HOUSING PRODUCTION PROCESSES: CAN USER-ORIENTED METHODS OF PRODUCTION REPLACE THE CONVENTIONAL ONES?

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ABSTRACT

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Housing production has been concern of various disciplines since the nineteenth century. Therefore, the methods of housing production are critical and subject to change through altering policies, developing construction industry and evolving professional attitudes of planners and architects with theories based on the dynamics of society. Involvement of these different disciplines resulted in the development of various housing production methods as consequences of changing economic, political, social, technical circumstances.

In 1960s, criticisms occurred both within and outside the professions of architecture and planning claiming that conventional methods of housing production caused problems in living environments. With the grassroots movements and the emergence of alternative methods of housing production, it was stated that in addition to social deficiencies, such as high crime rates, suicide

rates, and drug addiction, user dissatisfaction has also been rooted in the practices of conventional methods of housing production.

Thus, emergence and practices of conventional methods of housing production should be studied in order to clarify the problems and to analyze the provided alternative methods in their new contexts.

The major concern of this study is to discuss eligibility of the alternative methods, which are defined as user- oriented methods, to promote solutions for problems of the conventional methods.

Three areas influencing the housing production methods are defined as public policies, construction industry, and roles of architects and planners. In the first section, three areas of concern are examined in order to clarify the origins of need, concept and method of housing production in the nineteenth century. The second section deals with the changes occurred in these three complementary areas, which shaped the housing production method, regarding the conceptual, social, technological, political and administrative developments in the first half of the twentieth century. In the third section, social and professional reactions of 1960s against conventional methods of housing production are discussed in order to clarify the origins of the user-oriented methods. The fourth section is based on the explanation of the user- oriented methods by exemplifying in different scales and evaluating their success.

In the study, conventional methods of housing production are questioned and user- oriented methods are discussed for their eligibility in replacing them.

Key Words: dwelling, possession, participation, legislation, construction industry.

ÖZ

KONUT ÜRETİM SÜREÇLERİ: KULLANICIYA YÖNELİK ÜRETİM YÖNTEMLERİ KONVANSİYONEL YÖNTEMLERİN YERİNİ ALABİLİRLER Mİ?

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Ondokuzuncu yüzyılın başından itibaren konut üretimi pek çok farkli disiplinin konusu olmuştur. Konut ile ilgili devlet politikalarındaki değişiklikler, yapı endüstrisindeki gelişmeler ve sosyal dinamiklere bağlı olarak devinen mimarlik ve planlama alanlarındaki farklı tavırlar konut üretim yöntemlerinin olusumunda etkili olmuşlardır. Bu farklı alanların konut üretimindeki önemli rolleri sebebiyle konut üretim yöntemleri değişen ekonomik, politik, sosyal ve teknik koşullardan etkilenmişlerdir.

1960larda hızlanan toplumsal hareketlerin yanı sıra mimarlık ve planlama alanlarında konut üretiminin konvansiyonel yöntemlerine karşi oluşan tepkiler, bu yöntemlerle oluşturulan yaşam çevrelerinde yaşanan sosyal sorunları

eleştirmişlerdir. Konut çevrelerindeki problemler, sosyal çöküşü simgeleyen yüksek suç ve intihar oranlarının yanısıra konut çevrelerinden duyulan memnuniyetsizlikle de tanımlanmıştır.

Bu durumda, alternatif yöntemlerin yeni içerikleriyle değerlendirilmeleri için konvansiyonel yöntemlerin ortaya çıkışı ve geçirdiği değişiklikler incelenmelidir.

Bu çalişmanın asıl amacı konut üretimi için önerilen alternatif yöntemlerin, konvansiyonel yöntemlerin tanımlanmış sorunlarını çözerek, onların yerini almalarının mümkün olup olmadığını tartışmaktır.

Konut üretim yöntemlerinin oluşmasında etkili olan üç alan, devlet politikaları, yapı endüstrisi ve mimarlar ile plancıların rolleri olarak tanımlanmıştır. İlk bölümde, ondokuzuncu yüzyılda oluşan konut üretimine duyulan ihtiyaç, bu üretim için oluşan kavramlar ve dönemin konut üretim yöntemi anlatılmıştır. İkinci bölüm yirminci yüzyılın ilk yarısı boyunca birbirini tamamlayan bu üç alanda gerçekleşen kavramsal, politik yönetimle ilgili değişiklikler üzerinde durmaktadır. Üçüncü bölümde 1960larda konvansiyonel yöntemlere karşı oluşan toplumsal hareketlerin yanı sıra mimarlık ve planlama alanlarında ortaya çıkan eleştiriler tartışılmıştır. Son bölüm, kullanıcıya yönelik konut üretim yöntemlerini örneklerle acıklayıp değerlendirilmelerine ayrılmıştır.

Çalışmada, konut üretiminin konvansiyonel yöntemleri sorgulanmış, kullanıcıya yönelik üretim yöntemlerinin onların yerini alıp alamayacağı tartışılmıştır.

