road which were located around a large open green space with pedestrian pathways oriented to schools, shopping centres and so on. This model was an outcome to create a community model where the 'Neighbourhood Unit' idea of Clarence Perry as "the organisation of the town into cohesive neighbourhoods" was reflected (Spreiregen, 1965, p.40). (See Figure 3.34) With the imposed plan, the public, common and private space relations and composition changed where the common space of superblock came forward. This common space was different from the one of that perimeter block proposes since it was having a public character –rather than a semi-public or semi-private – depending the increased number of, therefore it was a public space rather than common space. The other change was the decline of streets as a social realm where the superblock became an inward-looking isolated entity.

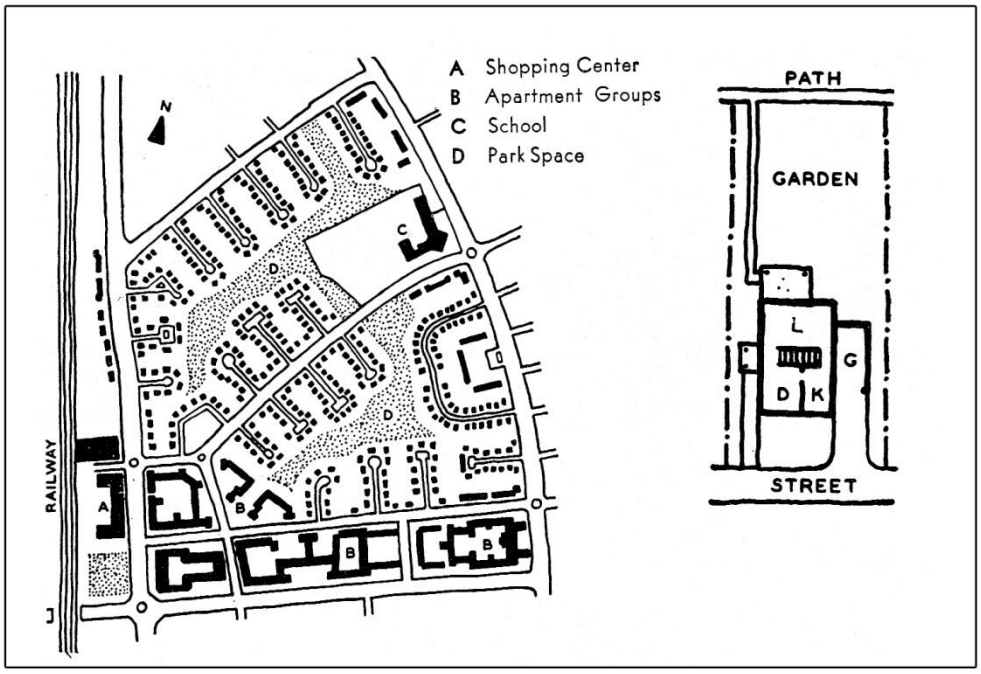


Figure 3.34 Radburn Example of Clarence Stein and Henry Wright (Gallion and Eisner, 1986, p.191)

The striking advance in this period appeared with CIAM (Congrès Internationaux d'Architecture Moderne) in which the basis of the modern architecture and urban planning has been established. According to Günay, the progressist utopias of Ledoux, Fourier and Owen in industrial era started to create 'CIAMese way of thinking' which is described as the progressist movements of 20th century (1988, p.25). The principles of CIAM was "the extensive usage of technology in construction, the idea of the minimum dwelling, functional organisation of space, abundance of open space in a society where land is publicly owned all favoured the application of such thinking" (p.31). Thus, this new way of understanding were covering two different time periods of modernism which also affected the block configurations; pre-war period and post-war period. (See Figure 3.35)

Günay describes the pre-war period approach of CIAM as "the design of housing zones was after the creation of isolated buildings within open spaces. Associations between dwellers of these residential quarters was expected to take place in the vast amount of green spaces created for a "healthy environment", where this phrase was considered to be identical with the idea of verdure" (1988, p.31). Within this period, the famous plan of Le Corbusier, 'Unité d'Habitation' came up which had been interpreted as a model developed with respect to Fourier's Phalanstery as an outcome of progressist movement which was a "super-block in a park" (p.32). Within this respect, as Kostof claims that starting from 1930s', "American concepts of superblock planning" which first occurred with the Radburn model, began to influence CIAM (1991, p.154).

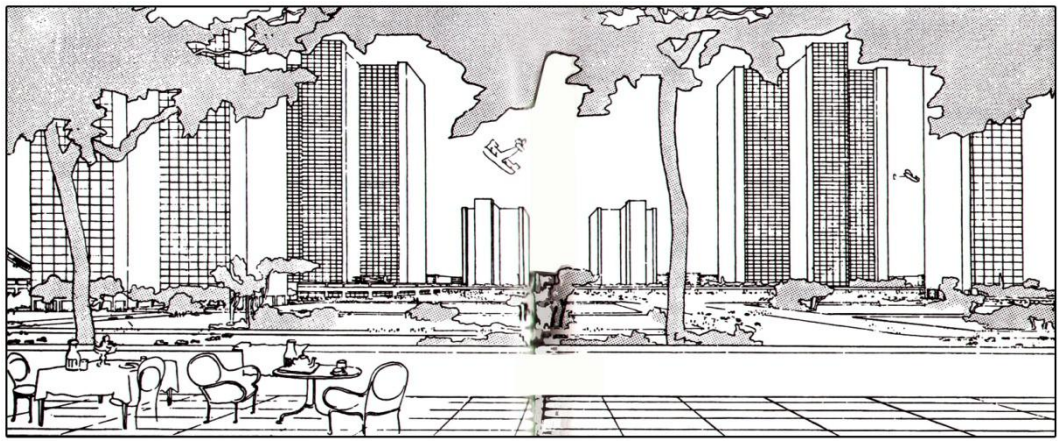


Figure 3.35 New Vision of Modernism (Bacon, 1982, p.228-229)

The understanding of CIAM in post-war period was still reflecting the main elements of modern planning such as the accent put on the open green spaces and functional organisation; nevertheless, a new detail is adapted as 'the cluster design'; "instead of skyscrapers, the clusters have become elements floating in green spaces" in which "the elements tying the clusters are still green spaces" (Günay, 1988, p.33). (See Figure 3.36) Hence, the concept of superblock was still dominant in the design philosophy of the era with large green superblocks where the buildings allocated on were seen as isolated units within the greenery.

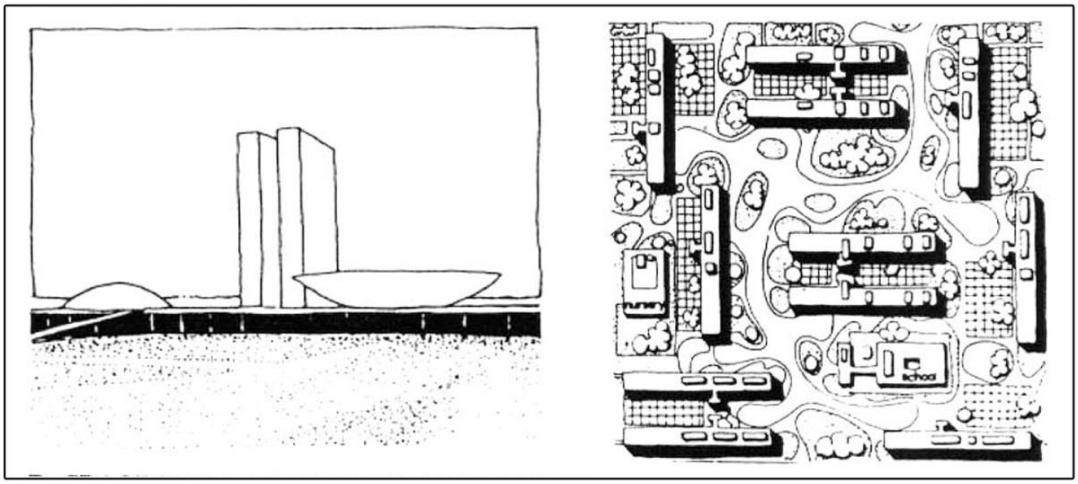


Figure 3.36 Post-war Modernism: Clustered Buildings in greenery (Günay, 1988, p.33)

In this context, Baş expresses the essential aim of this progressist approach based on the "rationalisation of space and abstraction of individuals" as "to overcome those dilemmas through creating new spatial forms which were completely different from the past and based on the domination of the state and public ownership in the production of space" (2010, p.97). Hence, streets as the main element of the previous cities started to be criticized. Le Corbusier as one of the major nouns of Modernism states that "[s]treets are an obsolete notion. There ought no to be such things as streets; we have to create something that will replace them" (quoted in Kostof, 1992, p.235). This understanding reflects in the work of Le Corbusier which is 'A Contemporary City for Three Million People' where he denotes that the modern street is a "new type of organism ... each have their

own particular function" addressing to the separation of housing, work, recreation and traffic aligned along the streets (p.235). At the same time, the enclosure of space in the conventional city building practices will be prevented, therefore, the street will be separated from the buildings (p.233). Thus, the abolishment of the traditional street affected the block pattern, consequently it resulted in the abolishment of traditional urban block patterns. (See Figure 3.37)

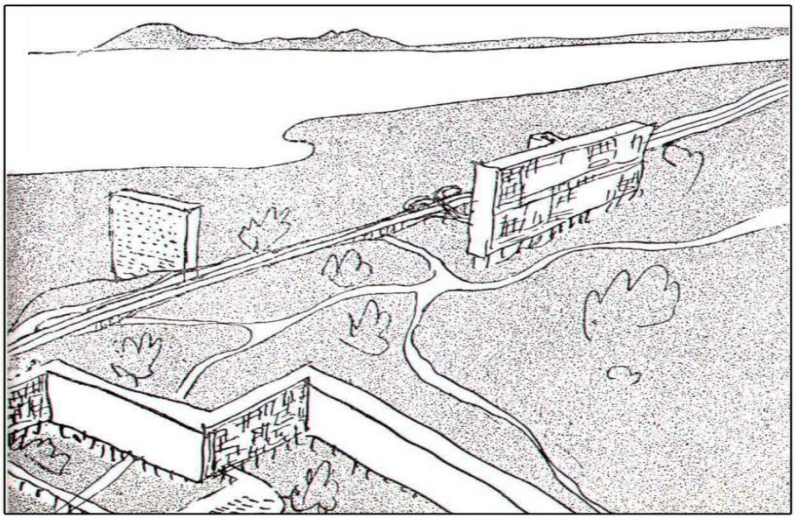


Figure 3.37 Le Corbusier's Sketches: Pedestrian paths in greenery instead of Street (Bacon, 1982, p.227)

This attitude is also reflected in the Athens Charter where it is declared; "the house will never again be fused to the street by a sidewalk. It will rise in its own surroundings, in which it will enjoy sunshine, clear air, and silence. Traffic will be separated by means of a network of footpaths for the slow-moving pedestrian and a network of fast roads for automobiles" (quoted in Kostof, 1992, p.235). Regarding this quotation, the separation of automobiles and the pedestrians led to the criticisms about the conventional street. As a reaction to those critics, new urban space of modernism is composed of detached, tall buildings in a large green area; where the public spaces were open spaces in the green areas or some inner spaces of freestanding buildings; "that is, both the private spaces and public spaces were organized inside the buildings" (Baş, 2010, p.97). Hence, the composition between public, common and private spaces in a block transformed where the

notion of common space disappeared alike progressist models of industrial era and, the gradual transition among public, common and private spaces abolished.

Within this framework, Carmona et al. (2003) makes a comparison between traditional and modernist urban space. Urban blocks of the traditional city is composed of 'highly connected mass' defining 'streets' and 'squares' where the buildings are described as the 'constituent elements' that define and enclose the space of this small sized urban block pattern (p.61). (See Figure 3.38) The buildings are low rise with small-size blocks of pre-industrial city whereas the modernist city is comprised of superblocks surrounded by a road network carrying non-local traffic in larger areas in irregular or amorphous shapes where the 'freestanding' tall buildings or 'pavilions' allocated throughout this greenery as 'objects in space' (p.61-62). In this respect, the superblock is criticized in terms of ambiguous character of open spaces in which it became difficult to differentiate if it is 'space between buildings' or 'open-space containing buildings' (p.62).

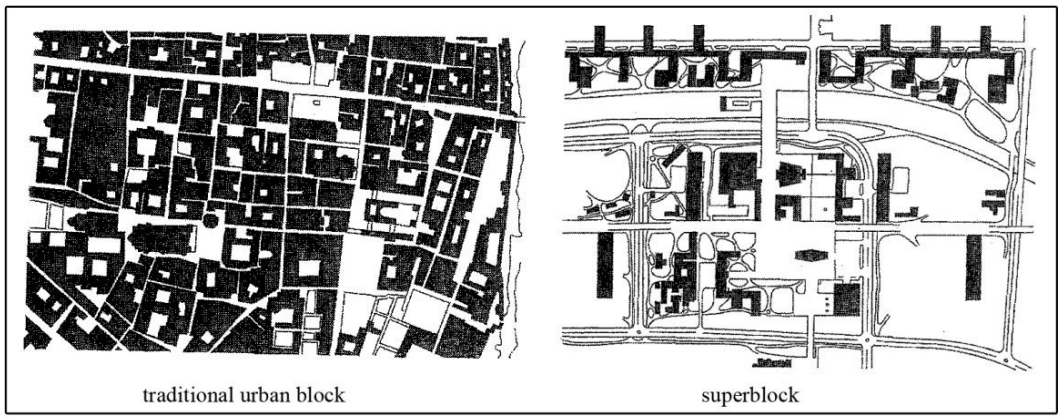


Figure 3.38 Traditional Block versus Superblock (Carmona et al., 2003, p.62)

Therefore, it became also hard to provide a hierarchical transition between public and private spheres of the urban block. One of the reasons of that is interpreted by Baş who states that the adjacent façades of the buildings, creating a wall for open spaces and defining the street-block layout, transformed through this process where the differentiation between front and back of the buildings disappeared (2010, p.97). As a result, "with a proliferation of freestanding buildings, the interface between buildings and the public spaces adjoining them increasingly shifted from 'socially active' to 'socially passive'" (p.98).

Finally, the criticism of the progressist type of urban space began to increase where the Team 10 emerged as a 'resurgence of the culturalist model'. Consecutively, the Doorn Manifesto is published in Holland at 1954, which were again promoting the community arguments . it is indentified in this document that the houses must be seen as a part of community where the interaction and relations between them must be provided in order to 'produce convenient communities' and, the relationship between the environment and the city must be ensured where Geddes valley section is interpreted as a model (Team 10 Primer, 1974).

Thus, "intimate low buildings, urban centres, variety in construction" became primer concerns of Team 10's space understanding (Günay, 1988, p.35). Furthermore, the accent putted towards to the use of pedestrian lines as a street that ties the elements together rather than the greenery; "idea of ground scraper for horizontal communication" and continuity of elements instead of discontinuous compositions of them which refers to superblock became majorly discussed issues (1999, p.171). Thus, in contrast to progressist way of city design, in culturalist one, the continuity of solids rather than voids became critical which affected the block pattern. As Baş states "this was also a demand for reappearance of the street and the urban block" (Baş, 2010, p.99). (See Figure 3.39)

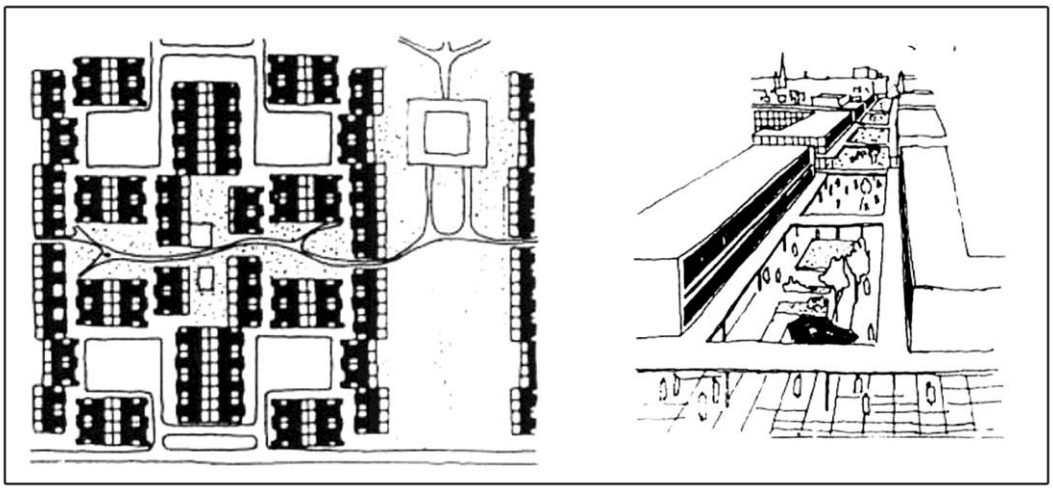


Figure 3.39 'Space Understanding of Team X': some examples (Günay, 1988, p.33-34)

3.7 Postmodernism and return to street-block layout

The criticisms of Modernism which had begun with Team X started to transform the space understanding of the era in which ultimately postmodernism arose. The leading ideas has born with Team X's discussions on space; where a return to the street started to appear with the 'horizontal systems of communications' within the site (Günay, 1988, p.35). In this respect, Allison and Peter Smithson has focused on the notion of street in which Byelaw Street of the industrial epoch is perceived by them as a tool to associate people: "The street is not only a means of access but also an arena for social expression" (Lewis, quoted in Günay, 1988, p.36). Since the disappearance of street was the result of modernist space development where superblocks were imposing a layout of isolated and unconnected urban parts, Eren explains this phenomenon with her words; "the city is perceived as a college of disintegrated blocks where the only linking object is the street" (Eren, 1995, p.129).Thus, the disappeared street in Modernist city and its superblocks began to be the departure point for postmodernism which resulted in the reconsideration of street-block relations in the reorganisation of a block pattern. (See Figure 3.40)

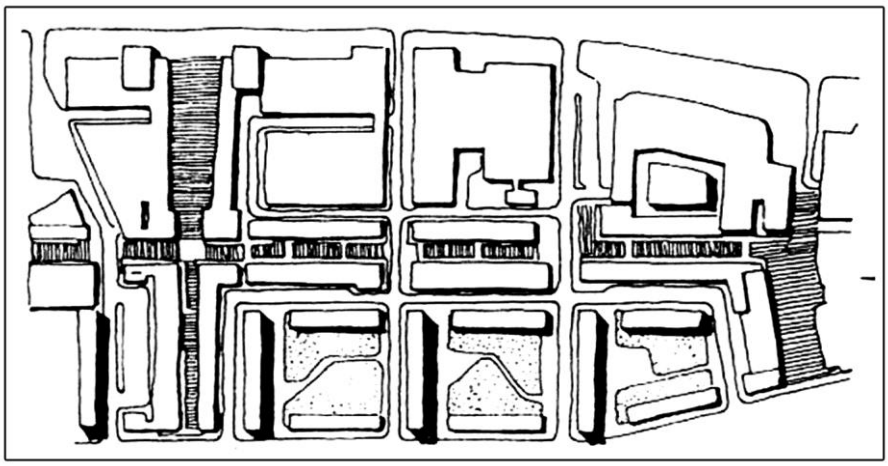


Figure 3.40 Team X, street as the spine of the settlement (Günay, 1988, p.34)

Within this framework, the street became the prominent physical feature of postmodernist planning and design which is highly discussed in the studies of Jane Jacobs, especially in her book, The Death and Life of Great American Cities (1961). Baş describes this study as one of "the first and most strong expression" of post modernist reaction to modernist cities (2010,

p.99). In her book in which Jacobs identifies as 'an attack on current city planning and rebuilding'(1961, p.3), she makes an emphasis on streets and sidewalks, focusing on their three major uses; safety, contact and assimilating children: "streets and their sidewalks, the main public places of a city, are its most vital organs" (p.29). For that matter, what she supports is the 'revitalisation of the street' and social life generated there as similar to Team X (Baş, 2010, p.99). From this perspective, revitalisation of street refers to the revitalisation of urban blocks, respectively.

From this aspect, the relationship between built space and urban space also has begun to be investigated in this era where the focus shifted to the creation of defined, positive spaces rather than buildings as objects in the space: "Such approaches have often taken references from the traditional urban space of blocks formed by connected mass of individual 'background' buildings defining, or defined by, 'positive' spaces" (Carmona et al., 2003, p.69). With this understanding, the traditional block pattern and inner-space organisation started to be studied in order to provide a model for the new space understanding. Within this context, the study of Colin Rowe appears as a critical example where he used the 'figure-ground' diagrams in his book Collage City (1978), in order to show that buildings are constituting backgrounds rather than only being objects in space after comparing traditional cities with Modernist practices (Carmona et al., 2003, p.69).

Broadbent makes a classification based on the post modernist urban designers and planners as 'new rationalists' including Rob and Leon Krier, Aldo Rossi and Monfredo Tafuri whose works are based on typology (architectural and morphological typology); and as 'new empiricists' including Gordon Cullen, Kevin Lynch, Christopher Alexander whose emphasised on the repertoire of forms and symbol throughout history (Eren, 1995, p.138-139). In both perspectives, the common notion is to have references from the past. Nonetheless, the studies of Leon Krier appears as prominent point since he focuses on urban blocks. Baş summarises Krier's understanding based on Trancik's of this approach: What Krier stressed is to reconstruction of the traditional urban block to define the streets and squares where "the size, pattern and orientation of the urban block is the most important element in the composition of public spaces" (Trancik, quoted in Baş, 2010, p.99). (See Figure 3.41)

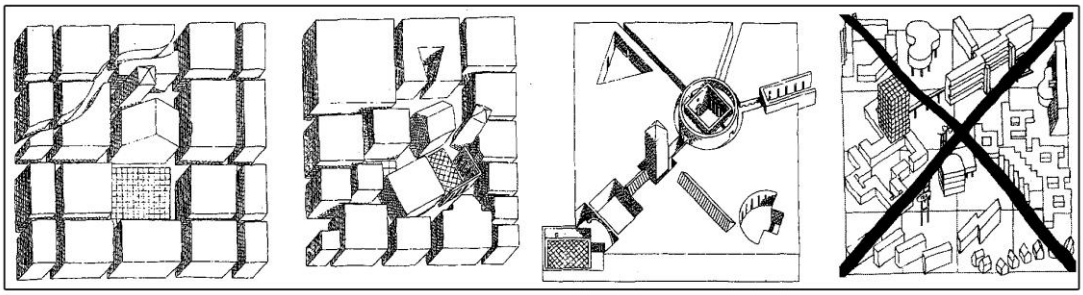


Figure 3.41 Krier's four types of urban space (Carmona et al., 2003, p.71)

Moreover, Bentley also criticises the modernist space practices from a different outlook. He stresses a transformation from connected masses towards freestanding pavilions which also affected the relation between the interfaces of buildings and public space (2002). "The shift towards freestanding pavilions has also had a radical impact on the walls of the public realm, since it has led to many situations in which private 'backs' face on to public space, with a consequent shift from an interface formed primarily of 'active' fronts towards an ever more 'passive' character" (p.123). According to him, the distinction between front and back is critical for the design process since it provides privacy for the residents and a clear differentiation between public and private. Within this perspective he proposes a new approach for the reinterpretation of urban blocks. (See Figure 3.42)

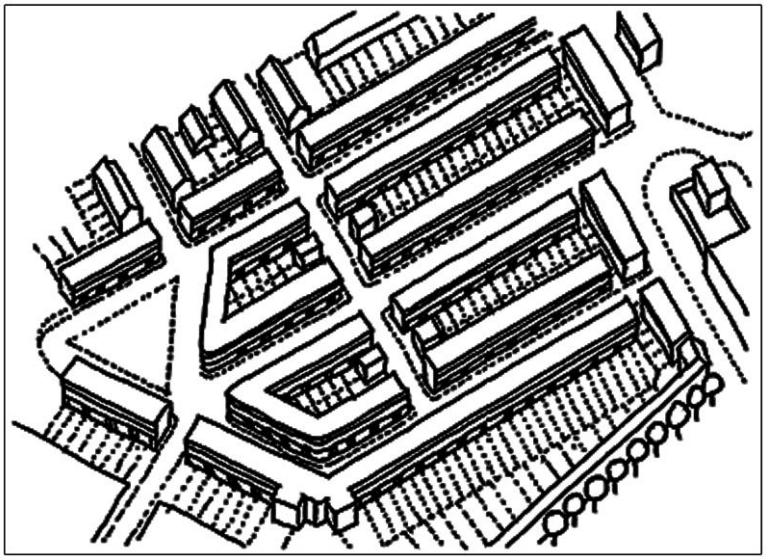


Figure 3.42 Air view of Kiefhoek, an example of block design (Bentley, 2002, p.209)

As Bentley denotes, the major concern is to make a distinction between publicly and privately owned lands meaning public space network and development plots; where he emphasises on need of “a repertoire of types for these two basic morphological elements” (2002, p.192). In the tenth chapter of his book, Urban Transformations (2002), he defines two elemental types for new repertoire; the public space network in a deformed grid –with increased accessibility and easy conversion of hierarchy and easy adaptation to future developments– and, development plots with lower heights and low-density (p.192-222).

On the other hand, he proposed three relational types as the active interface and perimeter block in which this study focuses on and native biotic network. What is underlined is that ‘publicly relevant activities’ within the buildings must be located at the front of the building facing to the street in order to both increase the vitality of the street, thus to create an active interface between public realm and private one and secondly, to provide more privacy in the back of the building. Together with the active frontages, the perimeter block provide “fronts facing outwards on to the public space network, and back facing inwards the internal core of the block” (2002, p.196). (See Figure 3.43) And finally the other type identified is the native biotic network meaning simply the spatially continuity of green spaces including the courtyards of perimeter blocks and their connection with larger biotic system not only for aesthetic reasons but also for providing a biotic continuity.

Within this transformation, another critical point emerged as the notion of flexibility in terms of design approaches. Baş describes this process as the transformation of urban block from a zoning tool having a homogeneous structure into a ‘flexible design control’ tool with heterogeneous character that led to the creation of a new coding system in the recent decades “which includes mixed use, variety and qualitative standards” allowing more autonomy to architects (2010, p.99). According to Barnett (1982), urban block layout is important since it defines parameters for urban development; “such structures open up possibilities and – in conjunction with basic typologies/codes/rules about physical parameters – can provide coherence and ‘good’ urban form, without necessarily being deterministic about architectural form or content. This is akin to designing cities without designing buildings” (quoted in Carmona et al.2003, p.80-81).

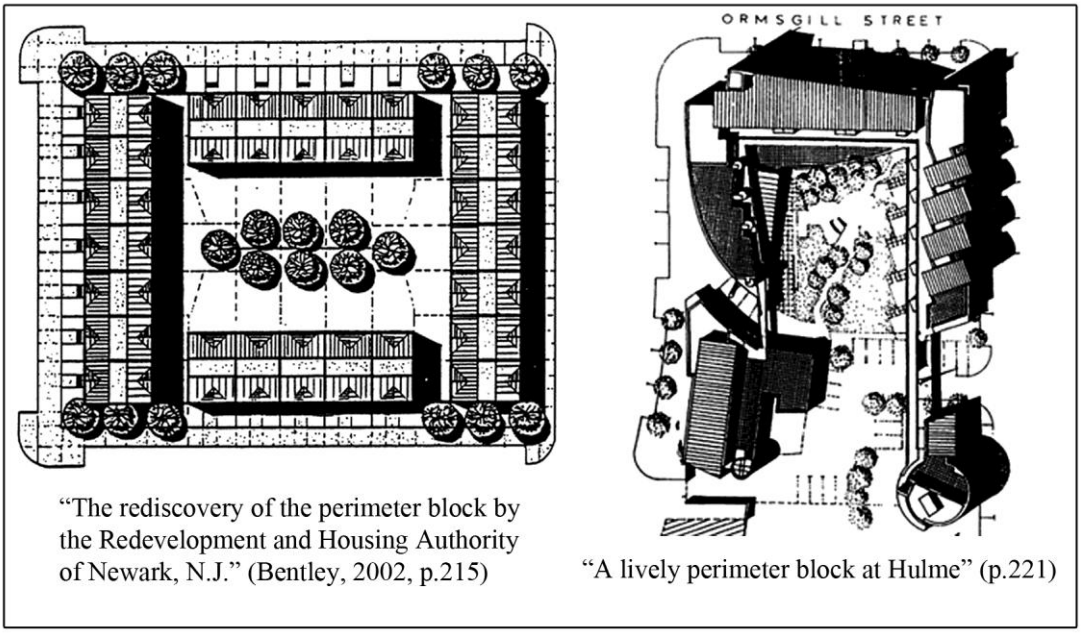


Figure 3.43 Different interpretations of Perimeter Block (Bentley, 2002, p.215&221)

However, there are also some criticisms against postmodernist approach of planning and design. According to Günay (1999), whereas modernism turned its face to future and refused the earlier values; on contrary postmodernism looked into the past but sometimes stuck in it since the reproduction of earlier values became deducted to imitate its forms. Baş summarises this phenomenon as claiming that modernism was subjected to 'active space-fetishism', on the other hand, postmodernism was subjected to the 'form-fetishism'; whereas postmodern approaches of revitalization of streets and block pattern ended up with the 'superficial imitations' of the past (2010, p.101).

3.8 Conclusion

This chapter has examined the historical evolution and transformation of urban blocks have been investigated in accordance with street, plot and buildings as counterparts of public, common and private spaces, respectively. Below table summarizes the changing relations regarding the blocks:

Table 3.1 Historical Evolution of Urban Blocks

	Block Pattern	Determiner of Blocks	Territories
Early Settlements	Circular / Cellular Pattern	Solid oriented blocks with narrow pathways Dwellings are determinant for the block form	Common territories Communal property with private possession
	Angular Pattern		
Greco Roman Period	Strip blocks (small sized)	Street oriented strip blocks combined from plots of private property	Emergence of private property Roman Law Definition of public, common and private territories
	Insulae (larger sized)	Block oriented development along cardo and decumanus	
Medieval Period	Organic settlement pattern	Topography oriented block pattern with strip plots shaped by cul-de-sacs and streets	Common possession Public and private territories are side by side
Renaissance Baroque Periods	Geometric units	Single building design is determinant	State and private property Private territories are significant
	Axial movement from centre to fringe	Continuity of façades along street where interior of block neglected	
Industrial Period	Bye law oriented block	Street oriented denser blocks	Public, private spaces less accent to common space
	Reconstruction of blocks	Irregular block types with neglected interior composition	
	Development in the fringe	Progressive and culturalist utopias	Collective space

Table 3.1 (cont.) Historical Evolution of Urban Blocks

	Block Pattern	Determiner of Blocks	Territories
Modernism	Perimeter block	Block composition is determinant	Gradual passage from public to private
	Superblock and free standing buildings	Large open space oriented superblocks with buildings as objects and street neglected	No intermediate spaces between public and private spaces
Post modernism	Return to the street Street-Block Layout	Street-block oriented Solids more dominant than voids	Public, private and common spaces

The table reveals that urban blocks have been constantly reformulated and reshaped based on its relations with the street, plot and buildings. The determiner of its form has been sometimes the streets, or the internal structure of block composed of plots and buildings with courtyards, small openings, etc.., or single buildings with its architecture. Nevertheless, the changing property relations were the critical component shaping up this process. Therefore, as it is indicated in this study, the changing relation between public, common and private spaces are the critical components that redefine the urban block.

CHAPTER IV

EVALUATION OF URBAN BLOCKS IN THE BAHÇELİEVLER HOUSING COOPERATIVE WITH CONZEN'S METHOD

Previous chapters have discussed the space organisation components of the urban block in relation to *street, plot* and *buildings* as elements of the urban block, and underlined *public, common* and *private spaces* they produced. Given that urban morphology is "the study of urban form" (Larkham, 1998, p.159), the present chapter will put the emphasis on the analysis of morphological formation process of urban block as a component of urban form.
Since the aim of this study is to observe the transformation process of urban block and its elements in both physical and also social context, we shall focus on the morphogenetic approach developed by M.R.G. Conzen to constitute the theoretical part of methodology. Therefore, this chapter is formed from two parts. Firstly, the structure of the methodology part will be defined regarding Conzen's morphogenetic method. Then, the second part will be combined from the documentation of the qualitative case study conducted in Bahçelievler, Ankara, where the history and morphological characteristics of the area will be analysed in detail with respect to different phases. In addition to morphogenetic analysis of Bahçelievler based on Conzen' method, a comparative analysis part will be also conducted to analyse the internal structure of blocks regarding *street, plot, building* and their counterparts as *public, common* and *private spaces* based on the outcomes of literature review.

4.1. Urban Morphogenetics and M.R.G. Conzen's Studies

Urban morphogenetic research tradition which is likely to be one of the branches of urban morphology studies has basically focused on the relational analysis of form and process of urban landscapes, hence, stressed the historical evolution of the morphology of urban parts

(Baş, 2010; O'Sullivan, 2000). As Larkham states, morphogenetic tradition of Central Europe is introduced by Schlüter's works in German morphogenetic school at first, then developed by M.R.G. Conzen's detailed analysis in which he has introduced this method to Britain (1998, p.159) and has established the roots of English urban morphology school. The researches of Conzen made a great contribution to this field; therefore, the morphogenetic tradition is entitled in literature as Conzenian Tradition, or British school of urban morphology.

Conzen's works come to forefront as Whitehand asserts, in terms of "understanding and managing urban landscapes" regarding their characteristics based on a methodology combined by three fundamental components; as *morphogenetic method, cartographic representation* and *terminological precision* (2007, p.ii-02). In this context, the theoretical base of his method relies on the "continuous adaptation of the human physical environment to meet current requirements" (O'Sullivan, 2000, p.85). Accordingly, his son describes Conzen's methodology used in Alnwick –one of the most detailed analysis that he made, as follows;

> "The methodology comprises intense scrutiny of the myriad changes in the town's urban form revealed in the detailed historical map record, combined with a thorough understanding of the town's social, economic and political development in the context of British history at large. While the method is essentially one of sequential cartographic analysis, the meanings attached to the morphological changes mapped spawned many new technical terms, all signalling morphological concepts" (Conzen M.P., 2009, p.5).

The significant point that Whitehand and M.P. Conzen make an emphasis is the rich terminology that Conzen has offered in his researches. Whitehand claims that the *terminological precision* and *new concepts* he introduced about *the process of the development* of urban areas "did most to stimulate a school of thought founded on his work" (Whitehand, 2001, p.24). In this respect, as Larkham summarizes, the way Conzen has conceptualized the development of urban form has became his remarkable contribution to this research field (1998, p.163).

There are several concepts that he introduced in his studies; however, describing each of these would exceed the limits of this study; therefore, only his most known concepts parallel to this study will be defined. His most known concepts might be listed as fringe-

belt, burgage cycle and finally, tripartite division of urban form which also structure his survey method. In this respect, *fringe-belt* concept he introduced might be described as;

> "[T]he physical manifestations in the landscape of the periods of slow movement or even standstill in the outward extension of the built-up area; they tend to be used initially for purposes requiring large sites and having little need for accessibility to the commercial core" (Larkham, 1998, p.163).

On the other hand, the second term, burgage cycle, is related to the developments in burgage plots inherited from medieval periods, which could be defined as;

> "The cycle, consisting of the progressive filling-in with buildings of the backland of burgages and terminating in the clearing of buildings and a period of 'urban fallow' prior to the initiation of a redevelopment cycle, is a particular variant of a more general phenomenon of building repletion where plots are subject to increasing pressure, often associated with changed functional requirements, in a growing urban area" (Whitehand, 2007, p.ii-03). [2] (See Figure 4.1)

[2] In spite of the fact that researches are conducted for England, the term burgage cycle refers to the transformation of Medieval plots. Nonetheless, in this study, it would be used for underlying the transformation process of the plots of the defined area as well.

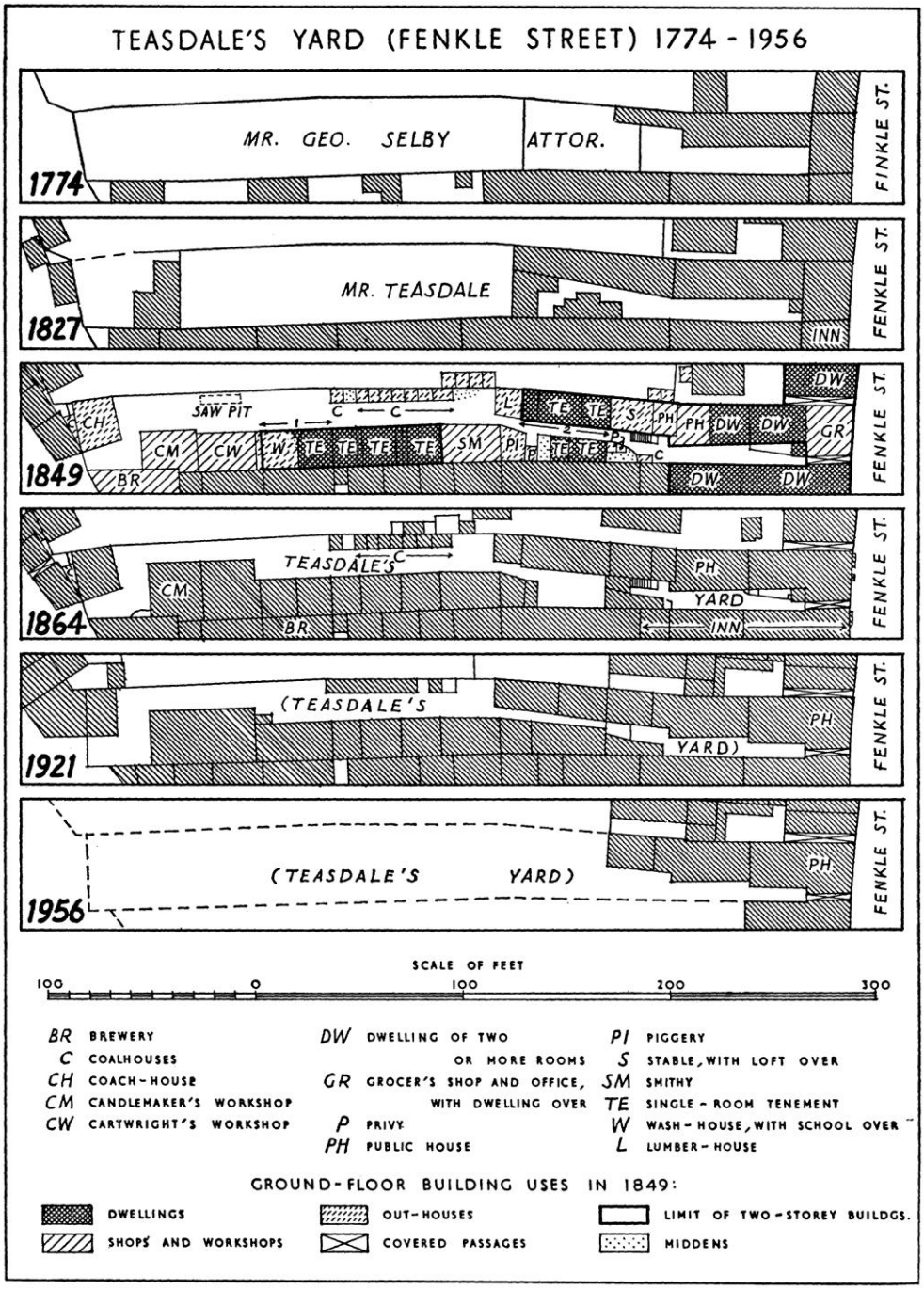
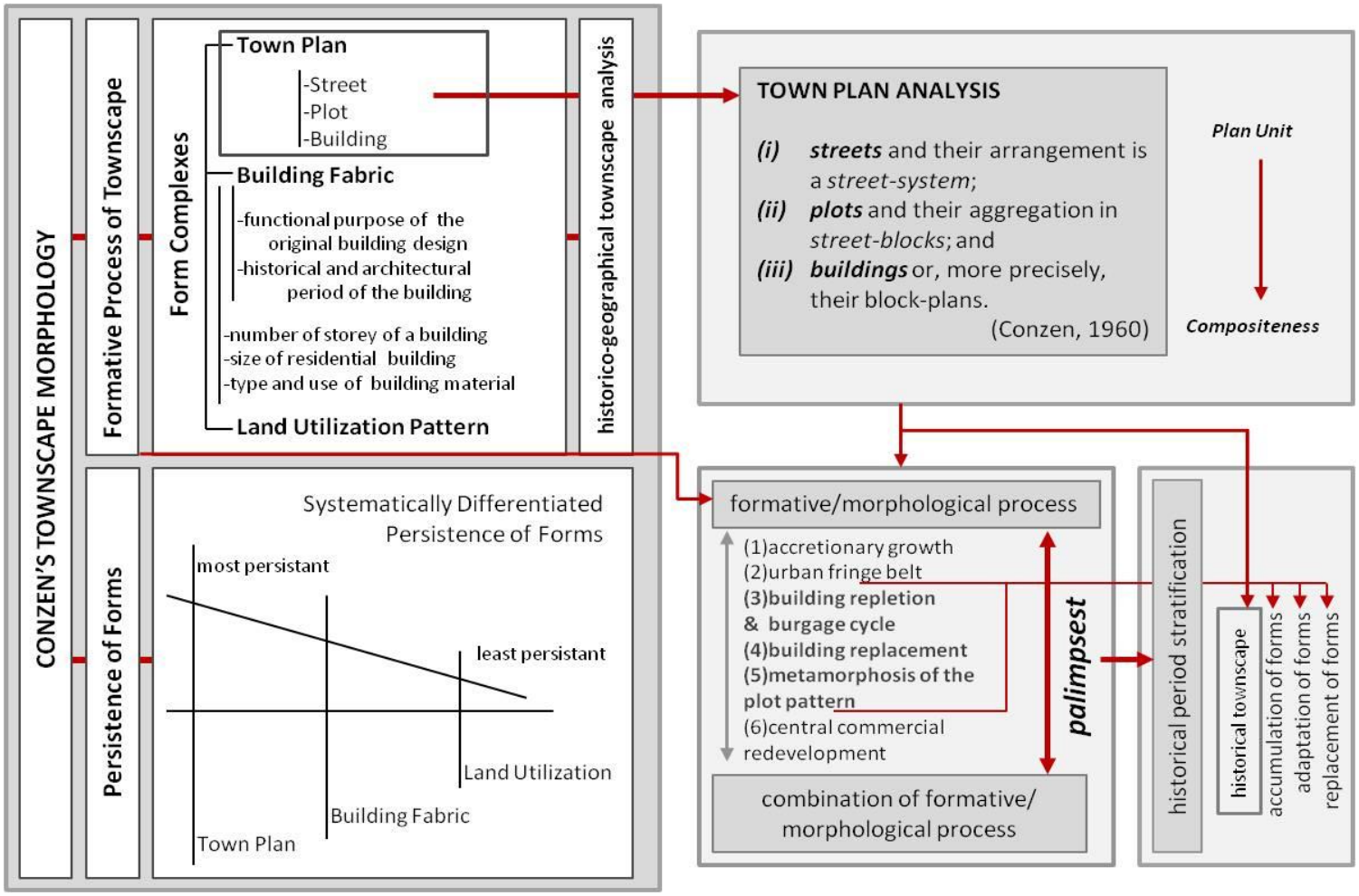


Figure 4.1 Burgage Cycle (Conzen, 1960, p.68)

Table 4.1. Conzen's concepts and town plan analysis (prepared by author)



Further, the following set of concepts introduced by Conzen under the heading of *tripartite division of urban form* will be described in detail because, it constitutes the core of the method that will be adopted in this study as well. For Conzen, the townscape morphology is comprised of two process; namely, formative process and the persistence of forms. Thus, a table has been interpreted by the author to show Conzen's methodology and related concepts (See Table 4.1).

In Conzen's line of thought, formative or morphological process has three systematic categories; *town plan*, *building fabric* and *land utilization pattern* which he called them as form complexes. On the other hand, persistence of forms is described as "continued functional suitability" of many centuries, where some of the forms persisted till today, some of them have experienced a change in function but their materials remained and, in other cases, these are replaced by new forms and functions (Conzen, 2004, p.42-43). According to Carmona, Conzen made an accent on the stability differences in these form complexes; land-use is the least persistent, then, it is followed by plot patterns which are changing in time in forms of subdivision or amalgamation and, street patterns are the most persistent component within those three form complexes (Carmona et al., 2003, p.61). Conzen details his thoughts about persistence in his study Alnwick which established his survey technique (Larkham, 1998, p.163). In this study, he claims that land uses are the least persistent ones because they respond quickly to the changes occurs in the surrounding alike construction of a new road, etc, where building fabric is more resistant to change and experience firstly adaptation rather than replacement (Conzen, 1960, p. 5-6); despite town plans that are the most persistent ones as Carmona has described.

After making a classification on townscape, Conzen structures a method as *historic-geographical townscape analysis*; based on these three form complexes;

> "To understand the complexity of the regional structure and morphological character of present townscapes, historic-geographically informed townscape analysis is necessary. It has to begin with three separate types of analysis, following the composition of the townscape in terms of its systematic element complexes: namely, town-plan, building fabric, and land utilization analysis." (Conzen, 2004, p.53) (See Figure 4.2)

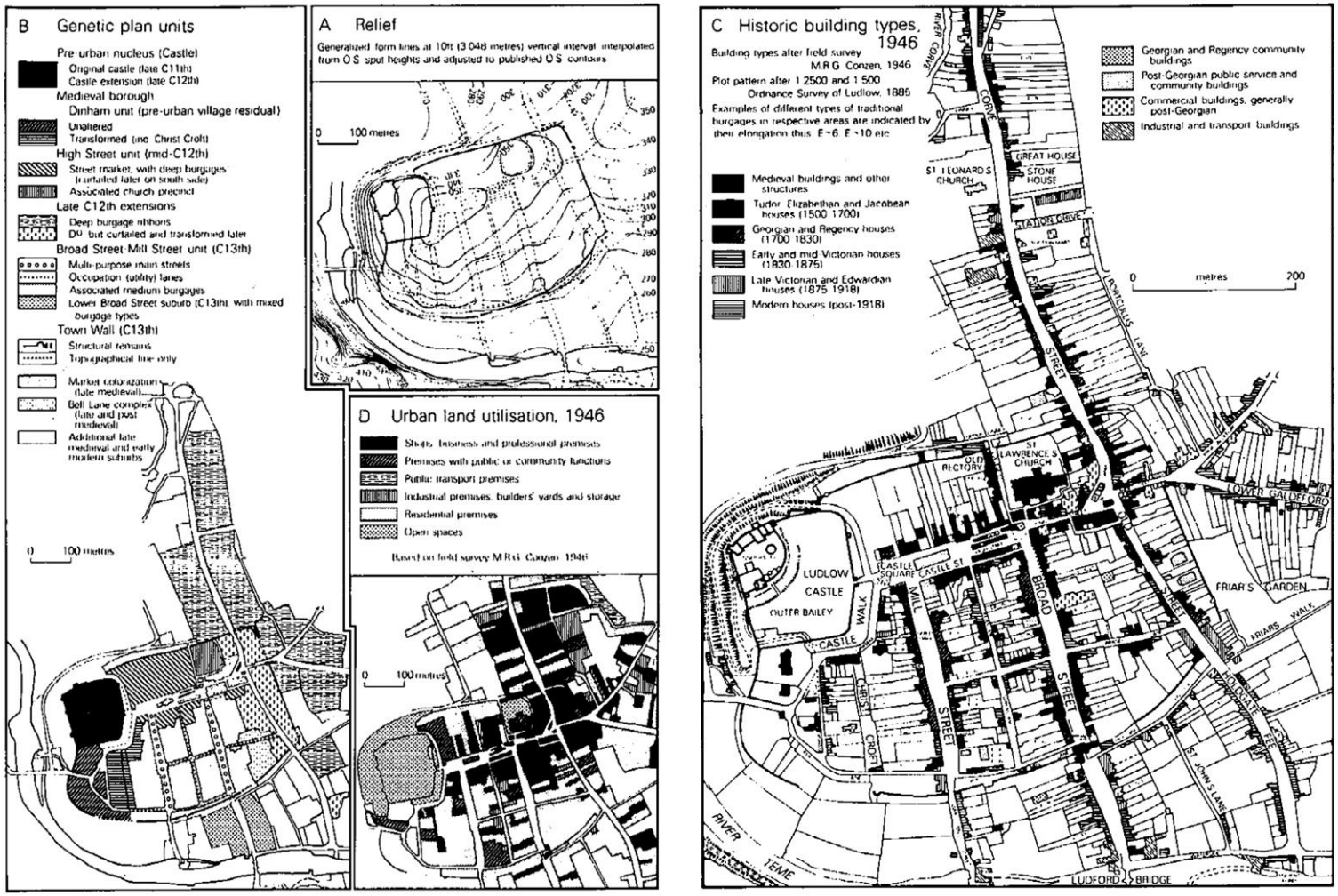


Figure 4.2 Ludlow: (A) Relief, (B) Town Plan, (C) Building Fabric, (D) Land Utilization (Conzen, 2004, p.120-121)

In this systematic research, what he has focused on is the ***town plan*** analysis which he describes as the "most important since [it] provides the framework for the other two element complexes"; and defines it based on street, plot and buildings. Afterwards, he claims that ***land utilization*** survey would be discussed for functionally oriented town studies but he also underlines that the concern for geographical classification of land uses would not be solely economic or for planning purposes. Then, he describes the third party as ***building fabric*** which he has made a classification based on *functional purpose of the original building design* and *historical and architectural period of the building* where for analysing their morphological characteristics, he proposes diverse analysis of *floor-space concentration* (number of storeys of the building), *floor-space per dwelling* (the size of residential buildings) and *type and use of the building materials* (Conzen, 2004, p.53).

In his study of Alnwick, Conzen details the town plan analysis in which he criticised "**the lack of theoretical basis yielding concepts of general application**" of the current morphological surveys and tired to "**establish some basic concepts applicable to recurrent phenomena in urban morphology and to lead to an explanation of the arrangement and diversity of an urban area in terms of plan types and resulting geographical divisions**" (Conzen, 1960, p.3-4). In this study, he aimed to develop a new type of analysis dealing with the 'internal structure of street-block', in contrast to solid-void analysis used to be made only to investigate street and street-spaces (p.4). Therefore, he defined three distinct complexes of town plan;

(i) *streets* and their arrangement is a *street-system*;

(ii) *plots* and their aggregation in *street-blocks*; and

(iii) buildings or, more precisely, their *block-plans*. (p.5)

Conzen describes ***street*** as "the open space bounded *by street-lines* and reserved for the use of surface traffic of whatever kind" in which the arrangement of these continuous spaces creates the ***street-system***. Secondly, he defines ***street-block*** as the area unoccupied by street and surrounded by street-lines where it comprises a group of land parcels –each having its own land use- that he calls as ***plots***; "it is physically defined by boundaries on or above ground". For him, each group of plots creates a different plot pattern. And thirdly, he defines **block-plan** or **buildings,** as "the area occupied by a building and defined on the ground by the lines of its containing walls" (p.5). (See Figure 4.3)

Figure 4.3 Conzen's three distinct element complexes (Kostof, 1991, p.26)

In this respect, he defines a fourth concept as ***plan-unit*** which is a unique area formed from the "individualized combinations" of street, plots and buildings that differs from one area to another (Conzen, 1960, p.5). From this respect, he makes an emphasis on the historical evolution process of each plan-units. As Moudon indicates, each plan unit creates a different strata/layer and "contribute[s] to the stratification of the townscape". Further, the togetherness of each plan-unit creates ***compositeness*** where variations of form, use and configuration based on street, plot and building relations give clues about socio-economic and historical periods of buildings and towns (Moudon, 1994, p.297). This stratification of each composite town plan and plan-units generates a ***palimpsest*** regarding Conzen's terminology.

Conzen's method, from this aspect, suggests the examination of morphological processes of each area based on six determiner; accretionary growth, urban fringe belt, building repletion, building replacement, metamorphosis of the plot pattern and central commercial redevelopment regarding British Towns. Then, the combination of each morphological process creates a heterogenic mosaic of plan types that are evolved in time and generates historical stratification (Conzen, 2004, p.54-56).

Another point he has focused on is the development process of historical townscape. He characterised this process under three headings; accumulation, adaptation / transformation and replacement of the forms. According to Conzen, ***accumulation of form*** contains the establishment process of three form complexes in a town that he called as *primary accumulation.* Then, *secondary accumulation* refers to the "insertion of additional buildings into existing townscape" covering the burgage cycle process (2004, p.69). ***Adaptation of form*** refers, on the other hand, to the alteration of pre-existing forms "to

extend utility in the context of changed social needs" (p.240). ***Replacement of forms*** happens less frequently and signifies the replacement of existing forms, often of buildings with new ones, due to the pressure arose correspondingly to the social needs. Hence, these periods of morphological processes develop the historical stratification for each urban area.

Thus, each element of Conzen's tripartite division are connected to each other "genetically and functionally" as Moudon states (1994, p.297). On the other hand, Whitehand underlines that significant characteristics of Conzen's methodology are 'historical expressiveness' and 'morphogenetic priority'. He states that first characteristic is due to "the particular significance [Conzen] attached to the historicity of the urban landscape" in which for him, it is "an invaluable source of experience" to understand social activities and processes; and secondly, 'morphogenetic priority' referring to the persistence of form complexes as discussed above (2007, p.ii-05-ii-06). These two phenomenon might be interpreted as related to the Conzen's understanding of townscape in which persistence of forms covers morphogenetic priority, and formation process refers to the historical evolution of urban areas which established the morphogenetic tradition of Conzen. (See Figure 4.4)

On the other hand, Moudon asserts that Conzen's methodology has focused on "research intended to describe, analyse, and explain how urban form is made" which differs from the other schools of urban morphology by "excluding the prescriptive dimension of planning and design" (1994, p.296). Consequently, for her, "his approach offers the most through, detailed, and systematic typomorphological[3] method of the three schools" (p.296). As Samuels states, Conzen's method offers a new way of analysing urban form "that goes behind the building façade and investigate the deeper formative structures of plots and blocks" and at this respect, he describes Conzen's study at Alnwick as one of the urban design classics (2009, p.4).

[3] Typomorphology as Moudon (2006) defines "is the study of urban form derived from studies of typical spaces and structures" which is "heavily based on classification and defining types whether it is morphological or generative" (Serin, 2010, p.54-55)

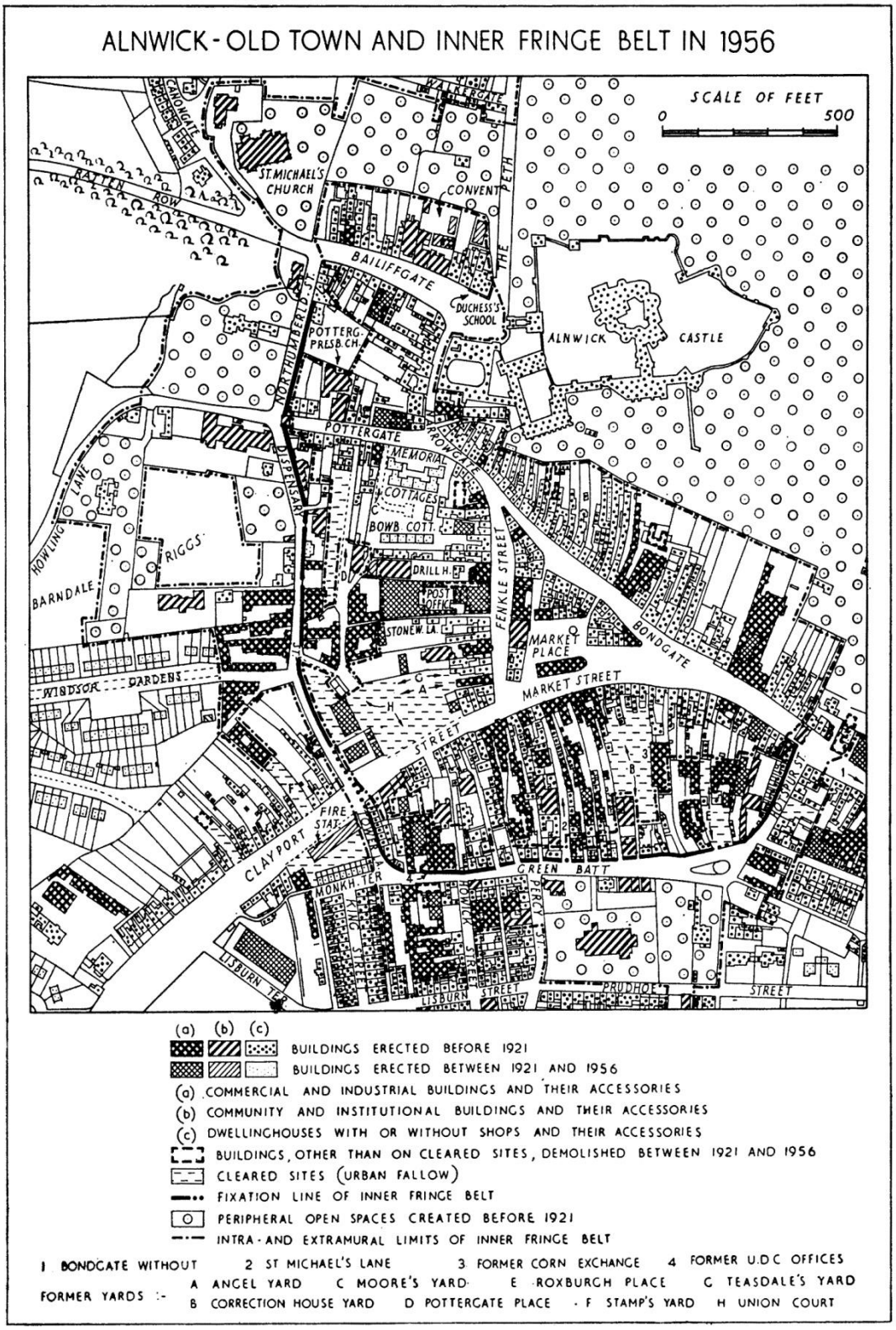


Figure 4.4 Alnwick, Northumberland (Conzen, 1960, p.93)

Within these respects, Conzen's detailed approach offers a method and terminology for deeper investigation of urban areas. Since, the aim of this study is to focus on urban blocks in relation to street, plot and buildings, Conzen's method has a lot to propose for this study. However, neglecting some parts of his method arose as a necessity because it would go beyond the limits of this study. For this reason, the town plan analysis based on street, plot and buildings will be used in this study based on a single plan-unit in relation to the different time periods in order to refer the historical evolution of the area in Bahçelievler Housing Cooperative, Ankara.

4.2 Morphogenetic Analysis of Bahçelievler, Ankara with Conzen's Method

After describing the structure of the methodology, now, the Bahçelievler Housing Cooperative –a part of Bahçelievler District- will be examined from this framework, in order to analyse the evolution of urban blocks and their internal structures in relation to street, plot and buildings as counterparts of public, common and private spaces within the blocks, respectively.

Bahçelievler Housing Cooperative has been designed in 1930's by Herman Jansen –the author of the first Master Plan of Ankara at that time -and has witnessed the rapid urban transformation experienced in Ankara starting with the announcement of the city as the capital city of the newly established Turkish Republic until today, 2012. During this transformation, the housing cooperative has been transformed several times regarding changing plans and byelaws. In this process, the transformation of cooperative property into private property played a critical role. This phenomenon resulted in the transformation of the area alike block-plot type of block development model. In this regard, based on an analysis of the transformation of Bahçelievler Housing District, it would be possible to reveal how a designed area –with detailed plans, a variety of building types, plot types, a hierarchy among different territories consisting of public, common and private spaces, a defined territory with green belts and a legible settlement structure- has transformed in time and how the spatial variety has lost in terms of design throughout the transformation process.

Today, the Housing Cooperative Site correspond to the area encircled by the streets as; 35th Street (54th Street) at nord, Cengizhan Street (5th Street) at south, Prof. Muammer Aksoy Street (2nd Street) at east and Kazakistan Street (4th Street) at west. The foundation and design process, and the transformation process will be discussed in details in the following

sections of this chapter. Nowadays, the site lost most of its spatial features to a great extent and became a part of Bahçelievler District. Nevertheless, the cooperative site still carries the characteristic features of the neighbourhood design with a special emphasis on publicness. The structure of the settlement is still legible due to the preservation of the street-block layout depending on the well-definition of the site territory. This is why this study focuses on Bahçelievler and attempts to provide a new framework for urban blocks based on the analysis of the transformation realized in the area. (Figure 4.5)

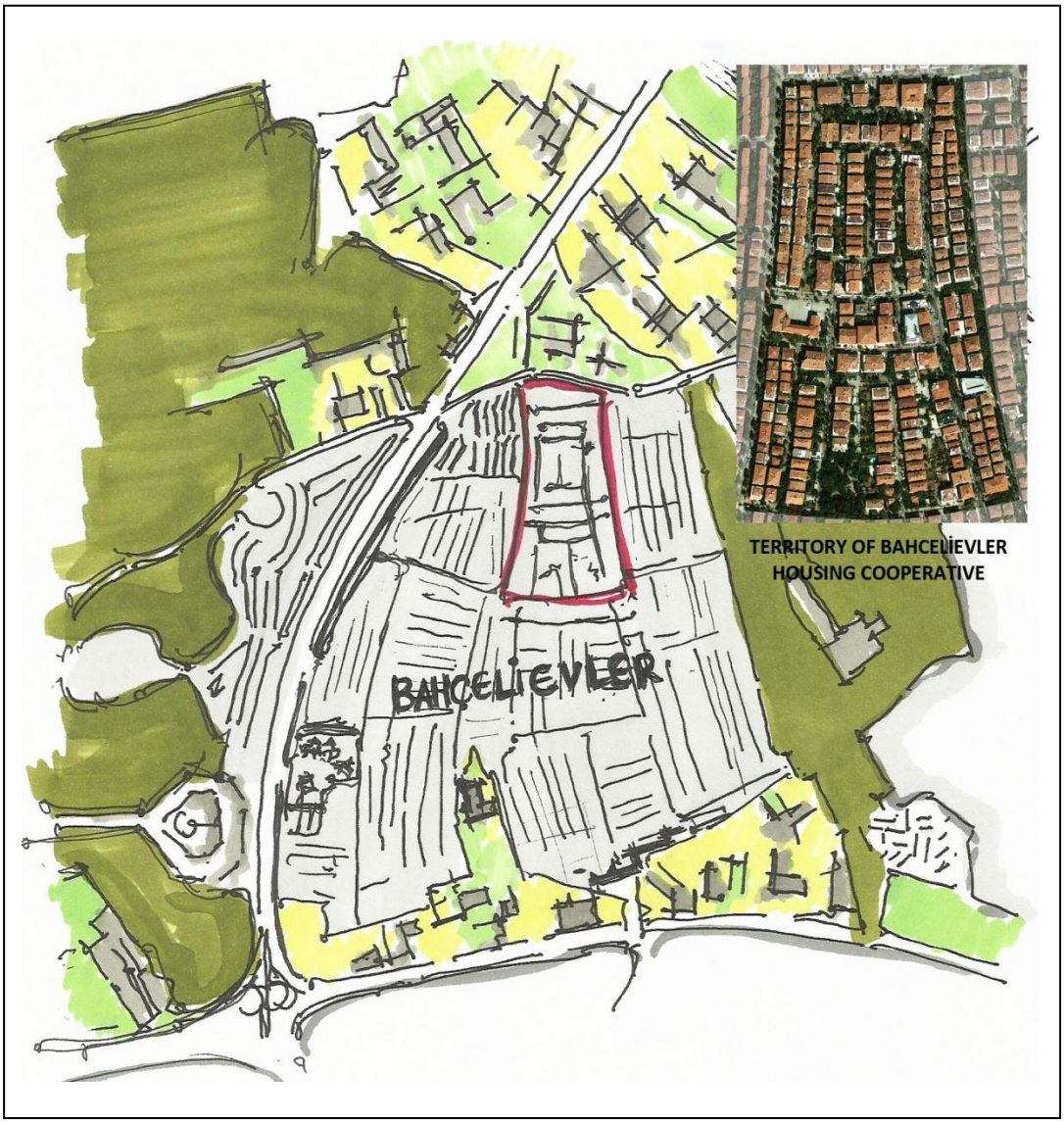


Figure 4.5 Study Area : Bahçelievler Housing Cooperative, Ankara (prepared by the author)

4.2.1 Evolution of Bahçelievler

Bahçelievler has established in 1930's under the name of Bahçelievler Housing Cooperative which seeks to develop a housing project based on a cooperative model (Üsküp, quoted in Başaran, 2002, p.25). The reasons behind such an initiative are grouped under three headings by Tekeli and İlkin as; housing problems in Ankara, application process of development plan, and correspondingly, increasing land speculations, and finally, growing interest towards the cooperation systems (1984, p.9-10). In order to establish an overview about the planning and design process of the area, these three reasons will be now detailed briefly.

To begin with, the housing problem could be described as the most significant problem arose in Ankara at that time. With the declaration of Ankara as the capital city of newly established Turkish Republic, a significant amount of increase in city's population has been experienced. As Tekeli and İlkin states, at 1927, the population was three times more than pre-war period, which became fivefold at 1935 (1984, p.10). Nevertheless, the increase in housing was in lower rates; at 1935, it was only 2,6 times more than pre-war period, that resulted in the emergence of housing problems in Ankara (p.10). Secondly, the development plan prepared by Herman Jansen caused the increase in land prices in planned areas for development which directly affected the land selection process of Bahçelievler which locates far from the built-up area of Ankara at that time. And thirdly, as mentioned above, the emergence of cooperative systems by private enterprises that are supported by the state in order to cope with the housing problems faced in Ankara. Eventually, it provided the occasion for the establishment of first housing cooperative, Bahçelievler Housing Cooperative (p.10-11).

Hence, in the following part, the evolution process of the area will be discussed under three phases; first, the formation of Bahçelievler Housing District and its design and planning process; secondly, the transformation of Bahçelievler regarding the extension of housing areas in the periphery of the area, and further, the evaluation of the current Bahçelievler will be discussed. As regards, a case study is conducted for the study area that includes inside of the cooperative boundary encircling implemented housing units in the formation process. To obtain necessary data collection; firstly, base maps and existing maps has been collected from municipalities; then, a field-oriented qualitative case study has been

conducted to observe the interfaces among public, common and private spheres; and street, plot and building.

4.2.1.1 Formation of Bahçelievler Housing Cooperative: First Accumulation of Forms

Bahçelievler Housing Cooperative had established in 1934 in order to provide new housing area for its members. Main objective of the cooperative was "... to build housing units on the plots to be purchased, that will be sold to the members ..." as it had been published in the official journal at 1935 (quoted in Şaşmaz, 1988, p.57). Then, the research has began to find a land; however, no land could be found in appropriate prices within the residential boundaries of existing master plan of Ankara (p.60). For this reason, the land -2,5 km far from Ulus and Yenişehir- locating outside of municipality boundaries had purchased at 1935 (Başaran, 2002, p.27). (See Figure 4.6)

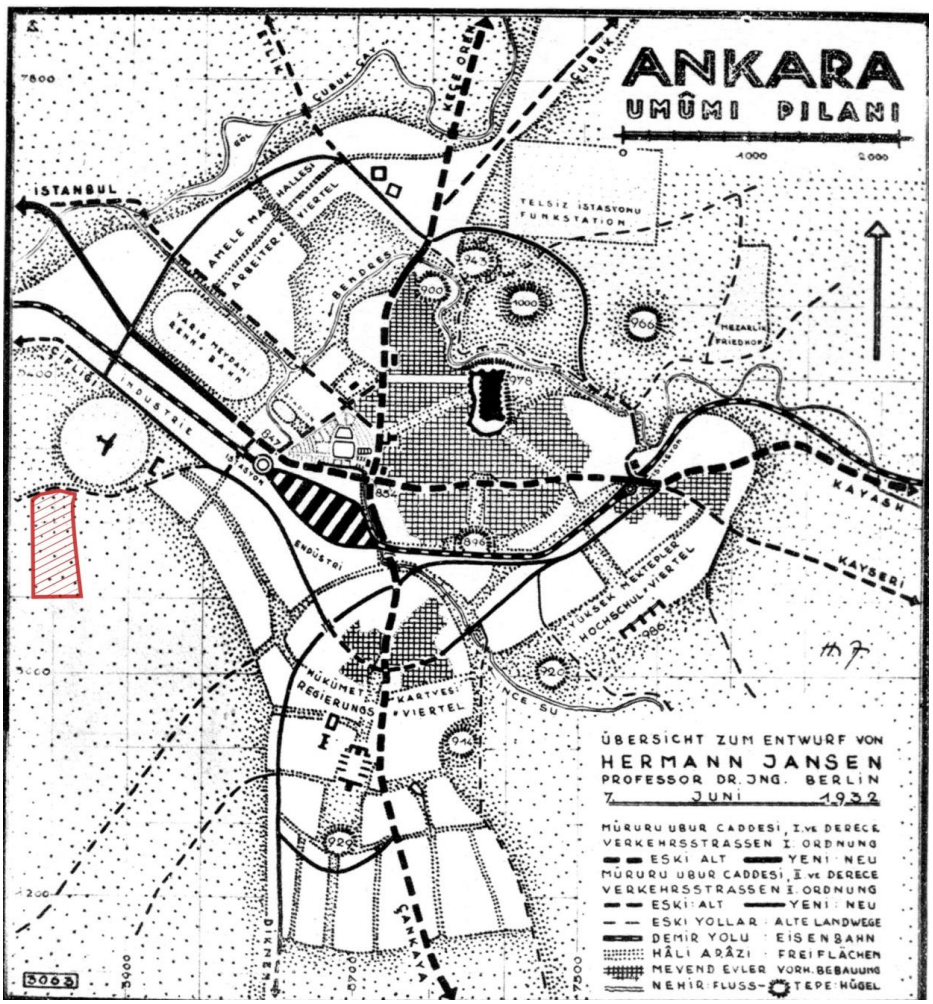


Figure 4.6 Master Plan of Ankara and the location of Housing Cooperative

Thus, in this section of the study, the design, planning and implementation processes of Bahçelievler that took place between 1934 with the establishment of the Cooperative and 1939, till the end of the implementation process, will be discussed. After the purchase, Jansen – who is the planner of Ankara at that time – has been assigned to prepare a plan for the site in which the request was "to allocate 300 housing units at the site and to use the space as economically as possible" (Şaşmaz, 1988, p.62). While the preparation of the site plan has began, the housing types were the dominant concern shaping the housing layout. Jansen proposed a housing layout including adjacent single or two storey houses with gardens in rows and low rise apartment blocks (Tekeli and İlkin, 1984, p.67). His opinion towards a new housing with low densities in large gardens might be interpreted as parallel thoughts developed in Europe after experiencing the disadvantages of industrial cities. Within this framework, Jansen prepared a settlement plan for 300 houses. Nonetheless, the plan was revised regarding the preferences of cooperative members that resulted, as Tekeli and İlkin summarises, in the decrease of the density of the neighbourhood with the replacement of adjacent blocks by single or twin houses with addition of tennis courts and pool (1984, p.68). (See Figure 4.7) Thus, now, space organisation principles of the prepared plan will be discussed in relation to the Conzen's analysis. Jansen describes the characteristics of this plan in Ankara İmar Planı Report as follow;

> "The cooperative district, (...), is a creation of Prof. Jansen. Therefore**, a unity has been achieved here both architecturally and from the standpoint of urban planning which cannot be observed in any other district of the city**. It is not just for making house blocks. They are brought into being by connecting with traffic, greenery, and administration, union and government buildings regarding Ankara monument, as small but as necessary.
>
> They are one row of twin houses and 4 rows of single houses in north-south direction. Parallel to the main road, running south, are two streets with the above mentioned single houses on both sides. The same road system is repeated in the southern part of the district. A wide green belt separates the two settlement parts. On this belt are school buildings, a casino, a shopping center and other public buildings. A similar green belt is placed in the central part of the southern section with a playground, a swimming pool, and several grounds for various sports. A view terrace's sights points the city and the castle.

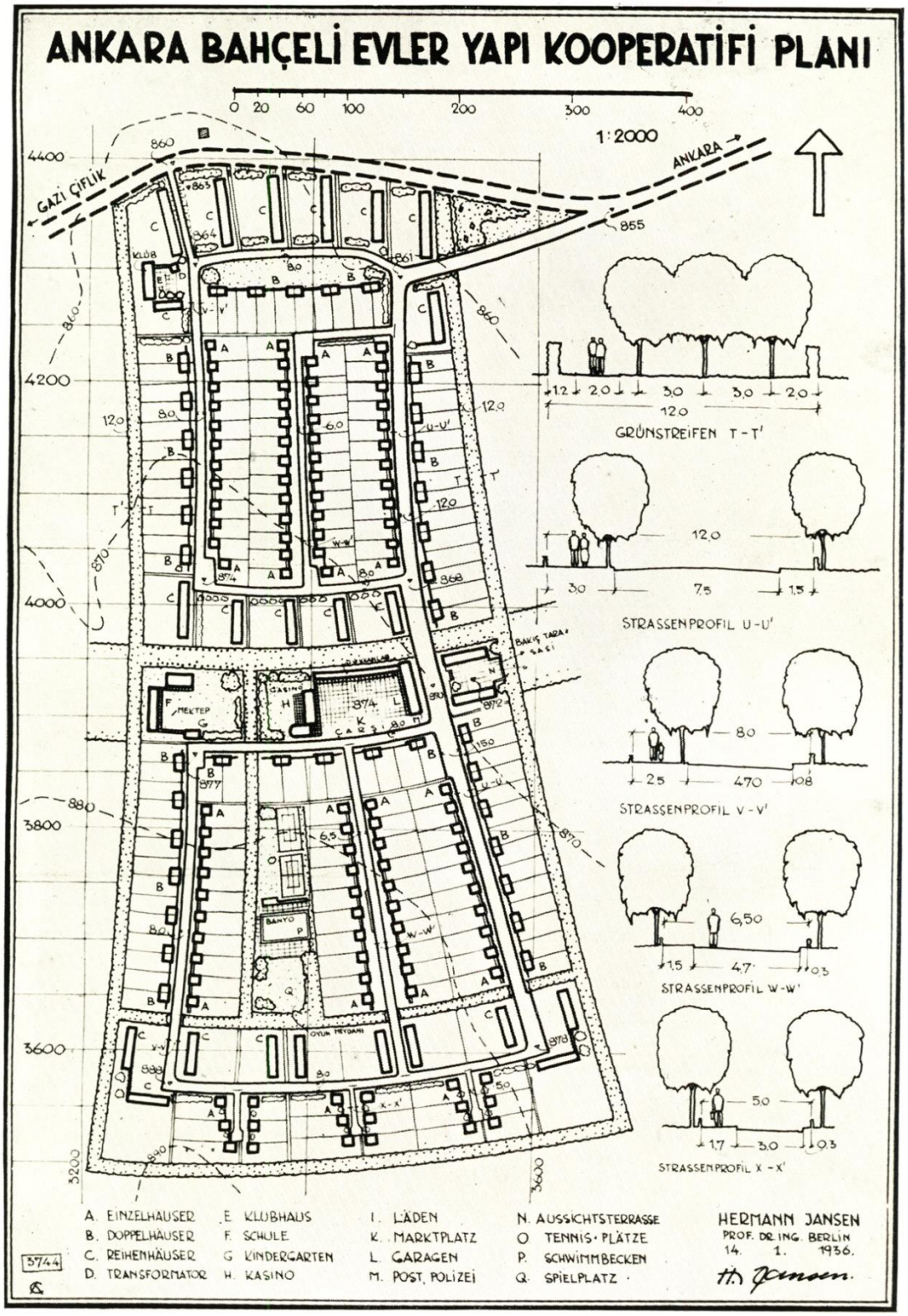


Figure 4.7 Bahçelievler Housing Cooperative Settlement Plan prepared by Jansen in 1934

The main street, after it branches from the 'Çiftlik' road enters the site and runs along the east side down towards the south. Along the northern border of the district, perpendicular to the Çiftlik road are row houses located. On the south of

The dwellings are either single, twin or row houses with one or two floors. Although they are rather small, they are very comfortable. (...). All the houses are joint to gardens. All buildings are simple, harmonious, and they reflect an architectural quality which has no concern for fashionable features" (Şaşmaz, 1988, p.87 & Ankara İmar Raporu, 1937, p.43-44).

As indicated in the report, the plan was prepared with respect to the idea of creating a unity within the site, and, with the city, in both physical and visual terms. On the other hand, the plan was reflecting the 'neighbourhood planning concept' of the era in which the principles of Garden City Movement could be traced (Şaşmaz, 1988, p.87). (See also Chapter 3.5) As Şaşmaz states, "Jansen was not against such suburbs in the periphery of the city, especially after he had observed the fast growth of the town which exceed all expectations (p.86).

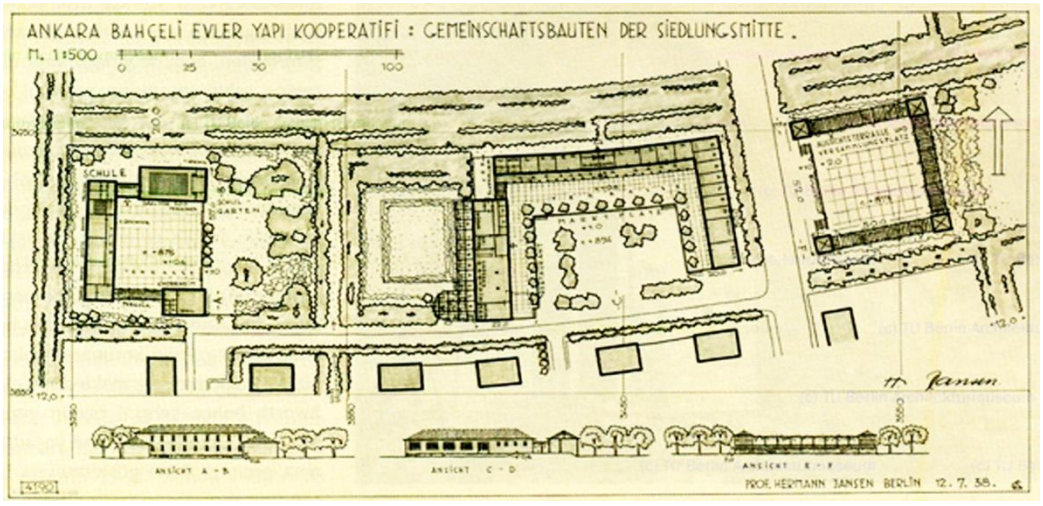


Figure 4.8 Green Belt in the middle of the site with Social Facilities (Kansu, 2009)

In relation to Garden City principles, the idea of green belt where the common facilities allocate on constitutes one of the space organisation principle of the site plan. This area puts an accent to the publicness of the Site as a design criteria. (See Figure 4.8) There were

three green belts. One were surrounding the neighbourhood as pedestrian ways that will be described in street sections. Second was the green belt crossing the site in the middle where social facilities are equipped on. And finally, in the middle of the southern part, there were a third green area where tennis courts, swimming pool, playgrounds were located. Thus, the total area for green belts and social facilities were covering 22,76 % of the total area in this initial phase (Şaşmaz, 1988).

On the other hand, another criteria that had been considered significantly was the street layout. (See Figure 4.9) Jansen aimed to decrease the amount of streets per person in which, later, it had been praised as being "the less costly street record" as Tekeli and İlkin denotes (1984, p.69). Thus, the ratio of streets used by vehicles regarding total area was 8.08 % and, total area of streets both for vehicle and pedestrians covering the surrounding green belt was 22,83 % (Şaşmaz, 1988, p.89).

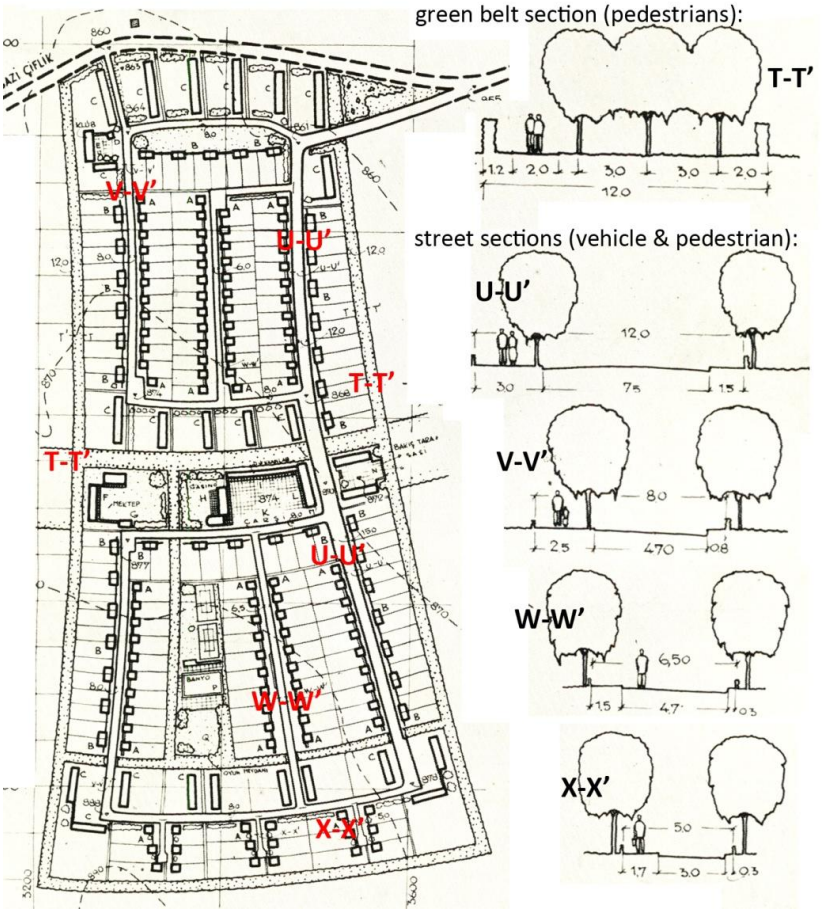


Figure 4.9 Street Pattern and Sections

Jansen proposed a hierarchy between streets in which vehicle and pedestrian traffic has been designed independently as mentioned. The major road was designed as the 3rd Street that runs along the site where other narrower streets and cul-de-sacs connected to this main traffic road to provide services for each houses. On the other hand, the pedestrian roads was oriented towards the centre of the site where the social facilities had been located.

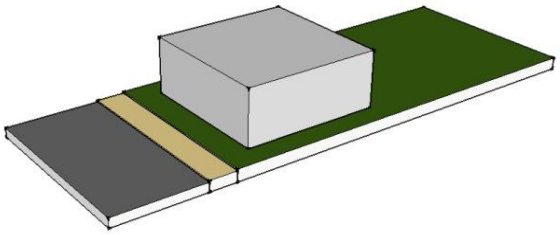


Figure 4.10 Single Plot

Considering the plot characteristics; they were almost homogeneous within the site larger backyards. (See Figure 4.10) There was a 3-meter distance between the house and the road to provide privacy regarding the Development Plan's report prepared by Jansen (1937, p.14). In this context, the average lot size was 740 m² and floor space ratio was 0,12 where the total plot area within the site was 69,16% (Tekeli and İlkin, 1984, p.69-70).

Figure 4.11 Sketches of Houses in Bahçelievler Housing Cooperative (Kansu, 2009)

For Tekeli and İlkin, Jansen's design concern was both to provide an integration with the nature as well as to conserve the urban image; therefore, he focused on the façade continuity along the streets with adjacent buildings or arbours between buildings (1984, p.72). (See Figure 4.11) At the end, five different housing types –B4, B3, C2, D3, D4- had been accepted to implement in the site regarding the preferences of the cooperative members. The models of each type will be given in the following analysis chapter. (See Table 4.2)

Table 4.2 Housing Types and Distribution on the Site (based on Şaşmaz, 1988, p.71-72)

House Type	Number of Unit	Description
B4	77	Detached, two floors, 4 rooms
B3	22	Twin, two floors, 4 rooms
D4	34	In row, 2 floors, 5 rooms
C2	29	In row, 2 floors, 6 rooms
D2	7	In row, 2 floors, 7 rooms

Although the plan was prepared in detail by eliminating any confusion about the implementation process, and further, it was revised by taking into account the willing and preferences of the members, in the implementation process, some changes have been made anyway. Tekeli and İlkin (1984) define these changes under two headings. Firstly, after the selection of housing types by the members, no member selected adjacent block houses, hence, they had been removed from the plan. On the other side, the decision made about the extension of the planned airport area near to Tandoğan Square resulted in the necessity to abandon the northern blocks that are adjacent to Çiftlik Road. For that reason, another revision had been made by Jansen, however, the main schema, and especially street network could have been preserved in spite of some small changes. The major change could be noted as the decrease in density among the site regarding the changes in building types (1984, p.72).

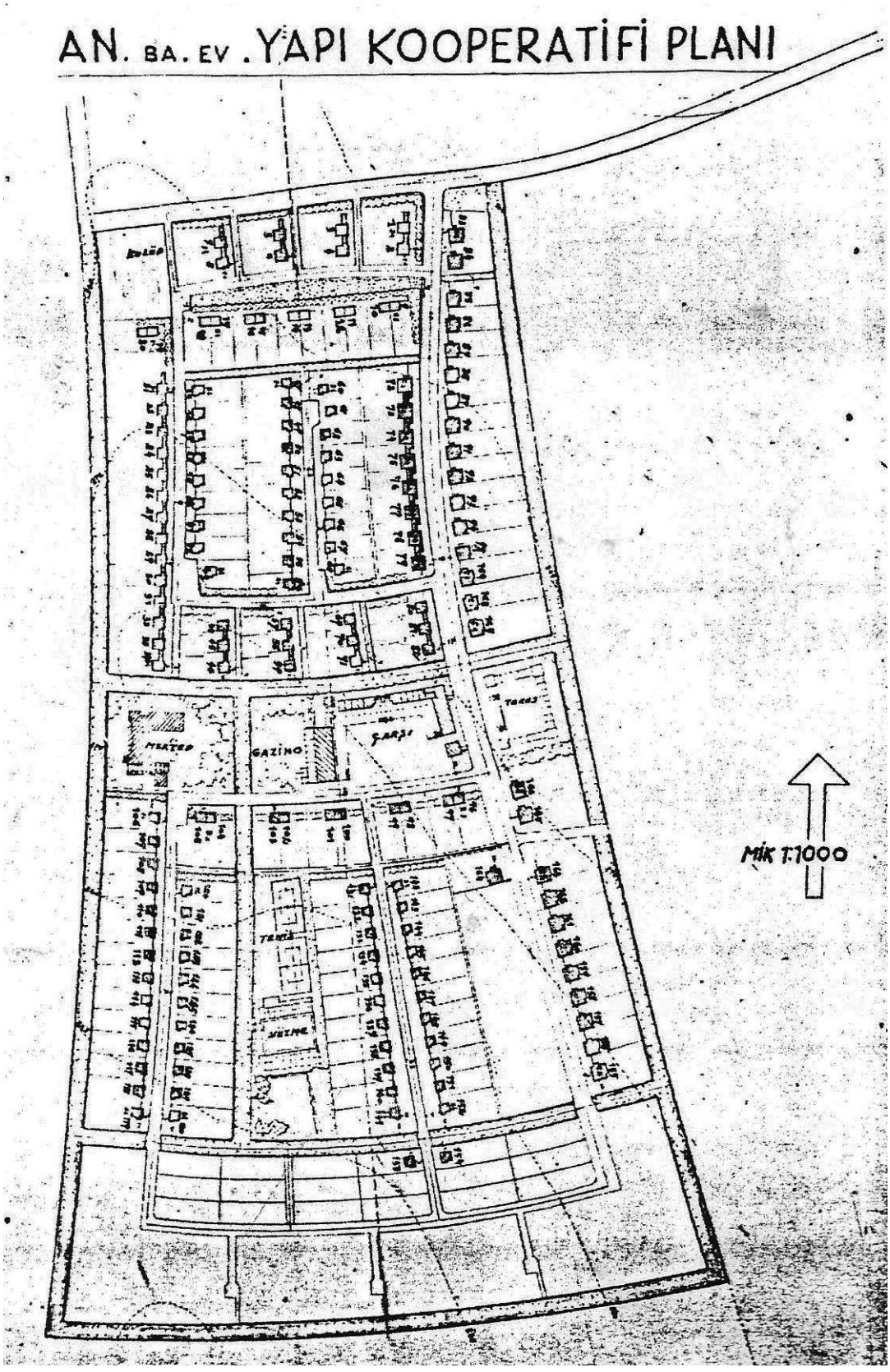


Figure 4.12 The Revised Site Plan of Bahçelievler Housing Cooperative at 1938 (Şaşmaz, 1988, p.70)

Some other changes occurred during the implementation process as well. As the number of members was 169, that much housing units had been constructed instead of 300 housing as Jansen planned (Başaran, 2002, p.45). Further, as Başaran indicates, "amongst common facilities proposed by Jansen, only shops and a police station were built together with post office building"; whereas, the casino, swimming pool, view terraces and tennis courts could not constructed (p.45). Furthermore, a school with five classes had been constructed by the cooperative and then, assigned to Ankara Özel İdaresi (Tekeli and İlkin, 1984, p.86). After the implementation process that had finished in the end of 1938, the cooperative accomplished its function regarding construction process, and their concern shifted to remedying the deficiencies of the buildings, paying rest of the debts, greening the area, etc... (p.94-98). (See Figure 4.12) The abolishment of cooperative at 1950, as the adopted housing cooperative model were proposing the conversion of building properties from cooperative to the possessors of the buildings, resulted in the resolution of the site in the long term (p.108). Together with the generation of land speculations within the surrounding areas of the cooperation's site, the resolution of the Bahçelievler HC has begun. In the following chapter, this transformation process will be discussed in details.

4.2.1.2. The Transformation of Bahçelievler Housing Cooperative regarding the Extension of Housing Areas in the Periphery : Adaptation of Forms

Bahçelievler Housing Cooperative (hereafter Bahçelievler HC) as discussed in the previous chapter, had planned as suburbs regarding Garden City principles where the land selection process was reflecting the parallel concerns as well. As Tekeli and İlkin state, the site selection for the cooperative was a significant sprawl towards the West for the first time (1984, p.56). Thus, how the relations between Bahçelievler HC and the development plan of Ankara will be related was generating a critical question. In a plan prepared by Jansen at 1936, a development for the areas between the cooperative site and Yenişehir had been proposed (p.71-72). Yet, Jansen prepared a sketch for the area proposing a new residential zone adjacent to cooperative site in the east direction with a similar pattern. Thus, these proposals and developments led to the generation of land speculations in this region too, in addition to Yenişehir case. (See Figure 4.13)

In this part of this chapter, the second phase of the Bahçelievler HC as the transformation of spatial characteristics of the site related to the abolishment of cooperative will be discussed regarding the developments took place between 1940's and 1960's at the

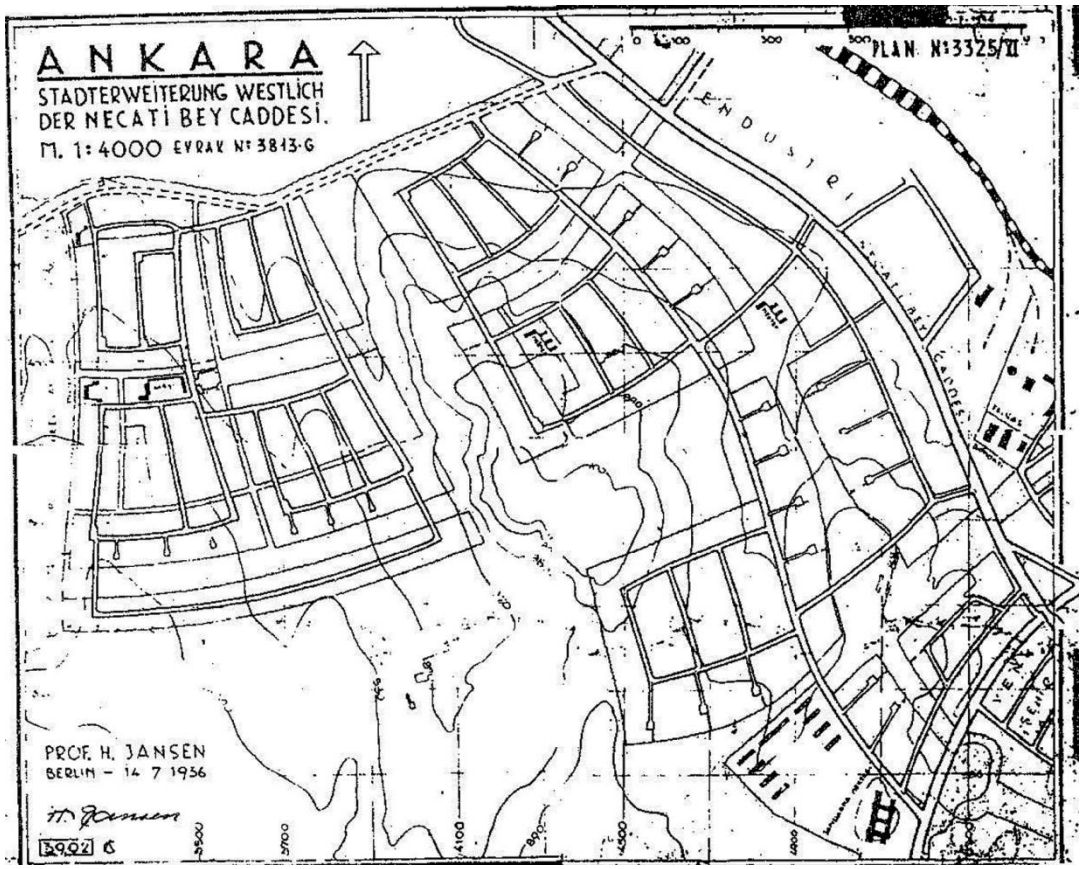


Figure 4.13 The Plan connecting Bahçelievler to Yenişehir (Tekeli and İlkin, 1984, p.62)

surroundings of the cooperative area. The further development plans and plan revisions are listed in Appendix B, to show the tendency to direct the growth through the West Direction towards Bahçelievler HC borders. After the implementation of this housing district, several new cooperatives had been established and purchased land in this region. These developments are an outcome of the reciprocal relation between the establishment of new cooperatives and development plans for the area or vice versa. The cooperatives established are; at 1937, *Küçük Evler* Housing Cooperative; at 1941, *Tasarruf Evleri* Housing Cooperative; at 1941, *Şenyuva* Housing Cooperative; at 1942, *İş Bankası Memurları* Housing Cooperative; at 1942, *Yurt* Housing Cooperative; at 1942, *Ucuz Evler* Housing Cooperative; and at 1944, *Zümrüt Evler* Housing Cooperative (Cengizkan, 2000, p.102). Thus, the later developments, as at 1954, *İsrailevleri* (*Dikmen* Housing Cooperative) and at 1951, *Emek* (*Emeksan Memurları* Housing Cooperative) as well as Yeşiltepe Housing Cooperative and lately developed Eser Sitesi that are both introduced high-rise housings to the area took part of in the development process of the district (p.102). These developments have begun

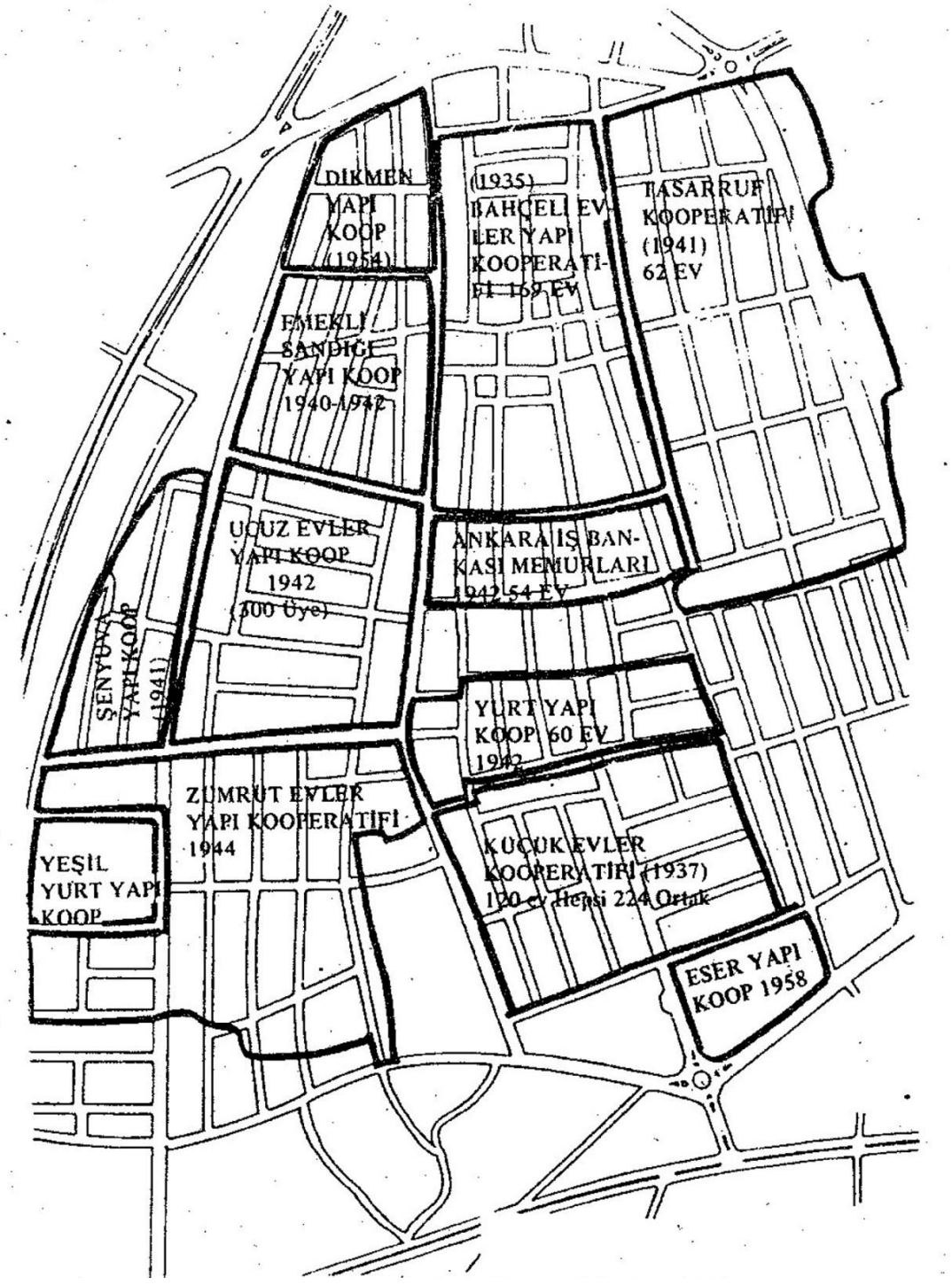


Figure 4.14 The Location of other Housing Cooperatives (Tekeli and İlkin, 1984, p.112)

to create a pressure on the Bahçelievler HC site in which it has resulted in the resolution of the area in terms of space organisation that affected the street pattern, as well as plot characteristics and building types. (See Figure 4.14)

As Tekeli and İlkin state, other cooperatives had purchased the surrounding lands by paying many times more money than Bahçelievler HC did; hundred times more regarding the twenty years of period between 1942-1962 (1984, p.109). Hence, this ended up with the denser settlement type in the periphery which eventually caused the increase of density among Bahçelievler HC as well as they assert (p.109). Thus, in order to have a detailed information about the settlement patterns, spatial characteristics of some of the surrounded cooperatives will be described briefly.

Küçük Evler Housing Cooperative was established in 1937 soon after Bahçelievler HC; and consisted of the amenities such as a club, a casino, and a shopping centre with various blocks of single-storey houses within (Şaşmaz, 1988, p.AII/2). Emekli Sandığı (Emeksan) Memurları Housing Cooperative, as it is seen in Figure 4.23, has purchased land in the south-west side of the Bahçelievler HC in 1951. As Cengizkan notes, the site constitutes a playground, small parcels of shops and 215 plots to build four different types of dwelling units; A, B, C and D type (A type is a single storey L-planned unit, B plan type is twin-attached duplexes, C type is twin-attached single storeys and D type which is 2 storey unit) (2000, p.155-158). Afterwards, the plan had been revised and three housing types were accepted as A,B and D plan types; all were attached two storey buildings (p.155-158). On the northern side of Emeksan Cooperative and the west side of Bahçelievler HC, İsrailevleri had been started to construct in 1954 under Dikmen Housing Cooperative initiative. The site constituted of 53 blocks of 4 storey apartment buildings with communal spaces among the units serving as a pedestrian pathway (p.204-205).

On the other hand, Yeşiltepe Housing Cooperative founded in 1955 and Eser Sitesi founded in 1959, introduced a different type of housing to the area. Yeşiltepe contains 9 storey blocks in which “in perspective [it] does convey a 10-storey ‘modern looking’ buildings”; (Cengizkan, 2000, p.215-216) whereas, Eser Sitesi was comprised of 14, 7, 6, 10 storeys of blocks that have extra ground and basement floors (p.302-303). As Başaran states, those housing areas introduced a “modernist high-rise residential block” (2002, p.51) to the area which eventually caused variations in buildings and housing layout among the district that increased the pressure on Bahçelievler HC consisting of two storeys dwelling units in each

parcels. Those cooperative plans containing diverse housing layout and dwelling types was prepared separately. Although İmar İdare Heyeti had prepared a regulation for further developments in 1937, this plan was likely to be insufficient in terms of providing a spatial adaptability between Bahçelievler HC and other cooperatives (Tekeli and İlkin, 1984, p.109).

All of these developments initialised the process of resolution in Bahçelievler HC in which some of space organisation characteristics had began to transform regarding the listed planning decisions. This process might also be interpreted as the **secondary accumulation of forms** and **adaptation of forms** regarding the terminology of Conzen. Thus, those two process as explained before (see chapter 4.1) are intertwined in this example. As the plots had began to be filled with additional units referring to secondary accumulation; some transformation also observed in the existing forms alike transformations of street sections that addresses the adaptation process of forms. These developments will be elaborated now regarding the transformation of space organisation principles in Bahçelievler HC.

First transformation had been experienced in the conversion of green-belt encircling the area. Depending to the implementation of other cooperatives, in 1948, the green belt had been converted into 3rd, 4th and 6th Streets, in order to satisfy transportation and circulation needs of the extended district (Tekeli and İlkin, 1984, p.109). As indicated before, the transformation of property from cooperative to the possessors, led the owners to appeal for the increase in density within their plots, especially, in those that have adjacent plots to the converted streets. In addition to these, the southern part that had not developed during the implementation process had been sold to İş Bankası Mensupları Housing Cooperative (Şaşmaz, 1988, p.93); that caused the increase of density within the site and transformation of both transportation and circulation pattern. Therefore, the study area will focus on the implemented area and southern part of the cooperative will be off limits of the study area. (See Figure 4.15)

Due to the transformation realized in the periphery of HC, street pattern could have been conserved despite some changes in street sections. The cul-de-sacs had been connected with major roads. However, in morphological terms, the street pattern had been preserved which is described by Conzen as the most persistent element of town plan. The transformation of street pattern will be discussed in detail in the further analysis chapters based on comparison within three phases.

Figure 4.15 Aerial photo of the Bahçelievler District in 1952 (Baş, personal archieve)

Moreover, the second element of town plan for Conzen that is likely to be the plot pattern has experienced a greater transformation. According to Şaşmaz, in Küçük Evler Housing Cooperation, the plot size was almost half compared to Bahçelievler HC; in addition to this, a smaller area was allocated for public use as well (1988, p.96). Thus, the density of the area became higher (80 pers/ha) than Bahçelievler (p.96). Further, Küçük Evler requested a permission for second floor depending to the example of Bahçelievler and Tasarruf Evleri – located on the east site of Bahçelievler HC, consisting 2 storey houses-, however, the request had been denied at first time. Nevertheless, this attempt shows the tendency of users and owners to increase the density in the area correspondingly to the increasing land values of the district. And soon after, Directorate of Reconstruction gave the permission for second storey covering both the existing and planned buildings (Şaşmaz, 1988,p.97). And further, Küçük Evler became an example for the district which resulted in the subdivision of plots in Bahçelievler HC.

On the other hand, the Dikmen Housing project in the west side of Bahçelievler HC, generated a breaking point for the district. Four-storey building permission had been assigned for the development; hence, it was "setting an example for the building of apartment blocks" for the area (Şaşmaz, 1988, p.97). In this way, these permissions led the replacement of two storeys single family buildings with the apartment blocks which eventually increased the pressure on existing buildings and plots and resulted in transformation of the buildings in Bahçelievler District.

Meanwhile, the Directorate of Reconstruction had begun to prepare a plan based on site plans of the existing cooperatives in which the connections between roads, and the planning of unoccupied vacant areas between the cooperatives are revised. Within this framework, in 1942, the 'Building Order and Allotment Plans' had been prepared in order to "obtain unity in the building order" along 4th Street which affected Bahçelievler HC's site plan as well (Şaşmaz, 1988, p.93). As Şaşmaz states, this 'unifying approach' of the Directorate of Reconstruction resulted in the loss of space characteristics of Jansen's plan in which he described as 'modular conception' (p.94). Soon after, the individual developments began to be observed in the vacant land that are integrated with the planned sites in the district. As a result, the disconnected pattern of cooperatives and individual constructions decreased the power and effectiveness of Directorate of Reconstruction to supervise (p.95-96). (See Figure 4.16)

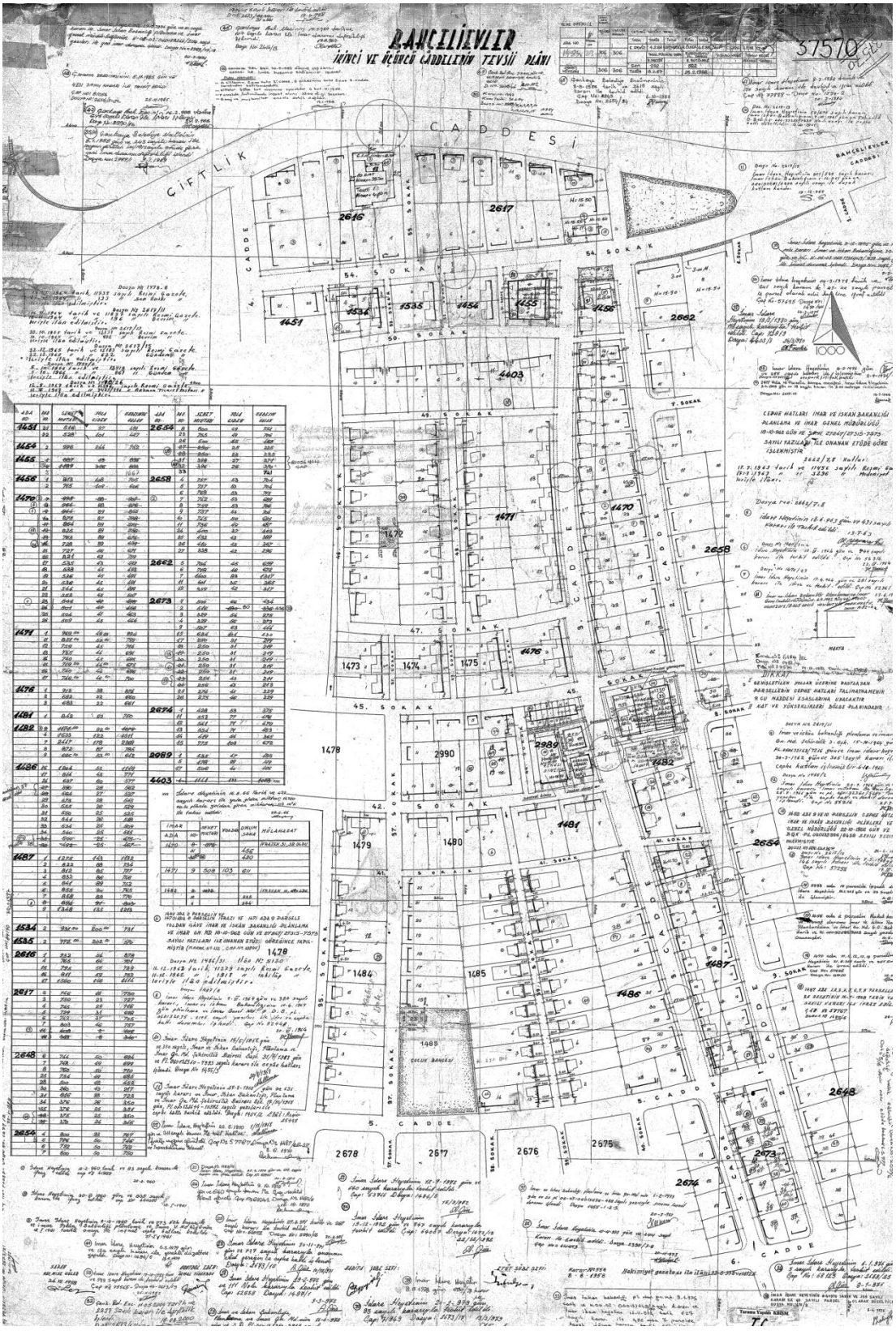


Figure 4.16 The changes made in the Plan of Bahçelievler Housing Cooperative

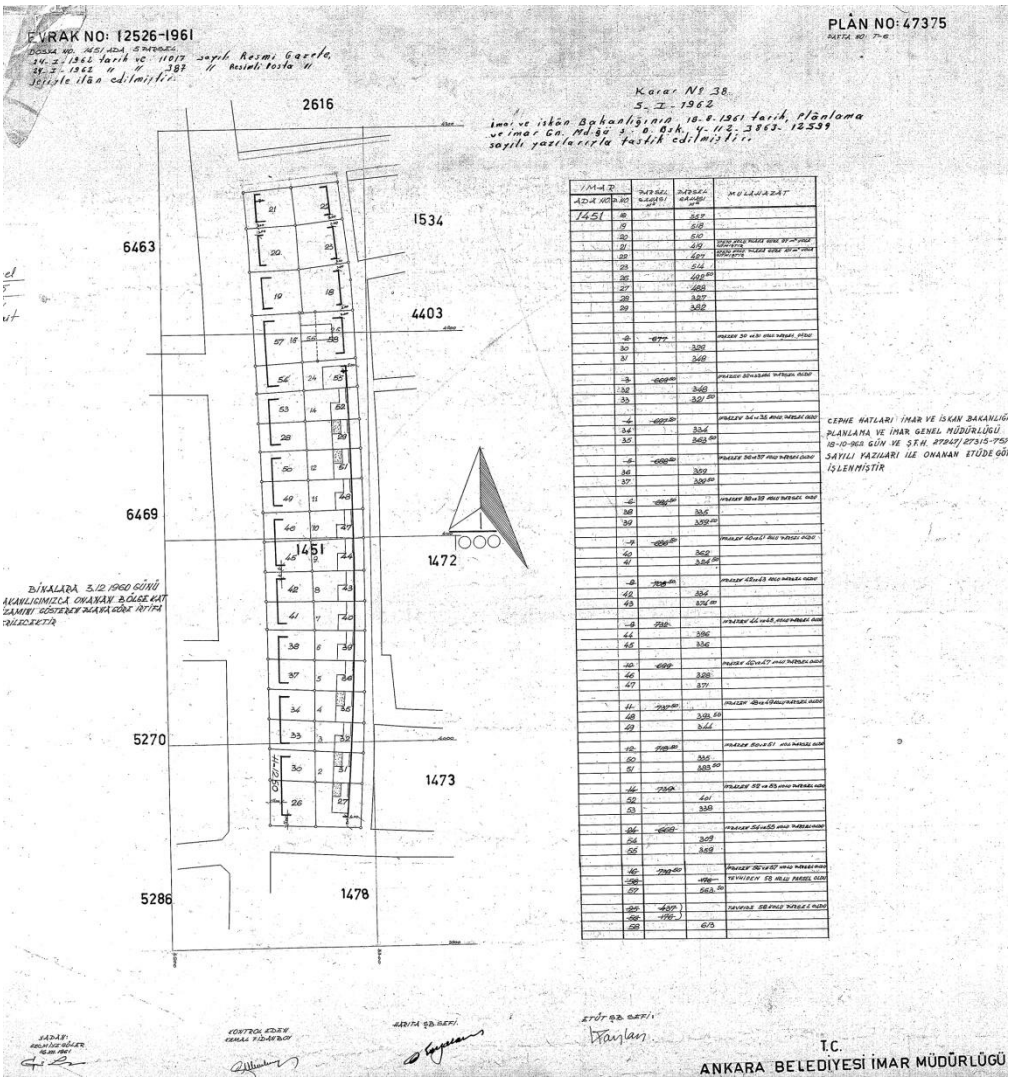


Figure 4.16 (cont.) The changes made in the Plan of Bahçelievler Housing Cooperative

Regarding these developments, as it is exemplified in Şaşmaz's study (1988), a building owner in Bahçelievler in which the plot allocated along the 4th Street, requested a permission for subdivision of the plot into two; and after, firstly, Reconstruction Administrative Board gave the right to the owner to construct a single-storey shop. Then, the subdivision of plot is approved, and finally, a permission for 4 storey had been given to the owner which are parallel to the secondary accumulation and adaptation process of forms as Conzen indicated. (See Figure 4.17)

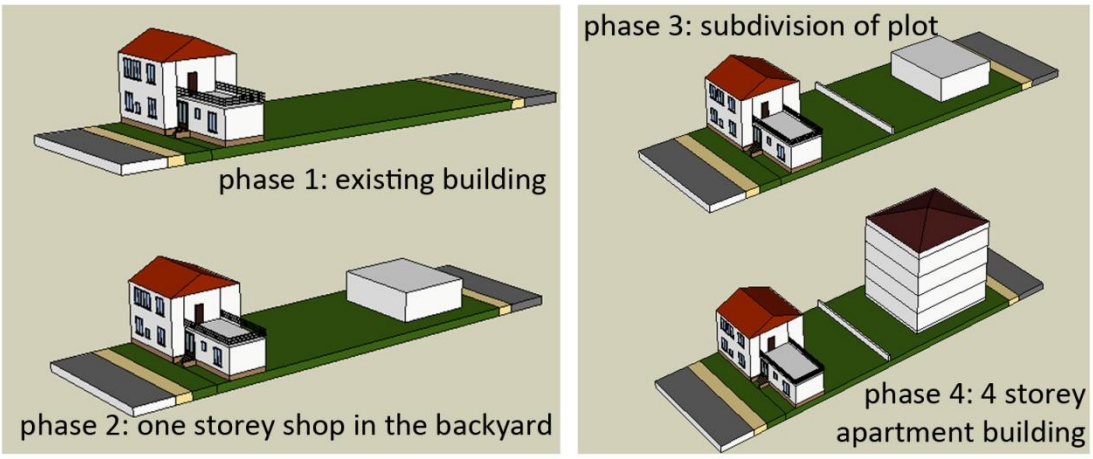


Figure 4.17 The subdivision process of plots within the site

In the further steps of this process, the redevelopment of existing two storey buildings in the original plot has been started. This redevelopment process constituting the third phase of the transformation of the site that is the replacement of buildings will be discussed in the following chapter.

4.2.1.3 Evaluation Of The Current Bahçelievler : Replacement of Forms

As described in the previous chapter, the construction process of İsrailevleri became a breaking point for Bahçelievler and stimulated the replacement period of the existing building stock in the site. This process might be interpreted also as an outcome of population increase which were realizing in higher rates than projected in Ankara. For that matter, a necessity for another master plan emerged. In this respect, an international competition was held in 1955, where Yücel-Uybadin Plan was selected in 1957 and the implementation process had begun (Başaran, 2002, p.53). As Tekeli and İlkin state, with this plan, the requests for multi-storey building rights had been legalized regarding the permissions made in 1960's. Thus, this part of the chapter focuses on redevelopment process started in 1960's and ongoing till today.

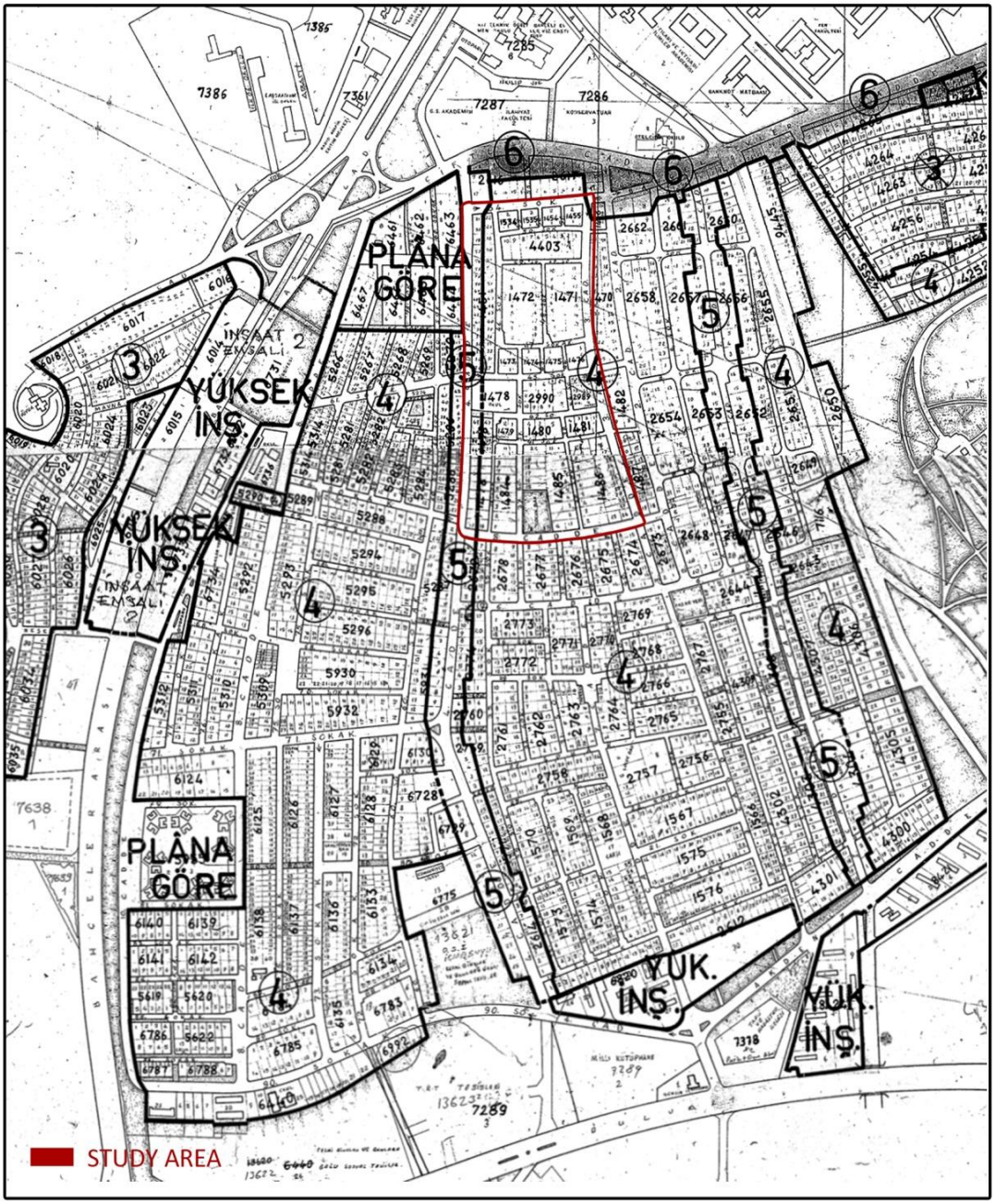


Figure 4.18 Building Height Regulation in 1971

These mentioned permissions started up the process of replacement of forms in Conzen's term which is related to the increasing pressure regarding social or economic needs. As Şaşmaz points out, "the main element bought to Bahçelievler by this plan was increased density. In addition to that, roads were enlarged, building blocks were adjusted, special building orders were granted to local areas" where he interprets this process as the integration of Bahçelievler to Ankara correspondingly to 1957-Yücel-Uybadin Plan (1988, p.99). Regarding this context, the renewal process had began in 1960's, and "pulling down the existing cooperative houses and replacing them with apartment buildings, in a 'build-and-sell' manner (yap sat düzeni)" has been experienced (p.98).

From this respect, 634 Flat Ownership Law approved in 1965 had affected Bahçelievler HC area as well in which the higher densities had been reached compared to the first phases of the settlement (Başaran, 2002, p.53). Thus, existing houses of Jansen's plan has begun to demolish and they are replaced with new apartment blocks, in addition to the conversion of the areas allocated for social facilities into building plots (p.53). Moreover, the new Building Height Regulation was approved in 1971, and proposed 4 storey apartment developments within the site in which the plots along 1st and 4th street were allowed for 5 storeys that eventually encouraged the replacement process of buildings within the site. (See Figure 4.18) This resulted in the demolishment of existing houses and development of apartment buildings. Şaşmaz summarised this process as follow;

> "Now, Bahçelievler is not more a 'garden settlement' developed by cooperatives, but is s 'virgin area' within the whole of Ankara being renewed with a great speed in the 'built-and-sell' order. Along with the increased number of storeys, the floor areas of the buildings were enlarged also according to the Reconstruction Statue (İmar Yönetmeliği). Using either allotment or unification of parcels this fact has been brought to the highest level. Finally a population density up to 25 times as in the beginning was reached at in Bahçelievler" (1988, p.99-100).

Figure 4.19 The Existing Situation in 1995

Figure 4.20 The Aerial Photo of Bahçelievler in 2012

Thus, this process lasted a while and in the 1995, almost every dwelling were replaced with apartment building except a few examples. (See Figure 4.19) As Tekeli and İlkin (1984) emphasized on, this process resulted in the decrease of environmental conditions in a great speed. The population of area which was 8273 in 1950, increased to 44.600 in 1965, and further, it reached to 55160 in 1970; the density of the area which was 32,3 in 1938, increased to 214 in which the green areas decreased drastically: 8 m^2 in 1938 and 0,25 m^2 in 1970; the same decrease has been experienced in terms of social facilities as well (p.111). The final state of Bahçelievler in 2012, is almost the same comparing to 1995's existing plan. Although some replacement has realized, they are only 1 or 2 due to the fact that the area reached to the saturation point. (See Figure 4.20)

In order to consider the characteristics of town plan elements, in the third phase, it became the buildings that are transformed to a large extent. Street pattern had been preserved after the transformations till 1960's; alike the subdivision of plots; whereas the replacement period of buildings had begun after 1960's. Thus, this speed replacement process of existing buildings caused the transformation of space organisation characteristics of the area in which the street, plot and buildings has experienced different types of transformations. In the following part of this chapter the transformation process based on three phases will be discussed based on a morphogenetic analysis.

4.2.1.4 Morphogenetic Analysis of Bahçelievler Housing Cooperative

After explaining the evolution process of Bahçelievler Housing Cooperative as regards to three phases, in this part we shall focus on the transformation processes of spatial and morphological characteristics of the area. Within this scope, three analysis will be conducted: Figure-Ground analysis, Conzen's Morphogenetic Analysis and Land Utilization.

Figure-Ground Analysis

One of the significant transformation realized in the area is the increase in density that resulted in the changing solid-void and figure-ground relations. Regarding figure-ground analysis of the three phases defined, it is possible to claim that the density of the blocks has increased drastically, especially in the third phase which is likely to be the re-building process. The reasons behind this increase might be interpreted as the spatial changes happened in the area as the consequence of the transformation of the site from an urban suburb through a sub-city centre depending to the enlargement of the core.

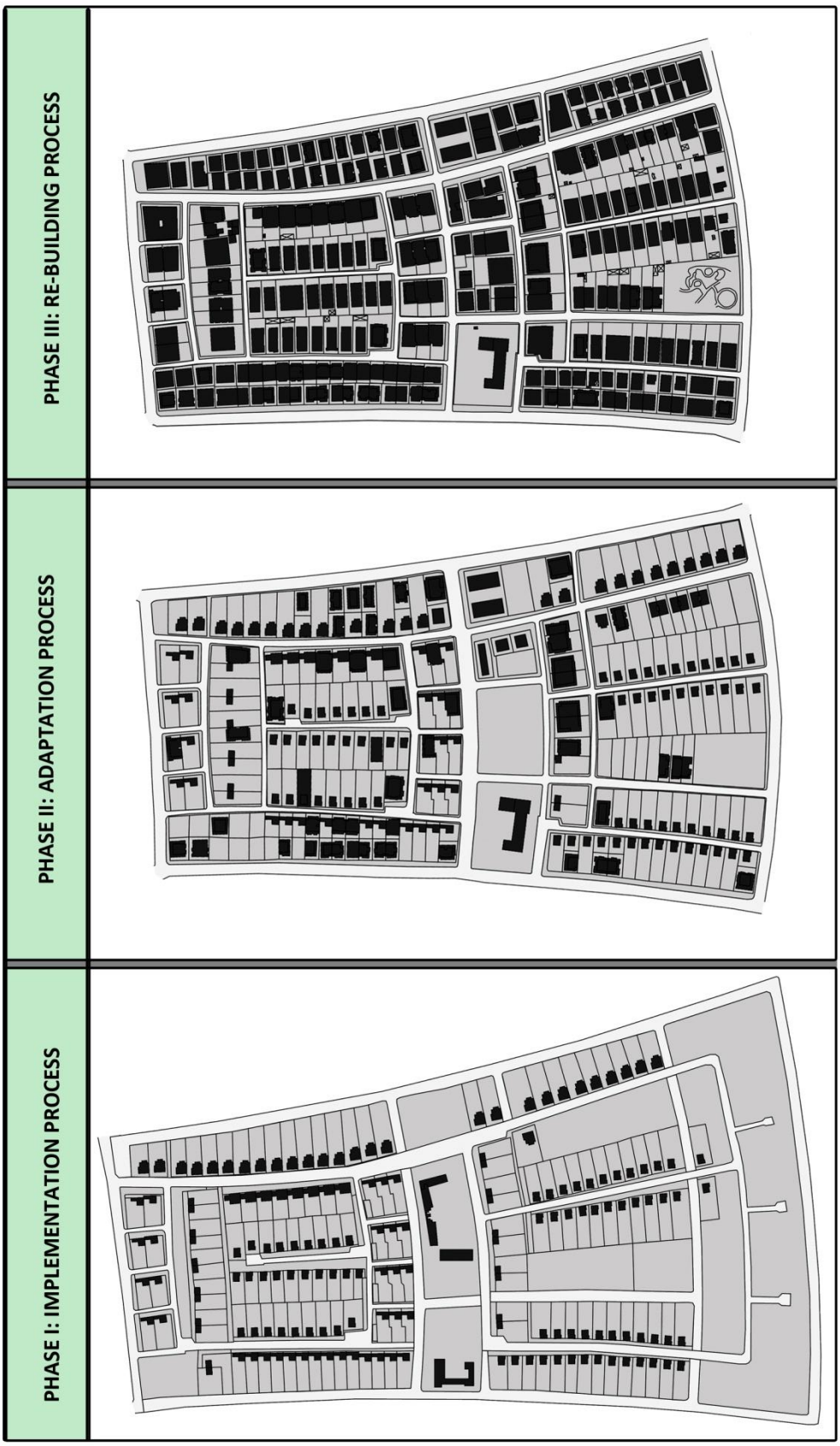


Figure 4.21 Figure & Ground Analysis of Bahçelievler HC between 1930's and 2012

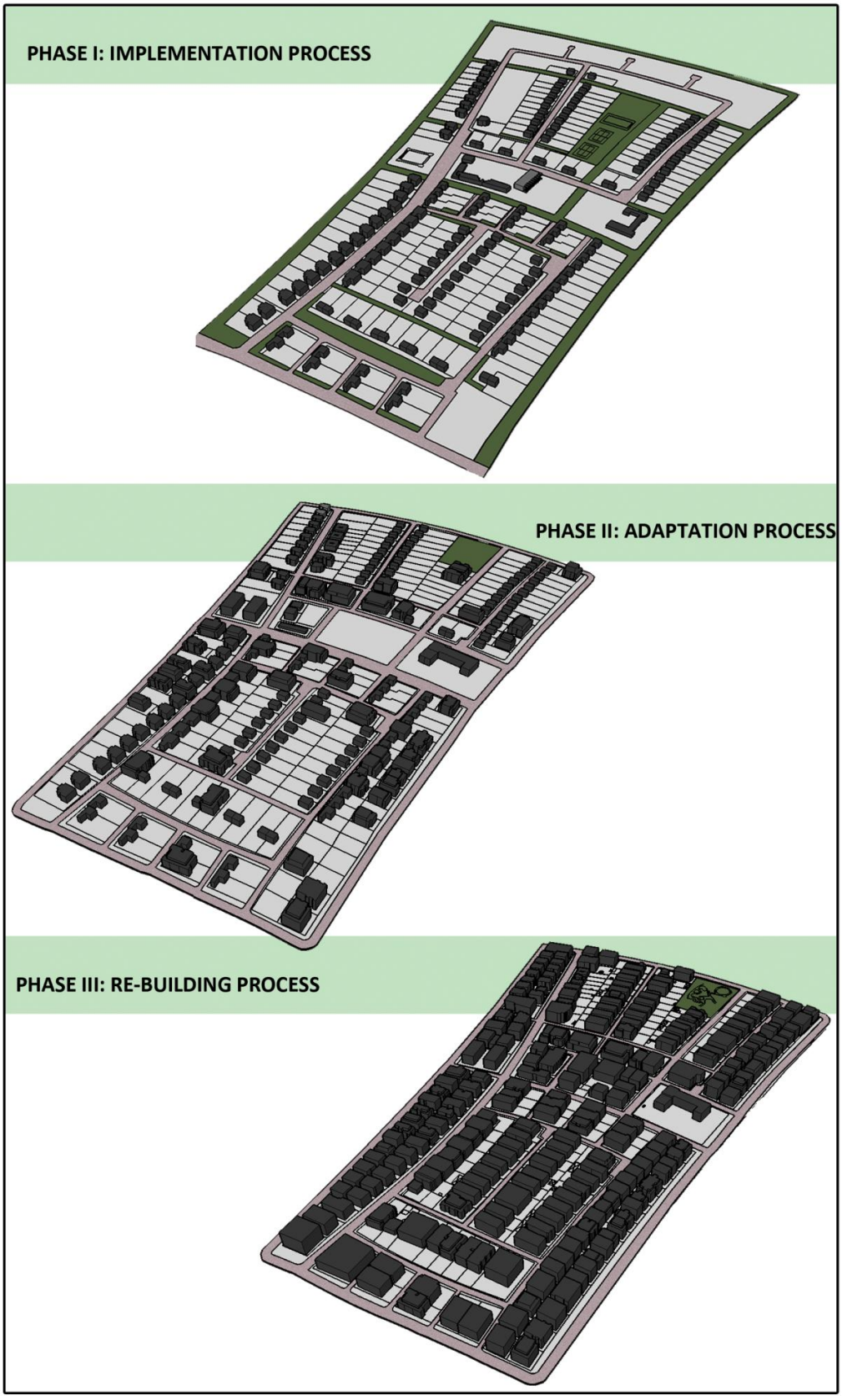


Figure 4.22 Changing Solid-Void Relations of Bahçelievler HC between 1930's and 2012

On the other hand, the corresponding residential development in the periphery of the Cooperative Site as discussed in the second phase has played a critical role in the density increase in terms of both population and total construction area. (See Figure 4.21) Thus, increasing floor area ratio and building height changed the space organisation pattern of the area where the small maisonettes in larger greenery has been replaced with 4 or 5 storey apartment buildings with smaller and undefined front, back and side yards used as car parking area. Hence, this change in the massing proceeded with a volumetric change in the site as well depending on changing solid-void relations. (See Figure 4.22)

Conzen's Morphogenetic Town Plan Analysis

In order to have a deeper analysis about the transformation of street, plot and buildings, Conzen's morphogenetic analysis will be applied subsequently in an attempt to compare three phases. As discussed previously, the first phase refers to the implementation process of the plan which might be also described as the process of "first accumulation of forms" with Conzenian terms. Thus, this phase initiated the formation process of the spatial characteristics of the area where the public, common and private territories had been defined. In the first phase, the fundamental principle of space organisation was to introduce a neighbourhood model to the site. The site has consisted of small maisonettes in large greenery surrounded by green belts. The middle of the site has been separated for social facilities and the centre of southern part for sport facilities. It was a self-sufficient suburban area based on a neighbourhood model at the outside of municipality borders. (See Figure 4.23)

In the second phase, the pressure emerged with respect to the developments in the periphery of the site resulted in the transformation of the area. At first, greenbelts turned into streets –vehicle roads- to provide circulation for other cooperatives. The transformation of cooperative property into private property played a critical role in this process to a large extent. The common spaces of the cooperative serving as green area in the periphery of some blocks has been registered either private or public property. Some of them became a part of adjacent plots and some of them became a part of the streets. Nevertheless, the street-block pattern could be preserved throughout the site despite some small changes.

On the other hand, some of the green areas as well as the reserved areas for social facilities was divided into plots and the construction of new buildings. The second phase that can be

described as adaptation phase had affected mostly the plot pattern. With the transformation of green belts into streets, the plots in the linear blocks surrounded by those streets has begun to be subdivided. In spite of the fact that Conzen's terminology as burgage cycle is used for medieval plots, the subdivision of plots in this area has a similar process. In order to be adapted to the changing conditions, needs and increasing pressure on the area, the plots has experienced a filling-in period. This process ended up with the plot subdivision which could be described as burgage cycle. Thus, the main morphological transformation of the second phase became the plot subdivision that also caused the density increase in further processes and affected the space organisation pattern of the site. (See Figure 4.24)

In this study, the third phase was described as re-building process where existing buildings has been replaced with 4 or 5 storey apartment buildings. This process of redevelopment or building replacement as Conzen determined, started after the building height regulation in 1971. This phase is analysed under three periods categorised due to the diverse architectural characteristics or style to comprehend when the transformation of buildings has realized mostly. These periods could be grouped as firstly, buildings constructed after the building height regulation in 1970's until early 1980's, secondly, buildings constructed between late 1980's and mid 1990's regarding existing map of 1995; and finally, buildings constructed between mid 1990's and 2012. As a result, it has been revealed that the subdivision of plots that has begun in the second phase has almost accomplished in the blocks located at the periphery of the area that adjacent to converted green belts. Moreover, the subdivided plots are filled with newly constructed apartment buildings. It is between 1970's and early 1980's that the buildings have been reconstructed in a great extent. This phenomenon did increase the density of the site drastically. To sum up, it would be possible to state that the construction and re-construction of buildings have been the significant feature of the third phase whereas only a few subdivision or amalgamation of plots have realized. Therefore, it was the buildings that has experienced a transformation in this phase. If three periods of final phase would be compared, it is shown that the construction and re-constructions have decreased drastically from first period till final one. The first developments had been realized with the construction of new buildings in the vacant plots. Thus, this tendency continued almost till today with a significant amount of decrease. Thus, it would be also critical to assert that it was be the vacant plots that was more vulnerable against the pressure for urban development. (See Figure 4.25)

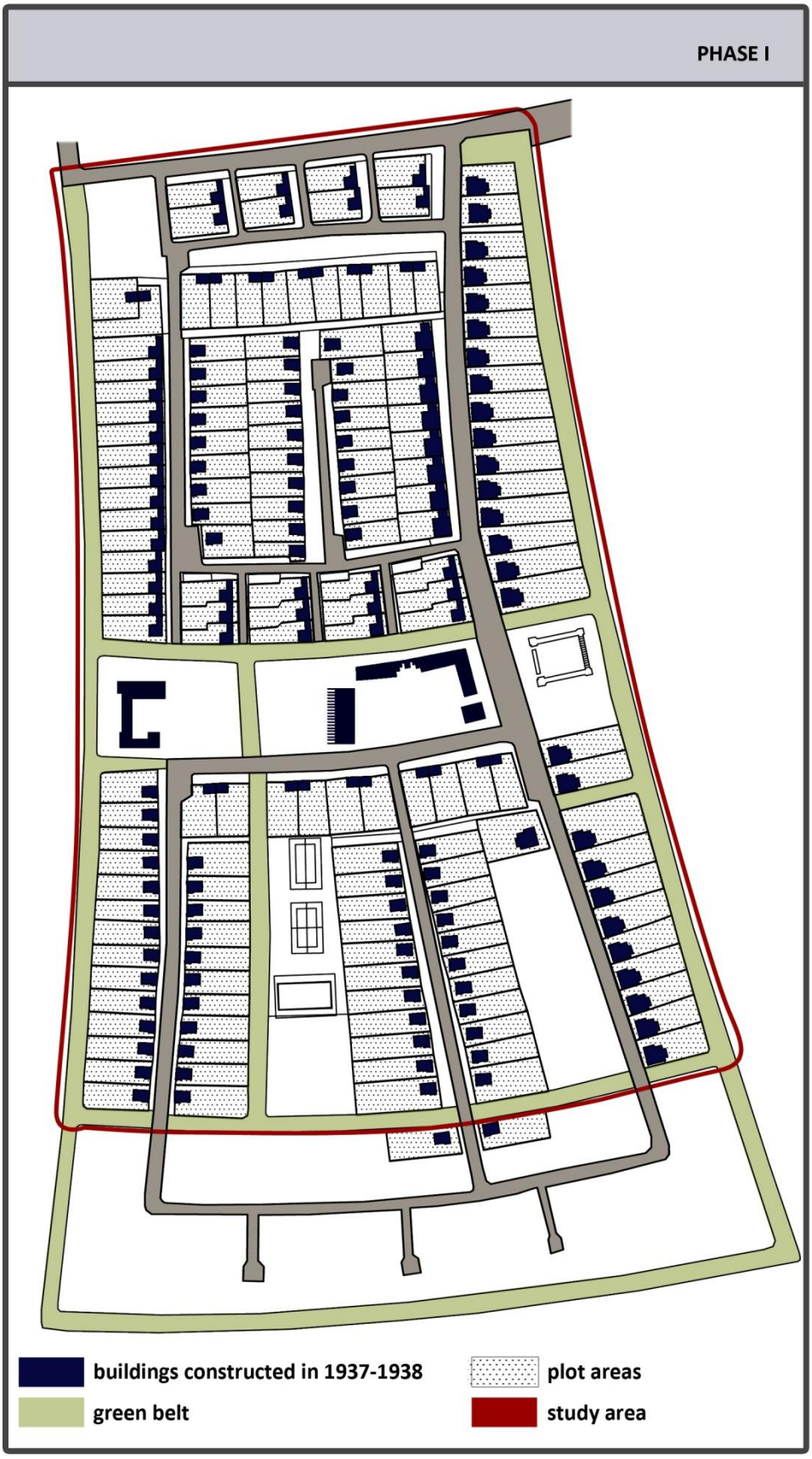


Figure 4.23 Conzen's Morphogenetic Analysis for PHASE I

Figure 4.24 Conzen's Morphogenetic Analysis for PHASE II

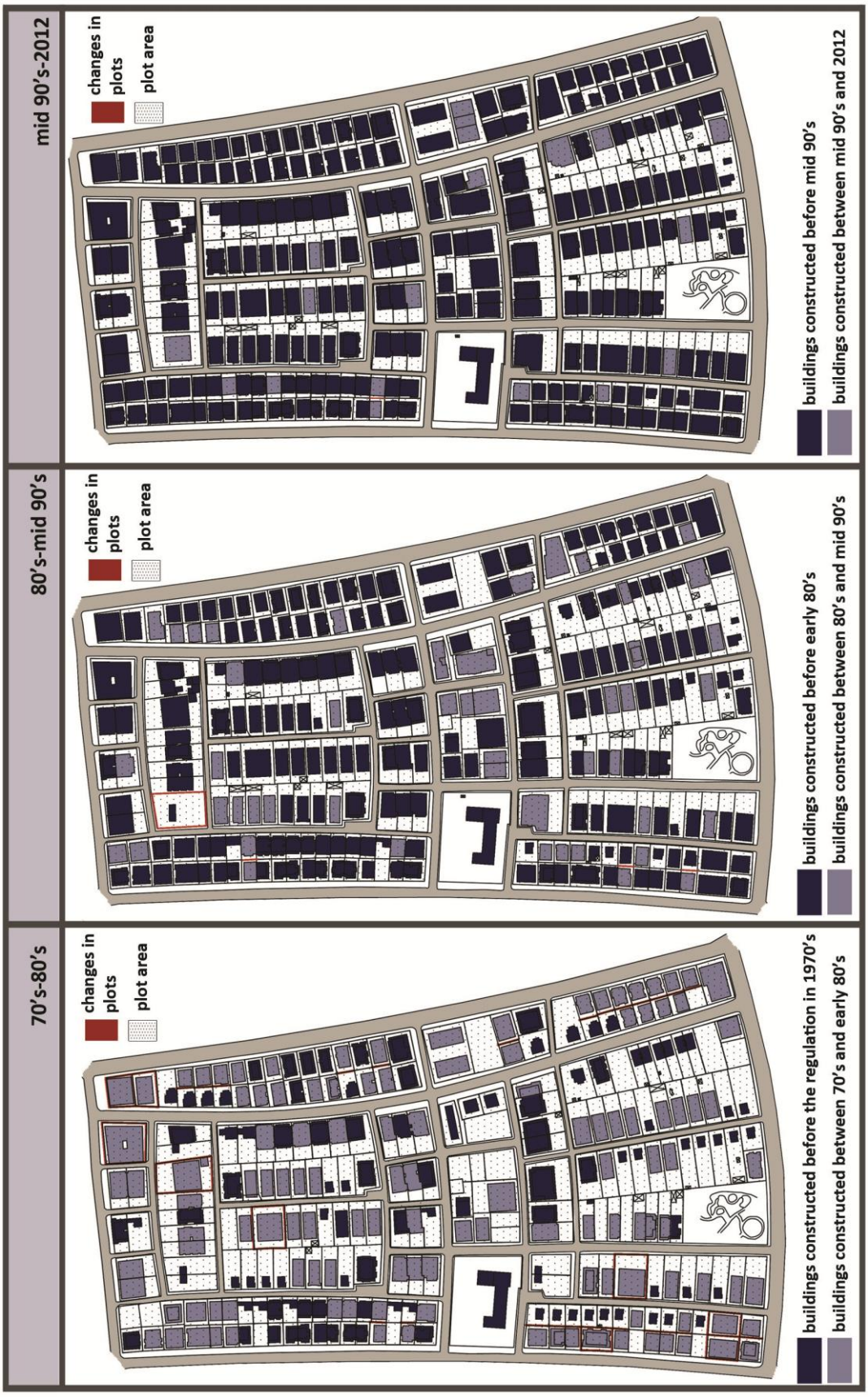


Figure 4.25 Conzen's Morphogenetic Analysis for PHASE III

Consequently, the within the period of the last 75 years, street pattern has been conserved. As Conzen denotes, street is the most persistent form; whereas, the plots were less persistent and have experienced subdivision or amalgamation. In Bahçelievler, the plot areas has been decreased due to subdivisions and insertion of other small additional units as garages, or storages. On the other hand, it became the buildings that has been transformed at a large extent where almost all the maisonettes have been replaced with new apartment buildings. Even the remaining maisonettes have transformed and their floor areas, and correspondingly, their massing have been enlarged with additional units.

Land Utilization Analysis

Apart from town plan analysis, Conzen also proposes land utilization and building fabric analysis that are generally conducted as supplementary analysis to town plan analysis in order to have a profound knowledge about the area. Since this study focuses on town plan analysis, only an unsubtle analysis will be made about the land utilization.

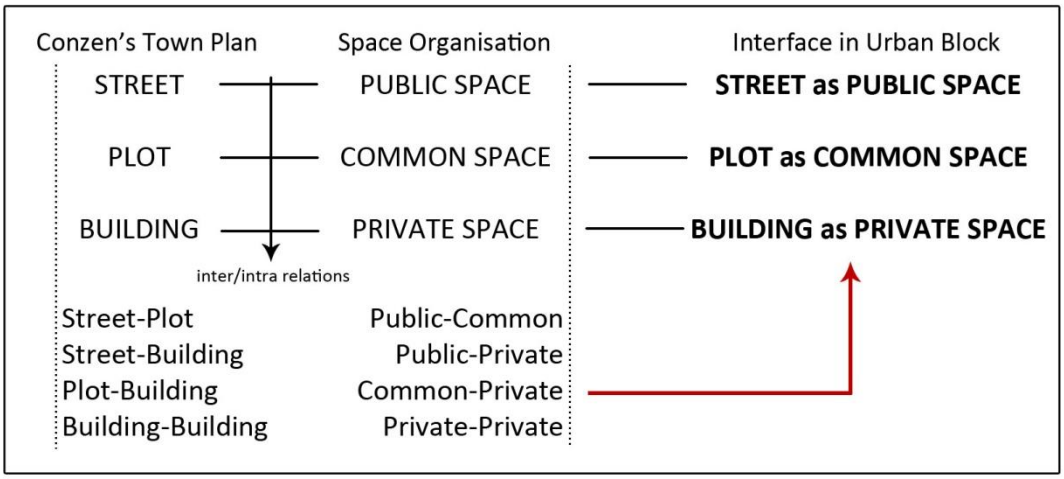
As Conzen denotes, land utilization is the least persistent form complex regarding building fabric and town plans due to the fact that there are the most flexible components of urban areas to adjust the changing social, economic and physical conditions. Hence, in this area, the diversification of land use types could be observed in the last 75 years due to this adaptation process. The clear separation between residential and other land use elements such as commercial and educational facilities in the initial state have been replaced with the mixed land use. In the second phase, the vacant plots in the green belt at the middle, the view terrace had been converted into public buildings and commercial units have begun to spread throughout the site at the ground floor of newly constructed apartment buildings. Then, in the final state, the land uses accommodating in the area have been diversified from office use to gastronomic services, to public buildings and health facilities and so on. Thus, the area which was a self-sufficient suburb in initial state became a part of city that accommodate some of land utilizations serving to whole city due to the changing location of Bahçelievler within the city. Therefore, the usage of the site has increased and consequently, the site became attractive for the users other than the residents of the neighbourhood because of the diversification of land uses. (See Figure 4.26)

Figure 4.26 Conzen's Land Utilization Analysis

4.2.2. Comparative Analysis of Internal Structure of Urban Blocks in Bahçelievler

This section aims at constituting an analysis regarding public, common and private spaces of urban block and Conzen's tripartite division in his town plan analysis based on the urban design terms that are described in the literature review. (See Table 4.3)

Table 4.3 The Structure of the Analysis of the Internal Structure of the Urban Blocks (prepared by the author)



The transformation of morphologic elements as street, plot and buildings in an urban block results in the transformation of space organisation principles as well. These principles form a bridge between the social and physical components of urban blocks and define the relation between man and the built-environment. As regards, interfaces among public, common and private spaces as counterparts of street, plot and buildings generates the context of the study as discussed in theoretical part. Thus, in this chapter, it is aimed to analyse Bahçelievler regarding the internal structures of urban blocks based on the framework established in the synthesis part conducted in previous chapter depending on the concept of interface. For that purpose, street as public space, plot as common space and building as private space will constitute three diverse analyses of this part. Given that this study focuses on the transformation of urban blocks, these three analyses will be conducted in a comparative way in order to comprehend the changing space organisation of internal structures of urban blocks in Bahçelievler HC.

In this section, analyses are limited due to the data collected. Therefore, the first phase of the Bahçelievler Housing Cooperative is discussed in a limited way because of the lack of data. For that reason, the major emphasis is on the final phase of the area where the previous part has discussed only based on models and sketches.

4.2.2.1. Street as Public Space in Bahçelievler

In Bahçelievler, with the increase of density and conversion of green belts into streets, the publicness or commonness of the streets has transformed. The street sections have changed, the pedestrian lanes that served as common spaces within the site became public streets. On the other hand, some of the green areas that was common space of the HC turned into private property. In result, the street sections and their relations with common and private spaces have transformed.

From this respect, two sections has been examined to show how the sequence of the sections has changed. Firstly, A-A' Section is examined where the common green area of the cooperative has been converted into private property and became a part of adjacent plots. Thus, in initial phase, the sequence of this section was as follows (See Figure 4.27):

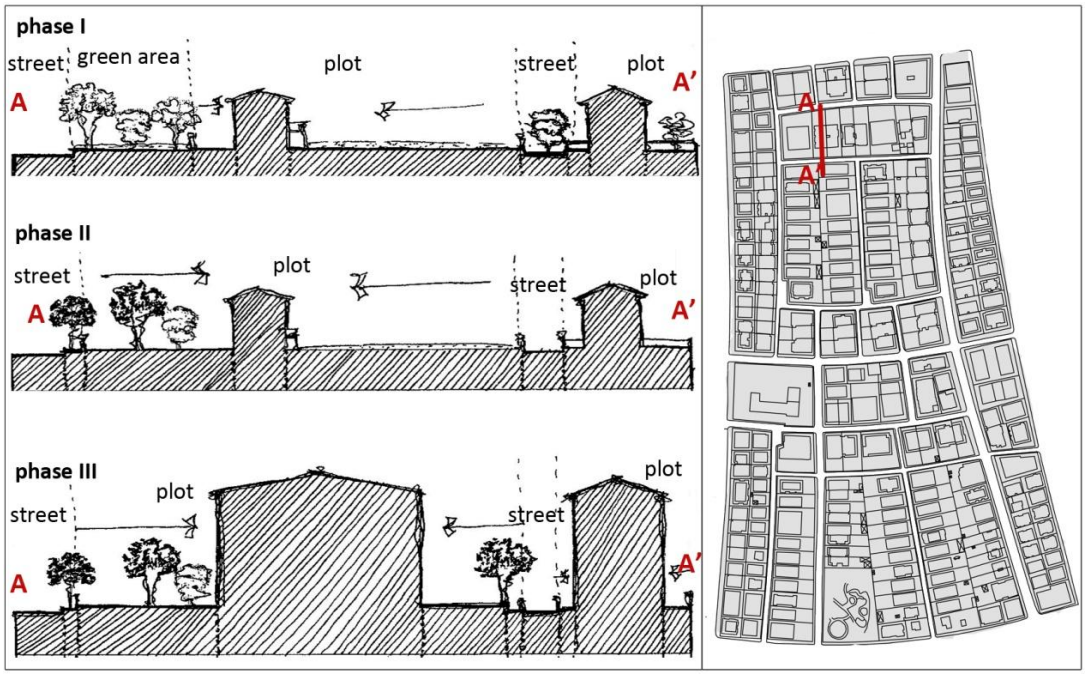


Figure 4.27 A-A' Sections in three phases

Table 4.4 A-A' Sections in three phases

Street	Green Area	Plot	Building	Plot	Street	Plot
Public space	Common S.	Private space			Public space	Private S.

Then, in the second phase, after the conversion of green area from common space to private space, the sequence has changed successively.

Table 4.4 (cont.) A-A' Sections in three phases

Street	Plot	Building	Plot	Street	Plot
Public space	Private Space			Public space	Private S.

Afterwards, in final phase with the replacement of maisonettes into apartment buildings, plots became common space where the dwellers of the apartment building share together.

Table 4.4 (cont.) A-A' Sections in three phases

Street	Plot	Building	Plot	Street	Plot
Public space	Common S.	Private S.	Common S.	Public space	Common S.

On the other hand, when the B-B' street section would be surveyed, the conversion of pedestrian lane as common space of the cooperative into street; and the conversion of public park into building plots have affected the sequence of the sections. (See Figure 4.28)

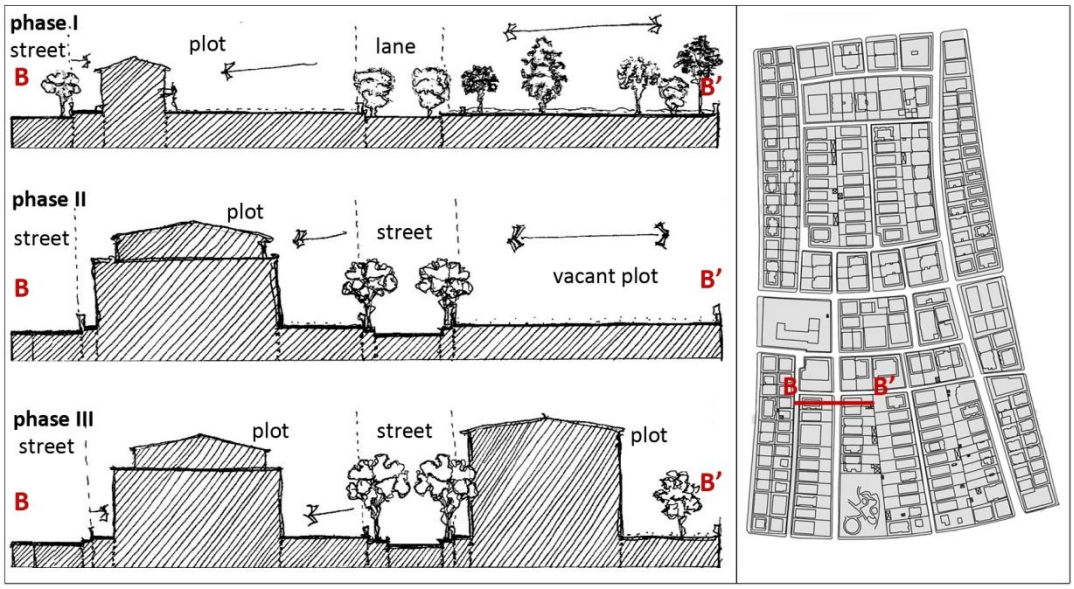


Figure 4.28 B-B' Sections in three phases

In initial phase, pedestrian lane was a common space where the dwellers of the cooperative were using commonly.

Table 4.5 B-B' Sections in three phases

Street	Plot	Building	Plot	Lane	Green area
Public S.	Private Space			Common S.	Public Space

Then, after the regulation in 1960's, this green belt has been converted into a public street; and some parts of the green area have been converted into plots that resulted in the transformation of public space into private space.

Table 4.5 (cont.) B-B' Sections in three phases

Street	Plot	Building	Plot	Street	Vacant plot
Public S.	Common S.	Private S.	Common S.	Public Space	Private space

In final stage, apartment buildings have been constructed and, vacant plots became a common space for the dwellers.

Table 4.5 (cont.) B-B' Sections in three phases

Street	Plot	Building	Plot	Street	Plot
Public S.	Common S.	Private S.	Common S.	Public S.	Common S.

Regarding these sketches, we shall claim that the sequence of section has changed due to the transformation of public, common and private territories within the block. This resulted in the transformation of plot and building characteristics as well. Therefore, in the following section, street-plot and street-building relations will be analysed deeply in attempt to investigate the changing public-common and public-private relations, respectively.

Street-Plot Interface

In this section, front yard, building entrances, elevated entrances and stairs are examined. The front yard acts as a buffer zone between the plot as common space and street as public space. Accordingly, the characteristics of front yard and the usage of ground floor constitute the interface realm between street and plot. In Bahçelievler, in the initial phase, the front yard has almost the same function; it created a buffer zone between sidewalk and building entrances. It was either in form of an elevated entrance or a stoop, or a porch to provide privacy for the dwellings. Thus, the ground floors were residential in which the plot was belonging to a single family. And the elevated entrance provided a soften passage from the street. Thus, front yard constituted interface realm with its elements as entrances and stairs. (See Figure 4.29)

Figure 4.29 (a) Sketch of front yard and entrance relation (b,c) Existing Houses (personal archive)

While the area would be observed today, ground floors are usually residential; however, there exists mixed use as a common phenomenon throughout the site. Thus, the commercial activities in the ground floor create different interfaces. In this respect, the site has three different front yard types that constitute different interface realms as well.

The most typical example in the site is the apartment buildings with residential ground floor with a front garden used commonly by the dwellers. The entrance is from the front garden where this front yard constitutes a buffer strip between the building and the street to provide privacy for the ground floors. In some cases, the entrance is from the side yard to provide more privacy. (See Figure 4.30)

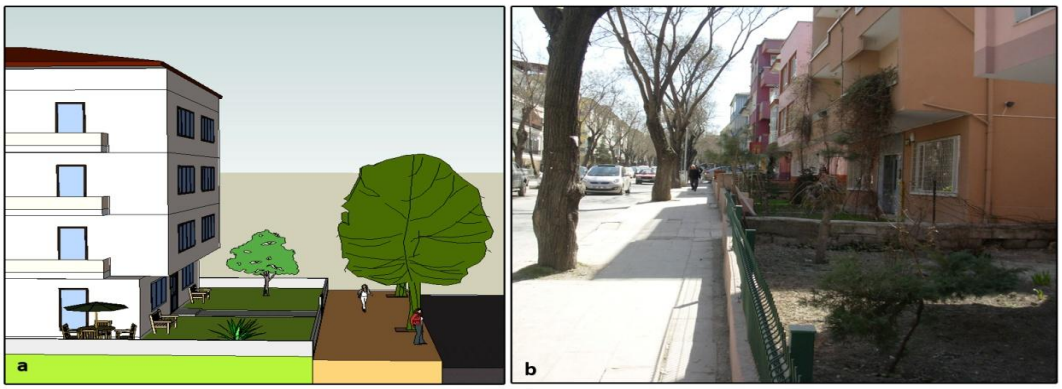


Figure 4.30 (a) Sketch of front yard as garden; (b) View of front garden (personal archive)

Due to increasing car usage and parking problems, the other type consists of front yards that are used for car parking. In this condition, the interface between street and building became undefined and the need for privacy in ground floor is inadequate. Thus, the front yard is not to provide a passage between public and private spheres of the block, but for satisfying car parking needs. In such cases, the car parking area spread through the sidewalks and sidewalks became less vital. Moreover, front yards generates a barrier rather than an interface that decrease the communication between street and plot. (See Figure 4.31)

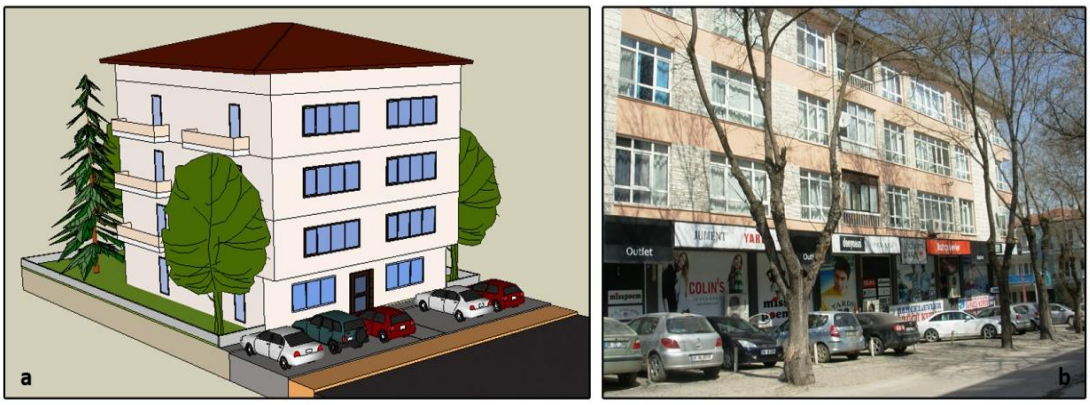


Figure 4.31 (a) Sketch of front yard as car parking; (b) Car parking area in the front yard

On the other hand, the ground floors with mixed use are often used for commercial activities; retail, gastronomic facilities and sometimes offices that attempts to attract people. For this purpose, the front yards are almost left to public, and serve as a part of sidewalk. The difference reveals in diverse pavements corresponding to the change of property. In this type of front yard, the sidewalks are much more lively and vital compared to the other two cases. (See Figure 4.32) These characteristics of the area increase the publicness of the site.

Figure 4.32 (a) Sketch of front yard with shops; (b)Shops in the ground floor (personal archive)

Street-Building Interface

To analyse street-building interface, the composition and architectural elements of building façades are critical. In Bahçelievler, windows, balconies or terraces might be categorised as the common architectural elements in building façades that are in relation with the street; hence, setbacks in buildings and these architectural elements establish the interface realm between street as public space and building as private one.

To begin with the characteristics of building façades, larger windows and balconies in the front façade increase the relation between street and building and constitutes a public frontage along the street. The surveillance from the buildings creates more vital and lively streets in which buildings became a part of the street. (See Figure 4.33)

Figure 4.33 (a,b,c,d) Windows in building façades (personal archive)

The types of balconies as hanging or recessed in the front garden generate liveliness in street life. The parapets, the balconies, small details in the façades alike the walls of balconies in picture c above enrich the building façades. This architectural elements or intermediary spaces are common in building façades in Bahçelievler. (See Figure 4.34)

Figure 4.34 (a,c,d) Recessed Balconies; (b,e,f) Hanging Balconies (personal archive)

However, the changing architectural style regarding the changing bylaws and planning decisions, the balconies in the front façade has been relocated on two sides of the buildings. This resulted in the decrease of the interaction between street and building; thus, the interface realms between street and building became weaker in the buildings constructed in later periods, especially after 1980's. (See Figure 4.35)

Figure 4.35 (a,b) Balconies in two sides of the façade and smaller windows (personal archive)

On the other hand, terraces generate a different interface realm between buildings and the street. This architectural feature is common for this study area in the buildings constructed at 1960's. Hence, the surveillance and usage of terrace by people like balconies increase the interaction between street and the building. (See Figure 4.36)

Figure 4.36 (a,b) Terraces in the upper storey (personal archive)

From this respect, setbacks are the significant part of building façades which organise the social life of the streets as public spaces depending on the recessions and projections in the façade. In the study area, setbacks in façades with recessed balconies, terraces and projection after the ground floor increased the interaction between street and the building (public and private), and correspondingly, street liveliness. (See Figure 4.37)

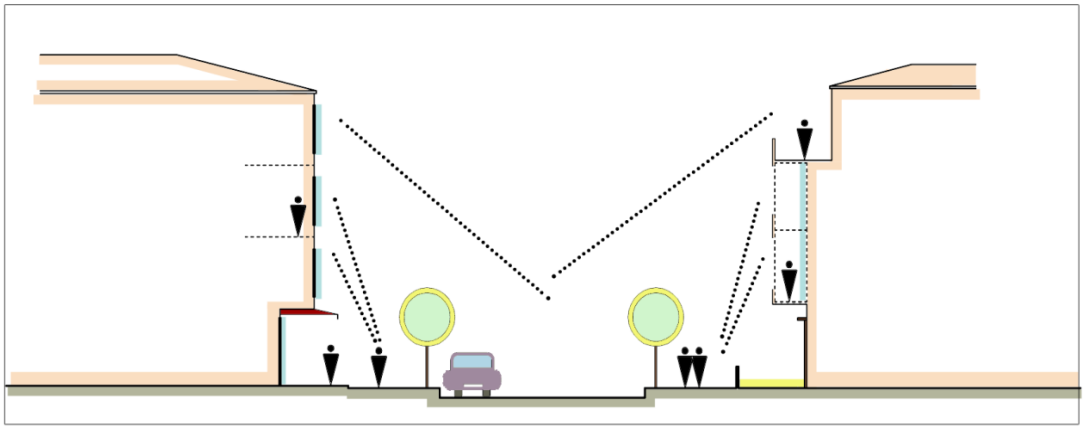


Figure 4.37 Setback in Buildings in Bahçelievler (prepared by author)

Another critical aspect constituting the interface realm between street and building is the issue of active frontage. As discussed before, the buildings form an edge for the street and blocks, and the continuity of this block edge defines and encloses streets. When attractive functions accommodate on this edge, the street frontage became more lively and attractive for people. Within the site, 3rd Street creates such a street frontage where the pedestrian circulation mostly generates on. Hence, shops, cafes and restaurant allocated along the street and provides publiness at the building edge. This interface realm provides also a soften passage between public and private spaces. (See Figure 4.38 & 39)

Figure 4.39 View from 3th Street (retrieved from yandex)

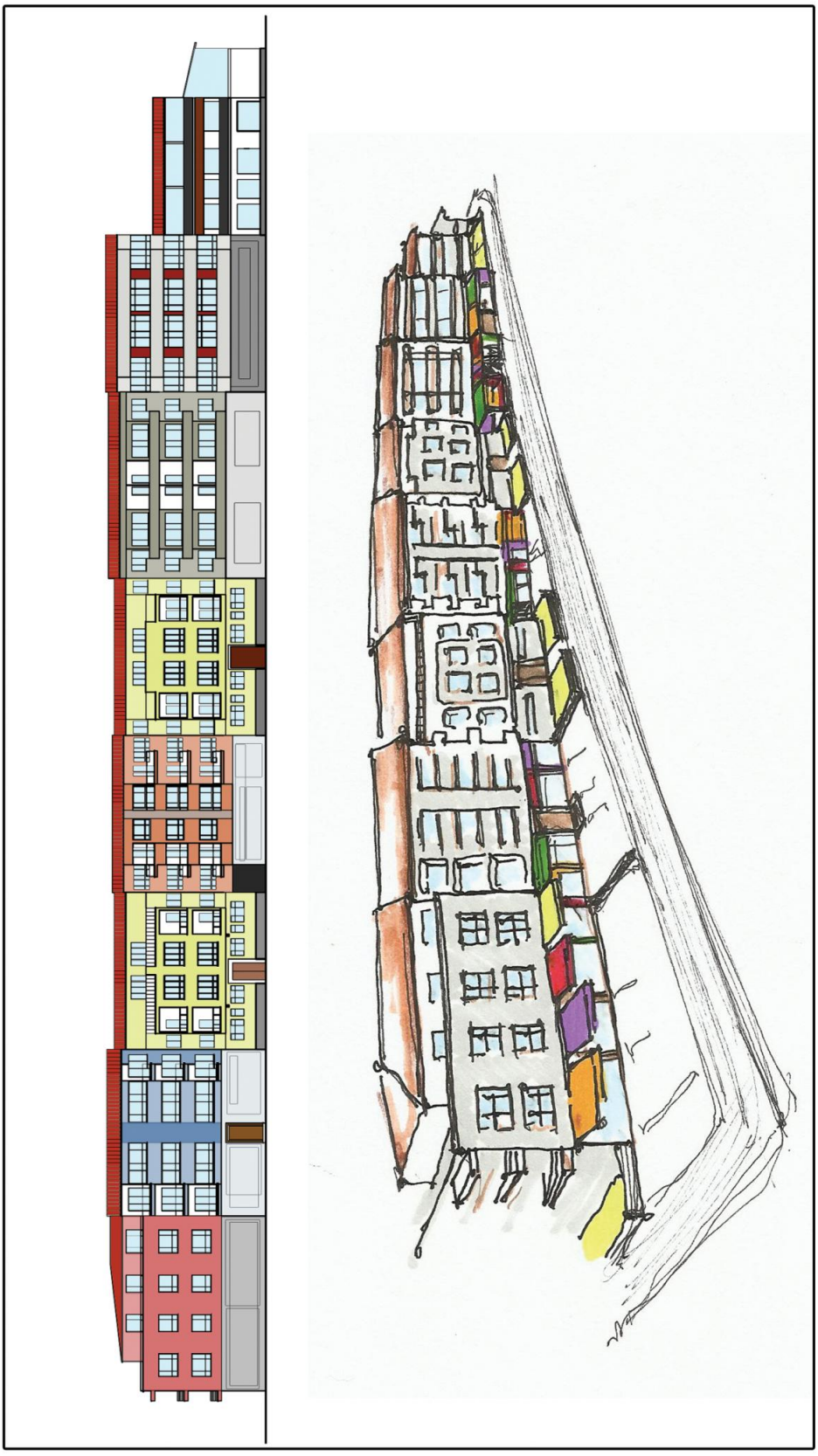


Figure 4.38 Active Frontage along 3rd Street (prepared by author)

Figure 4.40 View from 4th Street (retrieved from yandex)

On the other hand, 4th Street -another major road surrounding the site- is full of car galleries and rent-a-cars. They use sidewalks and front yards as car parking areas. This causes the decrease of pedestrian circulation along the street and the streets is perceived as a car parking area rather than a social space. (See Figure 4.40) As an outcome, despite the fact that sidewalks in 4th Street are larger than 3rd Street, 3rd Street is more lively depending on the functions allocated on that are more attractive for people.

4.2.2.2 Plot as Common Space in Bahçelievler

One of the significant transformation in the area has generated in the plots. The plots belonging to single families were generating the private territory in initial phase. However, with the construction of apartment buildings that several family shares together, plots has transformed into a common space in which only limited people –the dwellers of the building- were allowed to use it. Although the backyard of the plots became a common space, they also provide privacy between two dwellings with adjacent backyards. (See Figure 4.41)

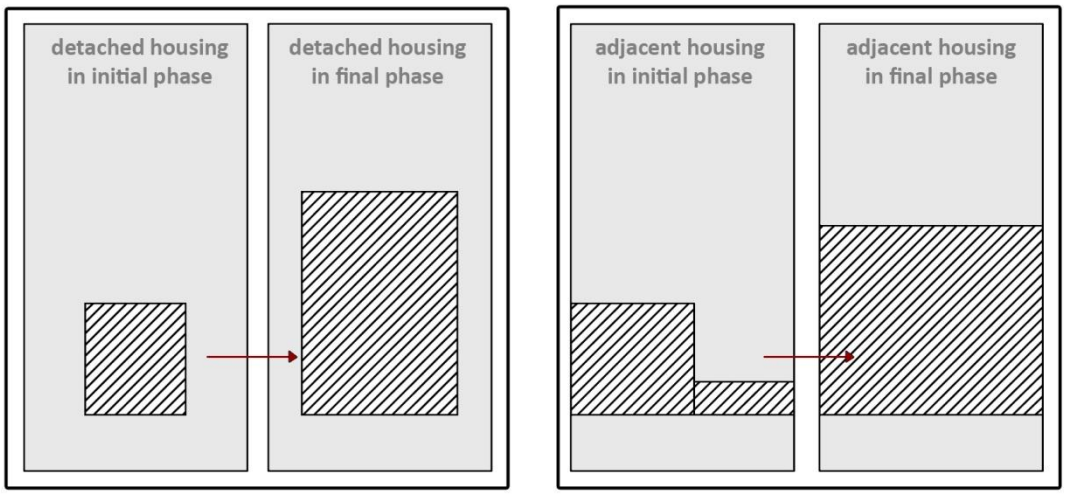


Figure 4. 41 The transformation of plot-building relation

From this point of view, after discussing the interface between public and common space, here, we shall focus on the interface between plot and building and how it has transformed; hence, the interfaces between common and private spaces will be discussed. Within this scope, the front and back analysis of dwellings in a plot will be surveyed.

Plot-Building Interface

To begin with initial phase, there was a clear separation between front and back of the dwellings. The front yard was exposed to public, thus people walking in sidewalks had a visual contact with the building. The entrances located on the front façade and front façades generated the external face of the dwelling that was accessible from outside. Nonetheless, the same architectural element, elevated entrance, provide privacy for the plot as well.

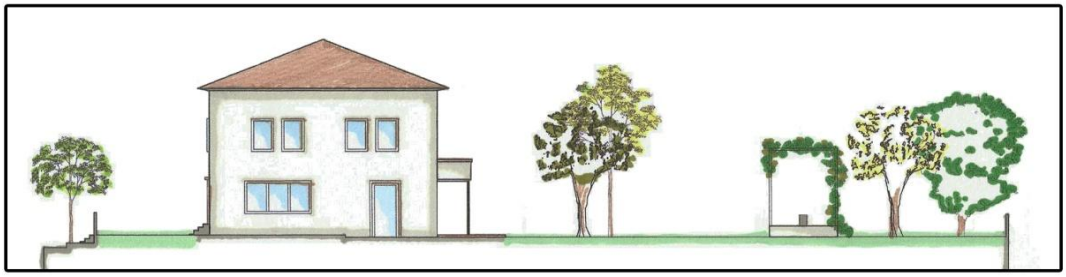


Figure 4.42 Front and Back Analysis of Implemented Houses in initial phase

Different buildings had a similar façade composition in order to create a continuity in physical and visual terms along the street as Jansen denotes (Ankara İmar Raporu, 1937). This design approach contributed to the generation of interfaces between front of the buildings and the street. On the other hand, the back façades contain different elements; different types of balconies, windows, courtyards and so on, consequently, it is diversified instead of being continuous. The backyard was hidden and generated the privacy for the family, and therefore, it was not accessible from outside. The front was more public, and back was more personalized. Thus, the front and back of the plot was differentiated due to this design principles. (See Figure 4.42)

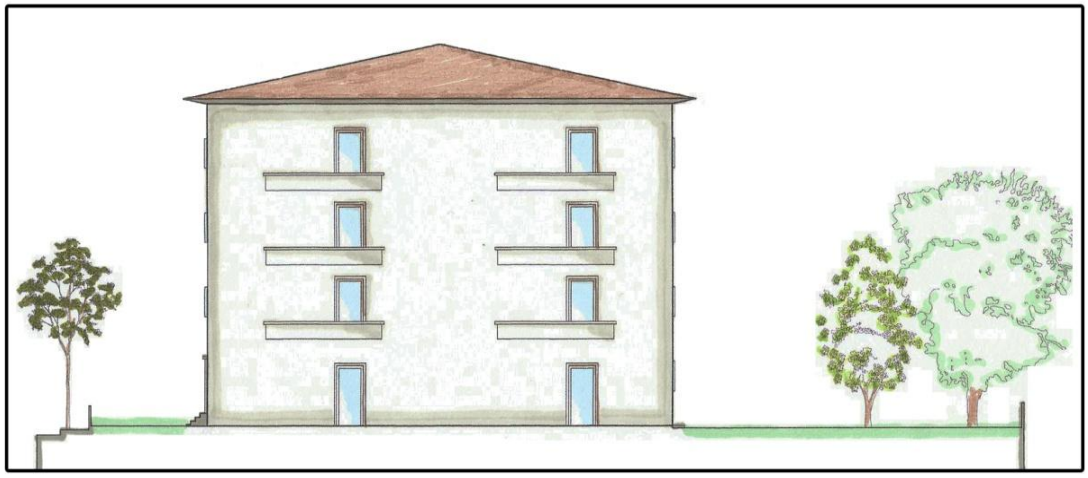


Figure 4.43 Front and Back Analysis of Implemented Houses in final phase

Although the implemented houses in the initial phase were having two façades as front and back, the façade differentiation in apartment buildings has began to disappear; four flat per storeys resulted in the same façade in front and back sides. In addition, the personalization of backs of plots decreased as well. (See Figure 4.43) With the increase in massing, the backyards have transformed and became smaller. In perimeter block types, plot patterns could be conserved; and therefore, backyards are used mostly as common gardens of the dwellers. Although the common usage of backyards was still garden, some of them has been converted into car parking area and gardens became all concrete, and additional units as garages has been inserted to the backyard. Therefore, the private realm of dwellers, or

the common space they share has transformed into storage areas where the interface between common and private weaken.

The second significant point is that in the linear blocks that has begun to be subdivided after 1960's regulation, the front-back differentiation became undefined. With the decrease of plot size after the subdivision, the backyards of buildings have reduced to almost 5-meters. The shrinking ratio between building height and backyard resulted in the undefined backyard that could be used neither as a garden nor as a car parking area. There were no enough distance between two apartment buildings with adjacent backyards to provide privacy. Therefore, in such linear blocks, there were no generation of interface between private and common space. (See Figure 4.44 & 4.45) One of the other issue about plots is the side yards. In detached or semi-detached dwellings, the side yards generates a passage from front to back; however, due to the 3 meters widths of side yard where sometimes building entrances allocate on, or is used as car parking area, the side yards generates an undefined place rather than a passage between front and back.

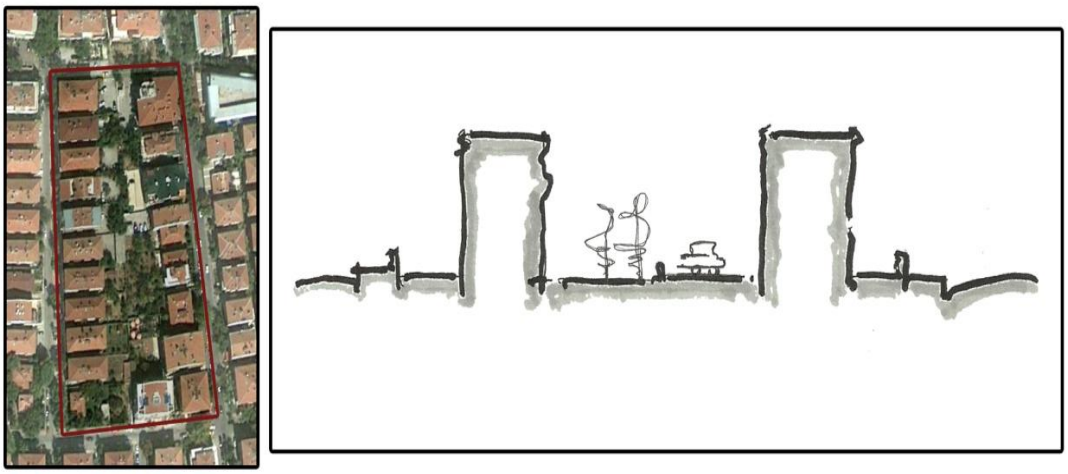


Figure 4.44 Front-Back Relation in Perimeter Blocks in Bahçelievler

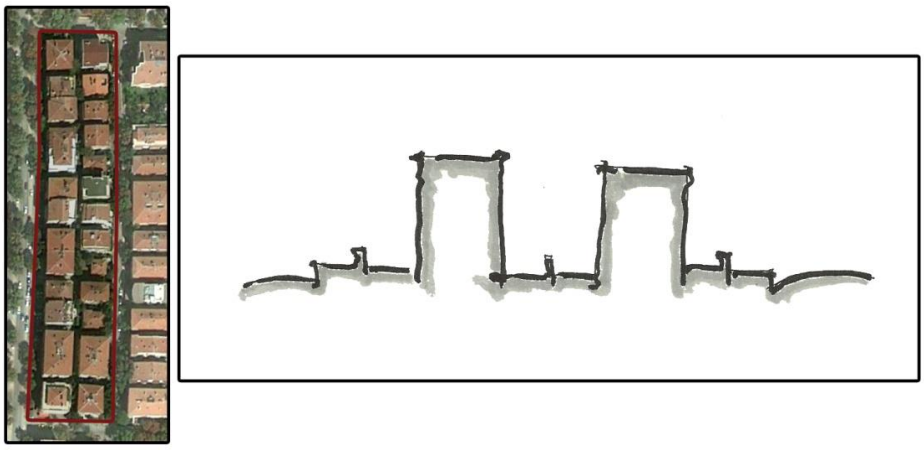


Figure 4.45 Front-Back Relation in Linear Blocks in Bahçelievler

4.2.2.3 Building as Private Space

In previous chapters, it has been stated that the dwelling units were generating the private space of urban blocks, which is the case in Bahçelievler as well. In this part, the analysis will be based on the emphasize of interface between two different dwelling units in terms of architectural style. Thus, the buildings are categorized based on their architectural style.

Building-Building Interface

The building types of implemented houses in initial phase are described in previous parts. Here, their allocation on the site and building types based on models will be discussed. Hence, now, the existing building stock and the distribution of buildings with diverse types in the site will be analysed. In this respect, Conzen's analysis constitutes the framework of such analysis in order to provide information about how different types of buildings has been erected to the site and how architectural elements and styles provides interface realms. Within this scope, firstly, the initial phase and the distribution of different house types will be mapped then, the present building fabric will be discussed.

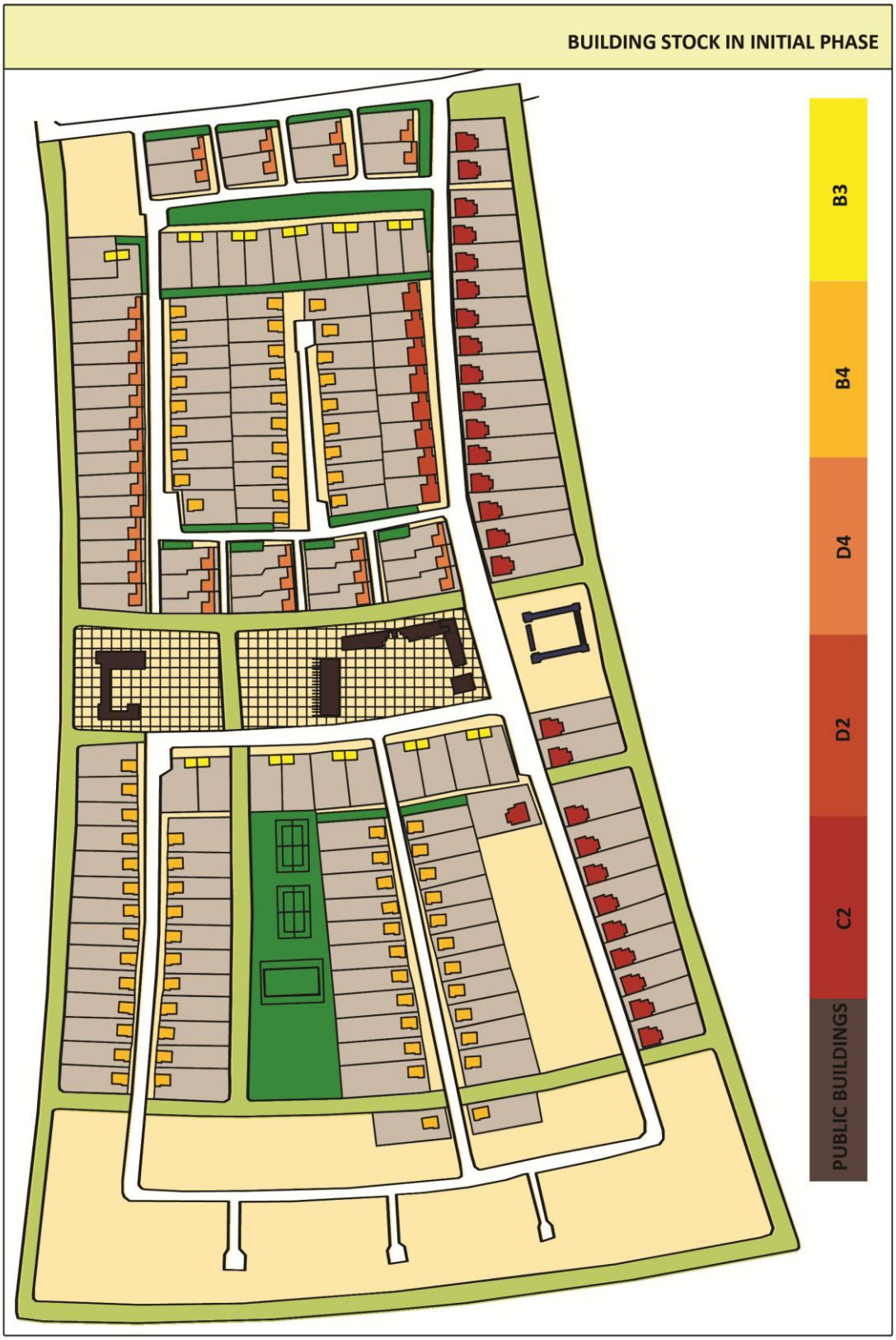


Figure 4.46 The distribution of Diverse Housing Types in implementation Process

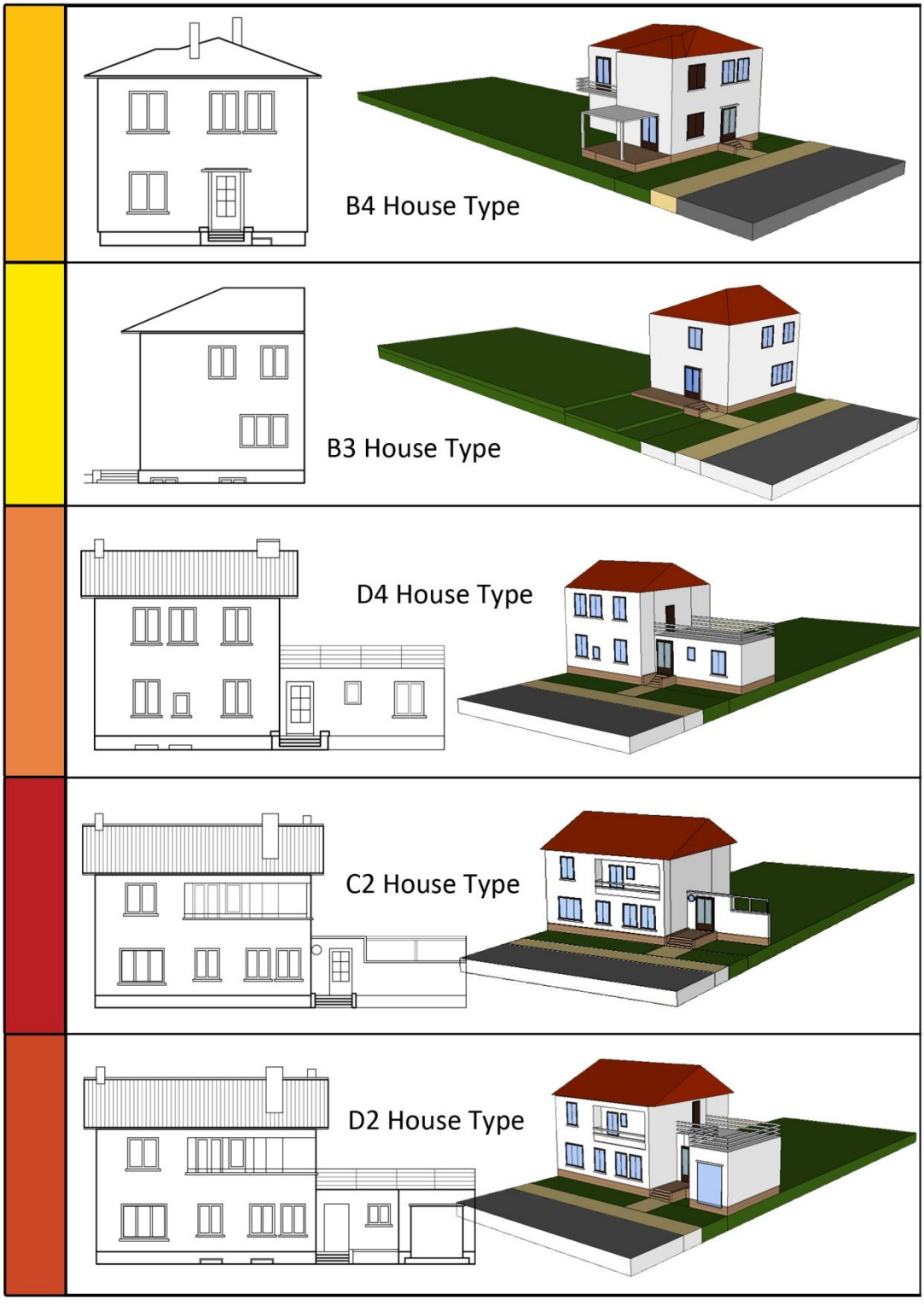


Figure 4.47 House Types in Initial Phase: Elevations and Models (prepared by author)

In initial phase, the building types as B4, C2,C4, D2, D4 were allocated on the area in groups. (See Figure 4.46 & 4.47) However, in final phase, due to 75 years of transformation, different types of buildings are spread out. In order to analyse the present building fabric, six different periods has been identified; firstly, implemented houses in initial phase that are designed by Jansen, secondly, the apartment buildings implemented after the regulation in 1960's and 1970's, thirdly, the buildings that erected after the building height regulation in 1970's, fourthly, buildings constructed between end of 1970's and 1980's; then, buildings constructed between 1980's and mid 1990's; and finally, buildings constructed after mid 1990's until today. In the definition of diverse architectural styles and building periods, the changing bylaws arose as the dominant phenomenon. (See Figure 4.48)

Starting from 1960's, apartment buildings have been introduced to the site; however, the buildings that have erected in different periods have different characteristics as well. Hence, the building's relation with the street, the plot and other buildings differentiate one to another. The earlier apartment buildings of 1960's with recessed balconies in front façade and larger windows have started to be replaced by the buildings with larger massing and smaller windows and smaller or even enclosed balconies in two sides. Thus, the small maisonettes in the site have transformed into bulk masses, especially after 2000. The dwellings became more interior oriented that resulted in the decrease of interface realms between other buildings, its plot and the street. To sum up, the decreasing openings in the façade alike windows or balconies resulted in the reduction of relations of the building with the street and, of the interface between public and private zone. Increasing massing caused to the generation of undefined places within the plot that are neither a garden nor a car parking area both in the front, back and side yards. Thus, this phenomenon resulted in the decreasing interface realms between two buildings by which they became isolated from each other. (See Figure 4.49)

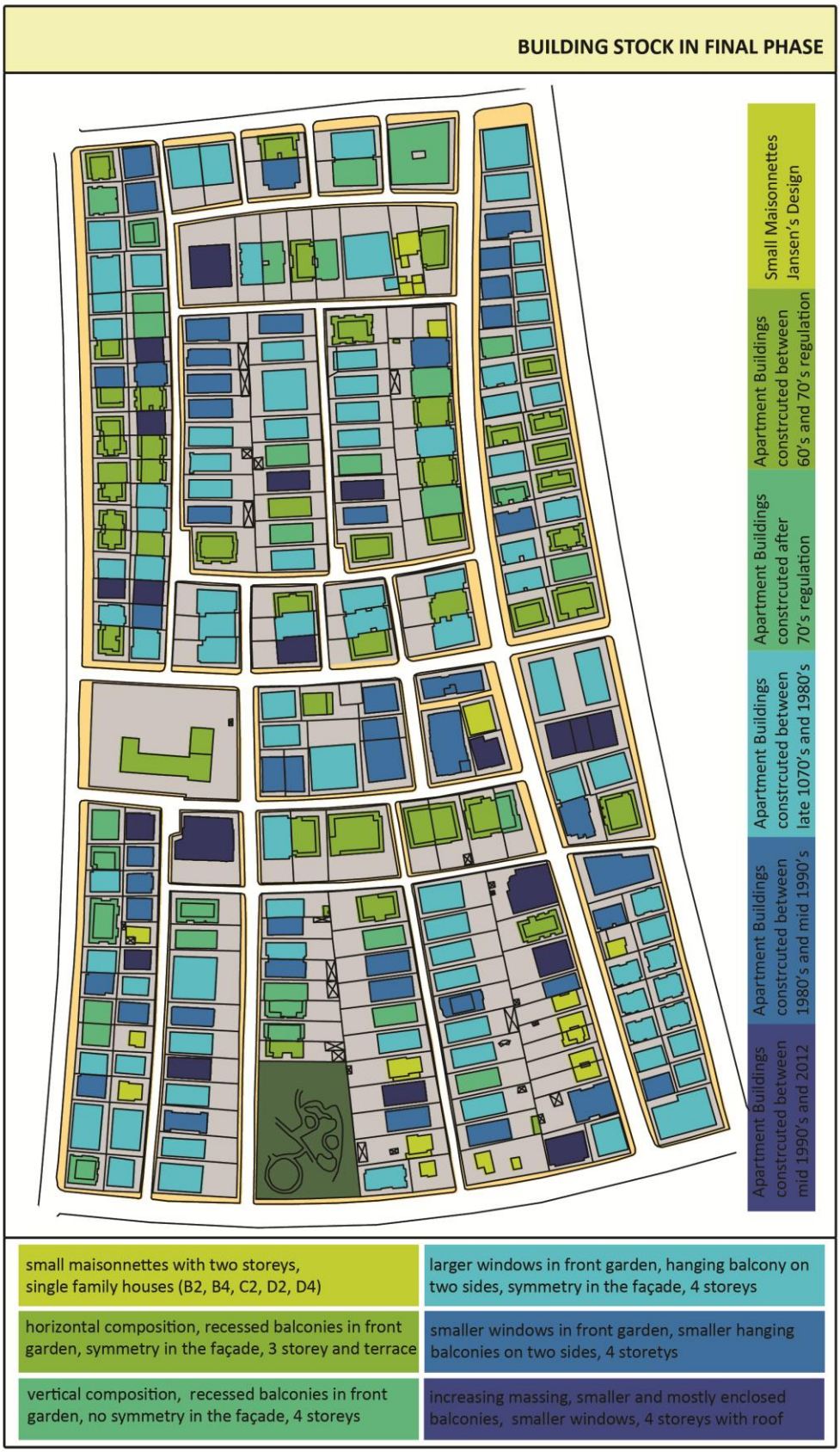


Figure 4.48 Distribution of different housing types in Bahçelievler (prepared by author)

Figure 4.49 Housing Types (Elevations and Examples from Site) (prepared by author)

Figure 4.49 (cont.) Housing Types: Elevations and Examples from Site

4.3 Conclusion

It has revealed from the study that Conzen's tripartite division of town plan analysis, land utilization and building fabric offer an insight into the morphological transformation process regarding the changing economic, social and physical conditions. Therefore, urban morphology provides as a method to investigate how the complex relations change the form of urban areas. In order to provide the connection between Conzen's town analysis and the context of the study, an analysis based on the theoretical part of the study has been conducted for the internal structure of the urban blocks. In this way, it has been possible to introduce urban design terms into the morphogenesis analysis. Hereby, this part has enabled to expand the analyses to the three dimension where the people's behaviour on space could be investigated explicitly.

Hence, the significance of the study emerges as establishing an analysis that associate the terms public, common and private spaces within the morphological evolution process of urban blocks. Thus, this analysis has been applied for Bahçelievler Housing Cooperative in Ankara, Turkey as a qualitative case study focusing on descriptive analysis of the mentioned urban part.

The findings of the Bahçelievler case study will be elaborated in the conclusion chapter of the study in relation with the research questions. Nevertheless, since the aim is to correlate the theoretical framework with the chosen method for analyses, this chapter attempted to design a structure for such an analysis. However, as it has been shown in the study, the morphological transformation process is parallel to changing relations between public, common and private in the urban area and is an inseparable part of analysis of urban parts to observe how morphological and social relations transform each other.

CHAPTER V

CONCLUSION

Urban form has been composed and shaped up by urban blocks in which the inner and intra relations among urban groupings establish diverse space organisation patterns. Thus, the variety of these spatial relations is an outcome of physical and social dynamics that mainly becomes the paramount concern of urban design field. Although the urban block is the major tool for both planners and urban designers to control and structure urban spaces, it emerges as a 'long-ignored' issue in urban design literature.

In the case of the Turkish cities, the rapid urban growth experienced resulted in the transformation of urban blocks where the spatial variety has been neglected as a design criteria. This phenomenon arises as a design problem addressing the re-evaluation of urban blocks in terms of space organisation. From this point of view, Bahçelievler Housing Cooperative at Ankara –which has witnessed rapid urban transformation-, constitutes the case study for the research.

In this regard, this research has approached to the urban block as the basic module of space organisation where the relations between its both physical and social components provide spatial variety. Therefore, this study attempted to provide a new understanding of the urban block based on the intertwined relations between *public, common* and *private spaces* in social terms and *street, plot* and *buildings* as its physical elements as to address this gap in the urban design literature. To fill this gap, this study aimed to answer how space organisation in urban block can be re-evaluated based on interfaces between public, common and private spaces, as counterparts of street, plot and buildings, respectively.

The definition of public, common and private spaces constitute the territories within the urban block that regulates the amount of social interaction and communication or isolation as a result of the relation between man and the built environment. This study has shown

that public and common spaces define the relams shared by several people where social interaction and communication could generate. On the other hand, private spaces constitute the private sphere of the urban block that provides privacy for individuals as well as isolation from outside world.

Table 5.1 Public, Common and Private Spaces

Public Space	all users	Ownership (public property)	**Social Interaction and Communication**
Common Space	limited users	Possession (public or private property)	
Private Space	individuals	Ownership (private property)	**Isolation**

Thus, public, common and private spaces are constantly in relation with each other along the boundaries that are shaped and reshaped by people. The re-evaluation of these relations along boundaries has been interpreted in this study as the generation of interface realms between these diverse territories. At this respect, since urban design is concerned with designing the boundaries to organise the amount of interaction between different spheres, spaces and territories, this study focuses on how interface can be designed within an urban block.

As it has been stated before, the first outcome of the research is that the generation of interfaces is directly related to the permeability of boundaries. Thus, public and common spaces generate permeable boundaries in accordance with the increased interaction and communication among territories, whereas private spaces create barriers to prevent unwanted intrusion. Therefore, permeability as the paramount notion defines the design criteria of interfaces and regulates the amount of interaction between two sides of the boundary regarding the intermediary spaces. Considering urban block, the relations between its physical elements as street, plot and buildings based on intermediary spaces are consequently the outcomes of the territorial relations among public, common and private spaces in which streets generates public spaces, plots are common spaces and buildings generates the private spaces.

The second major finding of this research was that whilst the realms of interface between street, plot and buildings generate a spatial variety in urban blocks, this bunch of relations are constantly reshaped and reformulated through a dynamic process due to the relation between man and the built environment. Hence, the determiners of space organisation in blocks has been transformed throughout history in which this transformation has been affected by the economical, social and political dynamics. However, as it has been shown in the study, the dominant factor emerged as the changing property relations that points out public, common and private property and spaces. Therefore, while considering space organisation in urban block, public, common and private spaces and properties emerge as the major determinant of block's spatial pattern. This is why, either street layout as public spaces or single buildings as private realm, or even courtyards in blocks as common spaces shaped up the urban blocks in different periods.

Returning to the questions posed at the beginning of the study, the urban blocks can be re-evaluated based on the relational interfaces among its physical elements as street, plot and buildings as counterparts of public, common and private spaces constituting as the social context of the block in relation with its transformation process from the beginning. This is why this study focuses on the transformation process of urban blocks and relations within its elements in both morphological and social terms relevant to changing interface realms. Thus, the investigation of described transformation process of the interface realms among an urban block generated the substantial part of the study in which Conzen's tripartite town plan analysis method and urban design terms had been associated to create a base for analysing the blocks in Bahçelievler, Ankara.

Conzen's method seeks to analyse the morphological evolution of urban form which focuses on town plan, land utilization and building fabric analysis. What he proposed in his studies is to analyse the transformation process of towns that are combined by different plan-units. However, since Conzen's method is very detailed and it covers many issues, as it has been revealed in this study before, the morphogenetic analysis has been limited only with town plan analysis in which Conzen describes its elements as street, plot and buildings. Further, a synthesis part has been conducted where urban design terms has been associated with the town plan analysis of Conzen based on the context of this study that is the interface between public, common and private spaces of the urban block. Thus, while preparing this diagram, the major concern was to analyse the permeability between different elements.

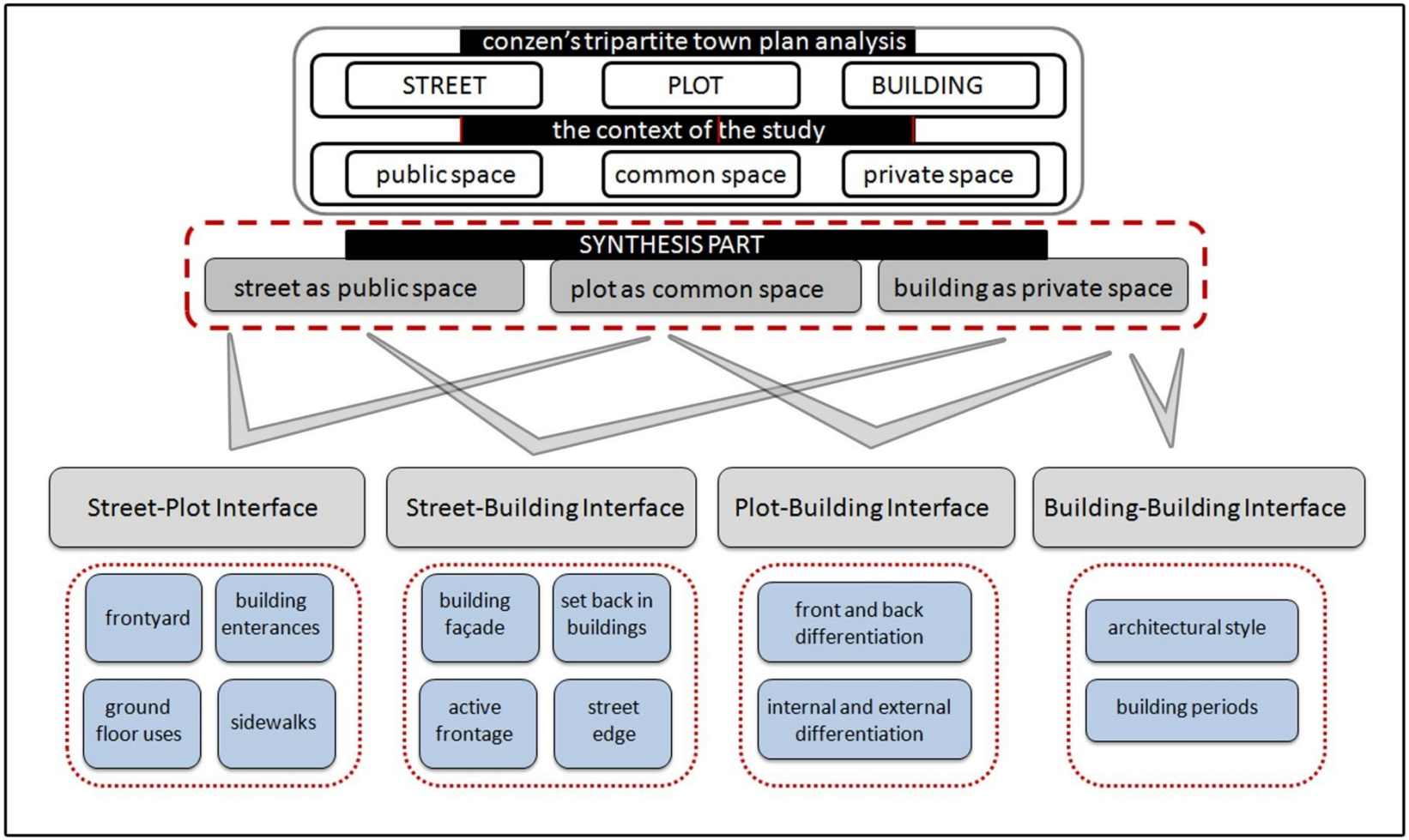


Figure 5.1 Synthesis of the Study

The following conclusions can be drawn based on the present study about Bahçelievler regarding to this diagram (See Figure 5.1). Bahçelievler Housing Cooperative was established in order to provide housing areas for bureaucrats in Ankara that had been planned as a suburban area at the outside of municipality boundaries in 1930's. The implementation process was accomplished in 1938. 169 two storeys maisonettes for single families with larger gardens in the backyards were designed by Jansen, and the houses are constructed. This initial phase constitutes the implementation process in which the first accumulation of forms was generated as regards to Conzen's terminology.

However, due to the increasing population and housing problems in Ankara, other housing cooperatives has been spread out to the surrounding of Bahçelievler Site. This resulted in the increase of the land prices and therefore, different types of housing areas occurred in the periphery which affected the spatial pattern of the area where plots became smaller and building storeys increased. The increased pressure on land forced to the increase in density in Bahçelievler and the plots have been subdivided, and apartment buildings with three storeys and a terrace have been constructed. This phase corresponded to Conzen's second morphological process where the adaptation of forms has been generated due to the changing needs and conditions.

After a set of regulation, four storeys apartment houses within the site and five storey along 4th street have been legalized where the subdivision of plots in the liner blocks at the periphery of the site has been almost accomplished. Thus, the density of the area has increased dramatically where the low density suburban development has been replaced by an urban part with very height densities that the ratios of social facilities and green areas per person have decreased to below of standard. Thus, this process ended up with the replacement of forms where the buildings started to be reconstructed regarding new regulations because of the increased land pressures.

In this regard, due to the researches done in the previous part, it is clear that this morphological transformation of Bahçelievler has affected the space organisation pattern of the area. The single transformations that have been experienced in streets, plot, or buildings, resulted in a different urban space where the relations between public, common and private has differentiated.

As it has been shown in this study, this transformation has restructured the interface realms within the internal structure of urban blocks in the site dramatically. The publicness

of the street has increased due to changing location of Bahçelievler within the city, and new land uses have been introduced to the site. With the commercial activities along streets, the relation between street and plot has increased, nonetheless, car parking problems has generated a barrier in some parts of the area that prevents the permeability. On the other hand, with the changing architectural style, the openings in the front façade alike windows and balconies has been decreased which ended up with the reduced interaction between building and street. The buildings constructed in 1960's and 1970's with recessed balconies and large windows in the front façade generated an interface realm between street and building due to increased surveillance of street from buildings; whereas, newly constructed buildings neglected this design criteria. The only concern became the maximized usage of plots and the increase of the interior areas. As it is indicated in this study, the interior oriented plan types with bulk masses reduced the street- building relation as well as the plot-building relation. The front and back façade differentiation disappeared and the backyards has become undefined places due to increasing massing of buildings.

Based on to this research, it is possible to state that interfaces among the elements in Bahçelievler has been reduced compared with the initial phase in which every building types has been designed one by one and an overall design criteria has been elaborated for this site. On the other hand, the single transformation of buildings and plots in the second and final phase has reduced the unity along the site in which spatial organisation pattern within each single block has disappeared. Thus, the interfaces between two buildings and a design context for each block has been neglected as well.

To sum up, the results of this study indicate that, regarding the case study in Bahçelievler, the dynamics of transformation of morphological elements of urban block are directly related with the social spaces produced. The changing relations between street, plot and buildings stimulate the transformation of space organisation where the interfaces among public, common and private are constantly redefined. However, a number of limitations needs to be considered that affect the results of the study as well.

The diagram produced to analyse the interface realms among street, plot and buildings is restricted based on the characteristics of the study area. Although the analysis might have been extended, the researcher aimed to create a basic structure that points out the significance of the relational transformation concerning the morphological and social elements. Therefore, only the major components have been elaborated in detail

corresponding to the research area in Bahçelievler. Hence, how the transformation of relations can be analysed constitutes principally the core of this research. This is also why other analyses of Conzen based on land use and building fabric were not discussed in detail but provided as secondary sources for this research.

From this perspective, urban block is defined relevant to interfaces among its physical and social elements. These findings enhance our understanding through the review of urban blocks as a dynamic entity where the relations between its physical and morphological components affect and are affected by the social spaces produced as public, common and private spaces. This relational understanding of space organisation in this research, therefore could constitute a base for further studies in urban design field in order to cope with the decreasing spatial variety problems in urban spaces, and of urban blocks as an integral part of cities, in peculiar. As a result of these discussions and findings, to achieve spatial variety in cities, the relations between morphological and social components need to be reconsidered by urban designers, planners, architects and authorized people.

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APPENDIX A

A.SURVEY SHEETS

A.1 SURVEY SHEET – STREET

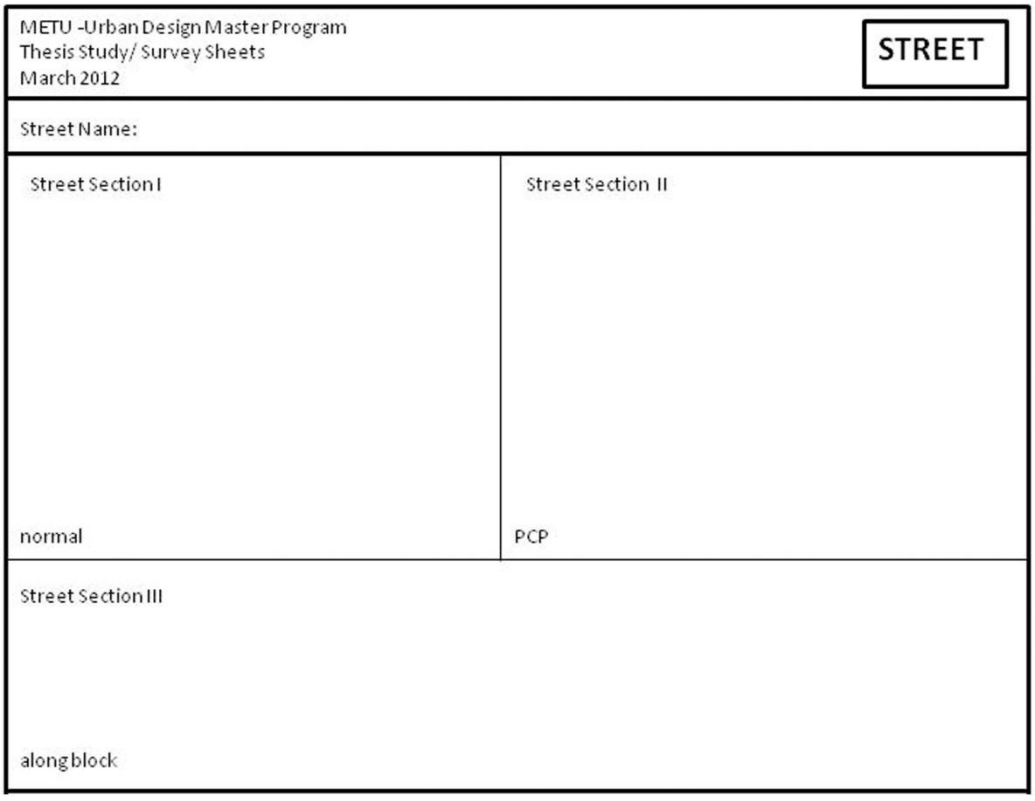

Figure A.1 Street Survey Sheet

A.2 SURVEY SHEET – PLOT & BUILDING

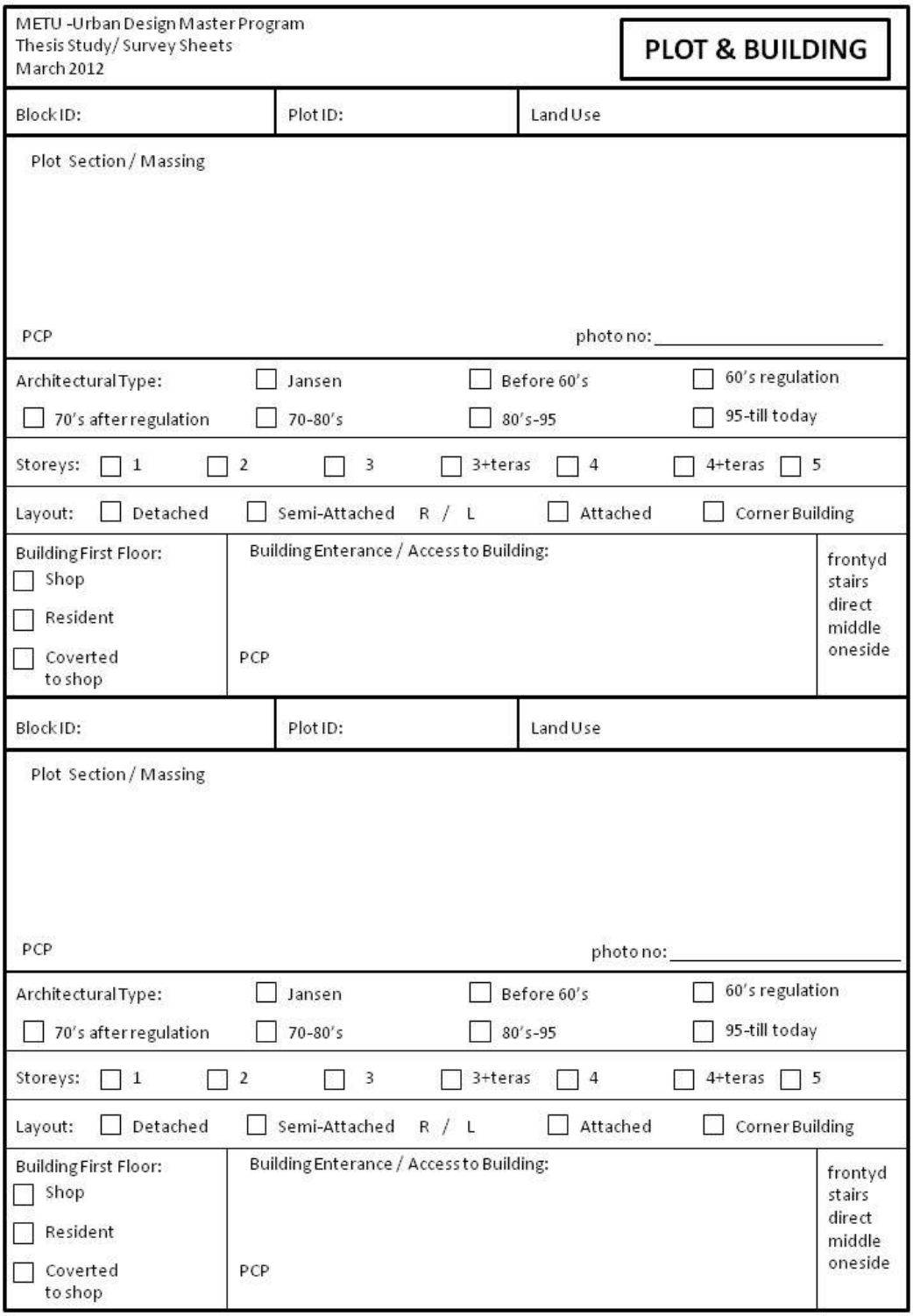

Figure A.2 Plot & Building Survey Sheet

APPENDIX B

B.OLD PLANS OF ANKARA

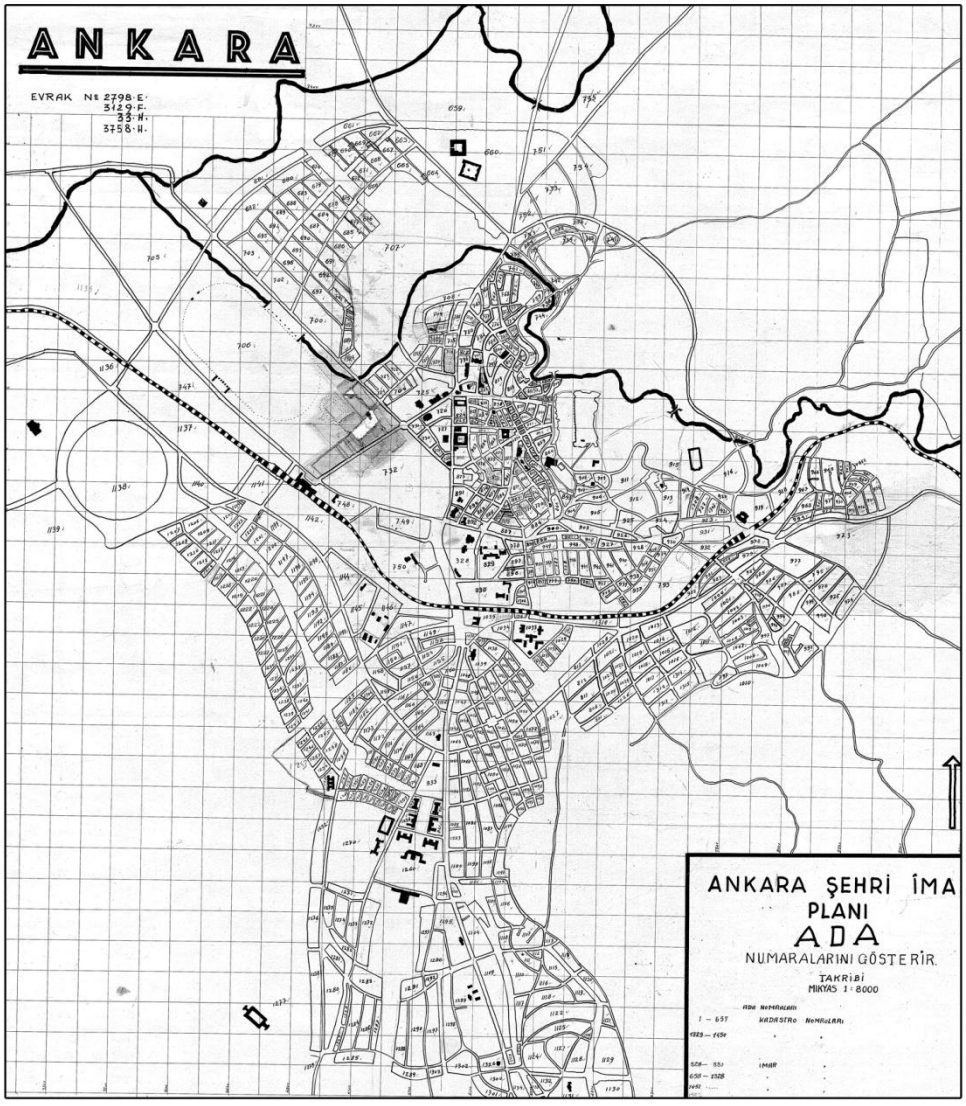

Figure B.1 Old Map of Ankara (1/8000) (n.d.)

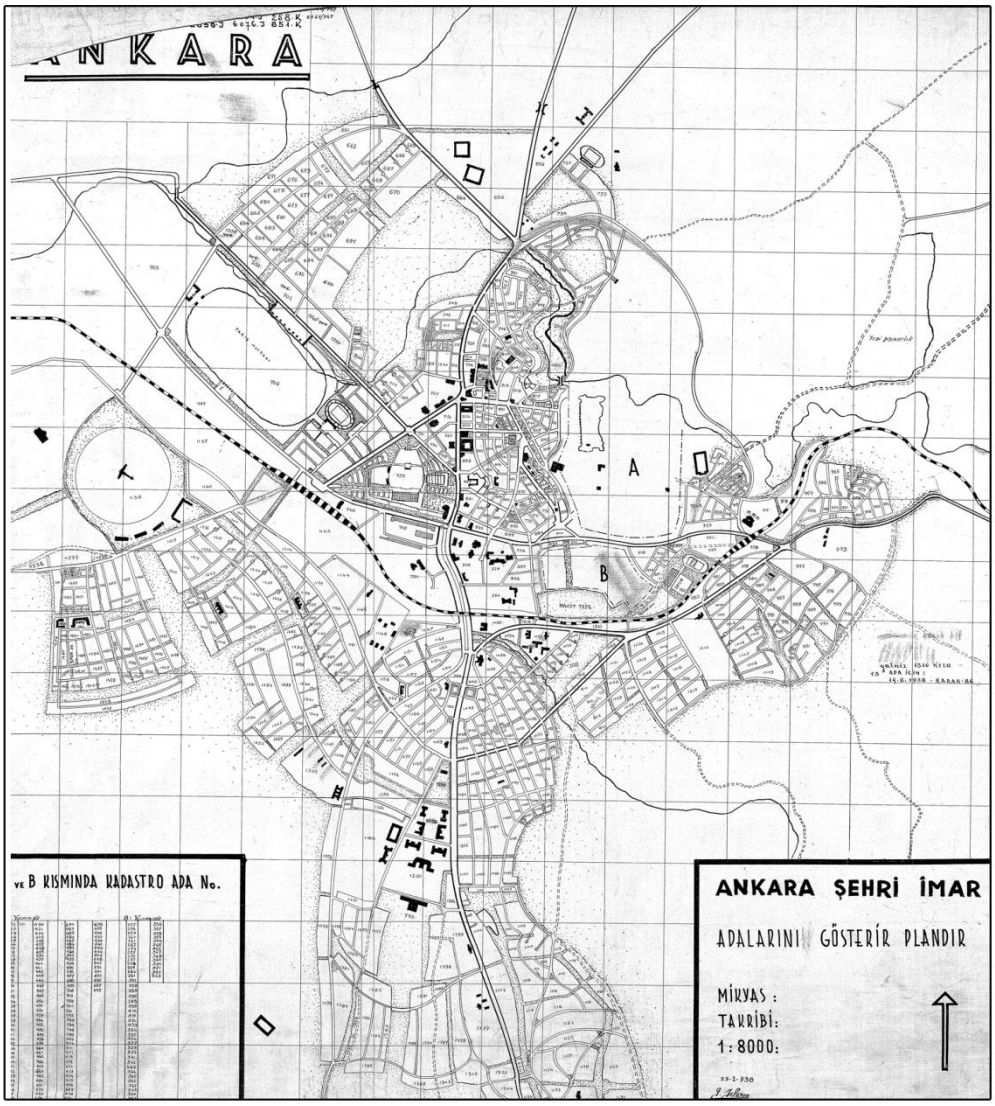

Figure B.2 Old Map of Ankara (1/8000) (n.d.)

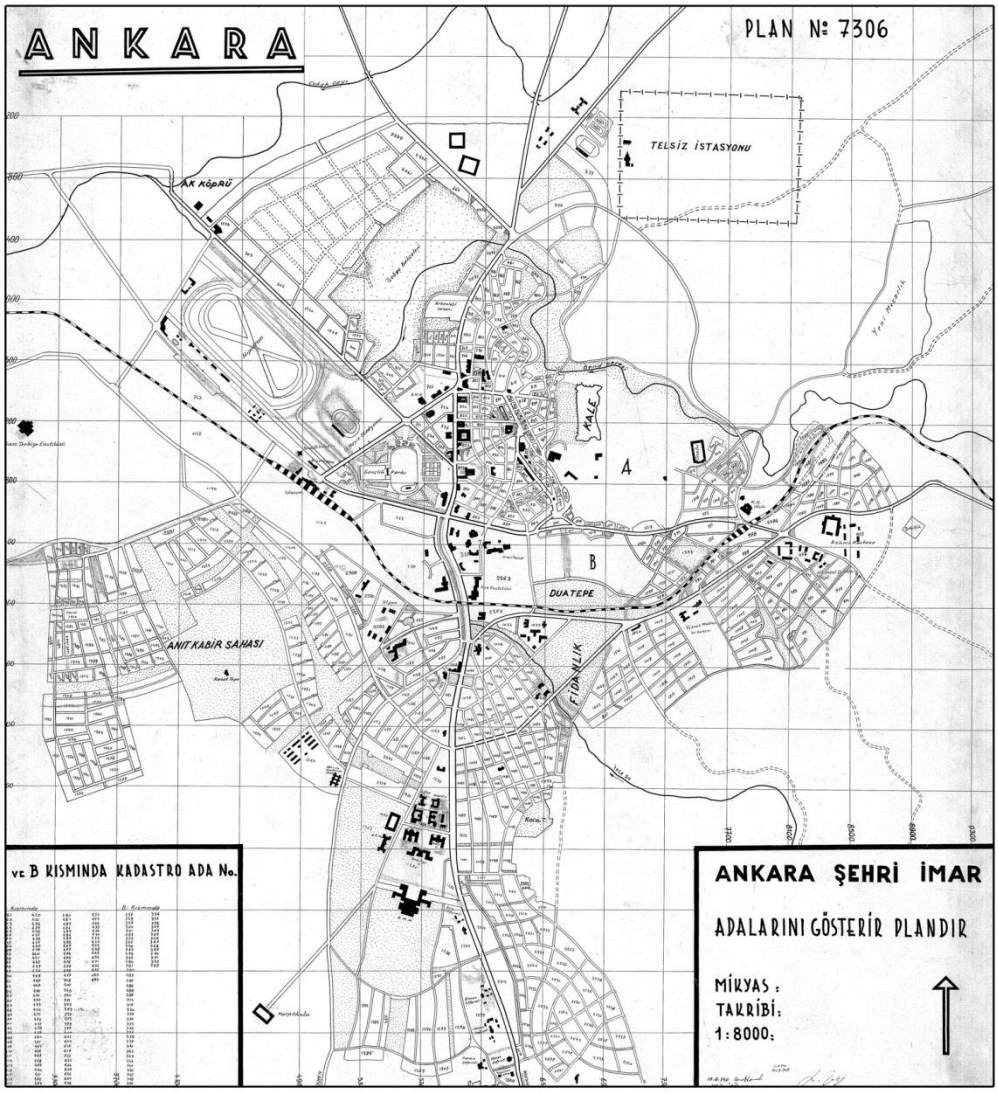

Figure B.3 Old Map of Ankara (1/8000) (n.d.)

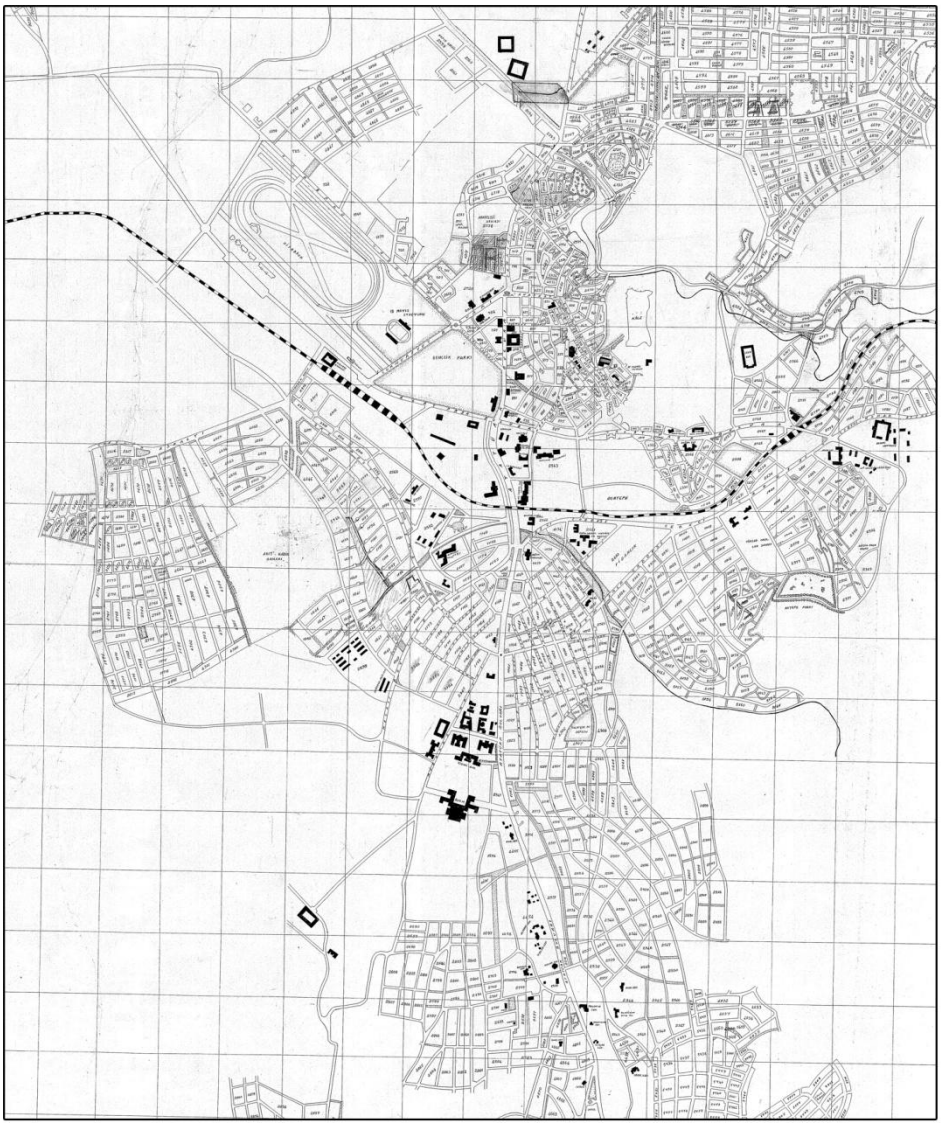

Figure B.4 Old Map of Ankara (n.d.)

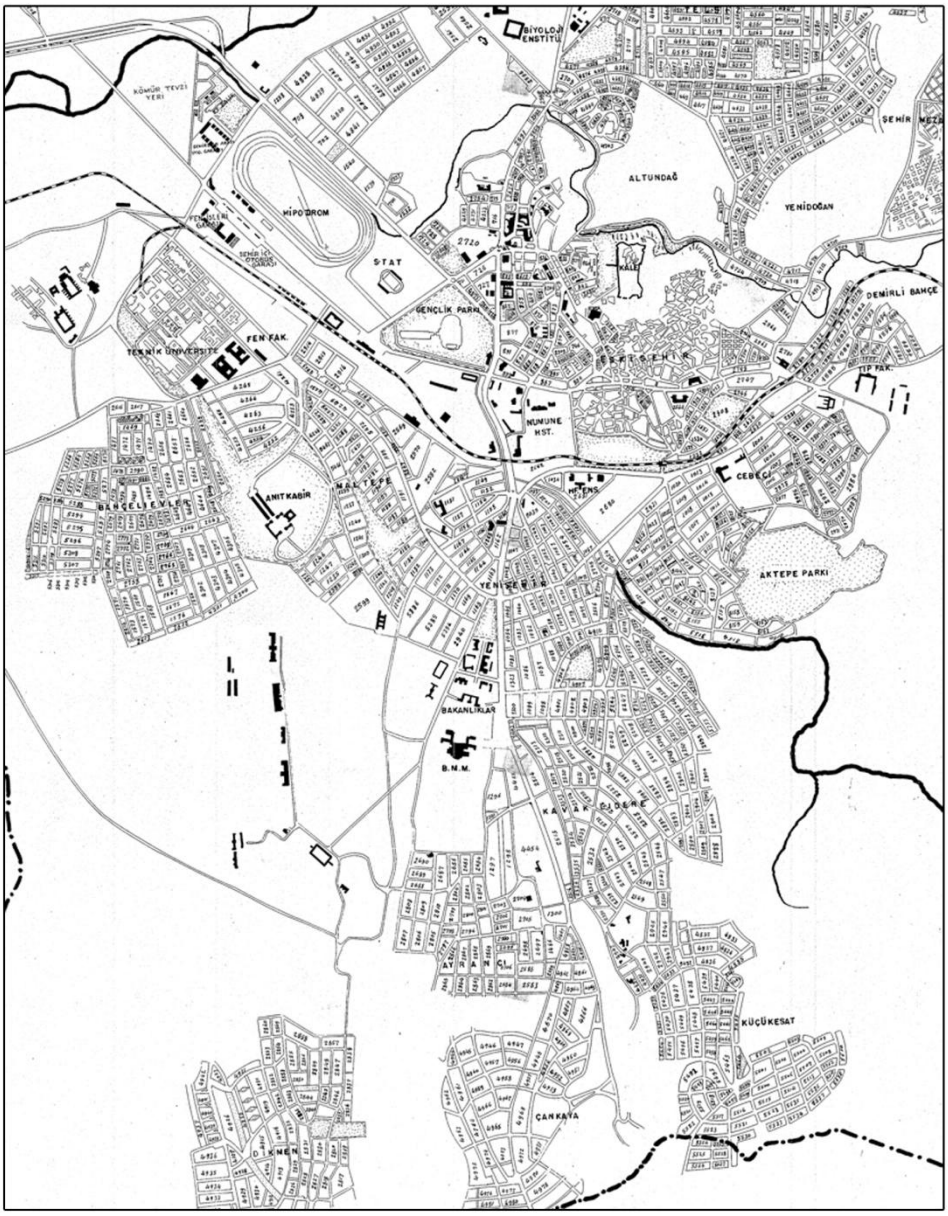

Figure B.5 Old Map of Ankara (n.d.)