Anahtar Kelimeler: konut, sahiplenme, katılım, kanunlar, yapı endüstrisi.

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CHAPTER 1

INTRODUCTION

The house, as an individual unit, had been produced sufficiently for the advantaged groups throughout the history. However, with the onset of industrialization, housing conditions entered a new phase. The employment opportunities increased in the cities causing population shifts from rural to urban areas. This resulted in the formation of the working class groups in cities residing in unhealthy and dilapidated conditions. Housing stock of the nineteenth century was not sufficient to overcome the increasing housing need of the new arrived population. Although the practices of housing production for large amount of population were not new in the nineteenth century, it was the first time that they became the major way to house such a number of people. Therefore, amount of housing developments rapidly increased as a response to the need of rapidly increasing population in urban areas in the nineteenth century.

Besides the need of rapidly increasing population, practices of housing production are based on the concepts, which are embedded in the social, institutional, political and economic processes of the last two centuries.

The attitudes of public institutions for housing production were transformed from providing unimplemented health and safety regulations in the nineteenth century to constructing and/or subsidizing the housing projects in the twentieth century. However, the housing production had been accepted as a burden on the economy. Therefore, either private or public sector became dominant in housing

production processes depending on economic conditions. Decreasing the cost and increasing the number of dwelling units became the major issue in housing production.

Because of the worst conditions of living in low-income housing areas, inherited from the nineteenth century, several settlement alternatives were proposed dealing with new social structures as well as physical progress, by architects and planners in the first quarter of the twentieth century. Some of these proposals were implemented in large scales, in the United States and Western Europe. They became influential in the formation of two major housing layouts: the garden city and the towers-in-the-park. Although income levels of the occupants and their locations were dependent on the context of the countries, the two types were the dominant forms of housing production.

On the other hand, the developments in construction industry, providing tools for cheap and fast production, were encouraged and implemented in housing production processes. The concepts of housing layouts provided by the architects and planners related the increasing use of industrial production techniques in housing production. Moreover, both public and private bodies supported the use of industrial production techniques in housing production.

The housing production method, which became conventional in the mid-twentieth century, was so dominant that not only the low-income but also the middle income groups were housed in uniform dwellings constructed by industrial building techniques in isolated environments of living. In addition to increasing social problems in low-income housing areas, the dissatisfaction of users from both income groups framed the crisis. Originating from different social problems, grassroots movements found their common ground in problems of housing environments in neighborhood organizations. Several architects and planners supported these movements and provided assistance helping them to achieve their aims. They proposed alternative methods, which involved the users, for shaping the environment.

The movements, which reveal the social reaction against conditions in housing environments, and the arguments within the professions of planning and architecture, which claim that the conventional methods of housing production have failed, create the necessity of questioning the conventional methods of housing production.

This study aims to examine basic concepts, methods and practices of housing production in nineteenth and twentieth centuries in order to state the claimed problems and to introduce the alternative approaches and methods, which are based on user sovereignty.

The conventional method of housing production occurred in the cost minimizing policies of governments and the deterministic approaches of planning and architecture with the encouragement of developing building industry, which provided the means of uniform mass production. The "house" turned out to be a commodity, which disregards the needs of users and the specific conditions of locality. Therefore, in this study, the term "housing" is used implying the multi-unit developments, either in high-rise or in low-rise forms.

Throughout the study, the failure of conventional housing production methods is based on the dissatisfaction of users and the social deficiencies occurred in the low-income housing environments. Although there are arguments accusing the modern architecture to be responsible for the social problems in the housing environments, in this study, the processes of housing production are examined for their failures rather than the architectural styles. Yet, since many disciplines are concerned with housing, roles of different professions and institutions are also discussed.

Three complementary areas are defined and studied in their historical process since the beginning of the nineteenth century: housing policies, roles of architects and planners, and developments in construction industry. Government policies and interventions are discussed with their influence on finance and management issues in housing production. Since, the housing policies were one of the major determinants of the methods, they are explained through their relations with the

roles of architects and planners in addition to the impacts of developments in construction industry. The improvements and their implementations in construction industry, and the professional attitudes of planners and architects are discussed as they relate to methods of housing production in the United States and Western Europe.

Criticisms of the conventional methods of housing production are stated in order to clarify their impacts on the changing trends in planning and architecture for emergence of new approaches. These alternative methods are explained and exemplified under the name of user-oriented methods. Despite the success of the pioneering practices of user-oriented approaches, they also have been criticized. Therefore, shortcomings of the user-oriented methods are also emphasized with the current studies aiming at overcoming these problems.

The main point of this study is to state the approaches and their criticisms in order to determine if alternative methods of housing production for multitude have the potential to solve the problems, which are described as the failures of conventional housing production methods.

The second chapter focuses on the conditions of housing environments in the nineteenth century and the relevant developments taking place in construction industry, in addition to the positions of the public institutions, and the roles of architects and planners. The origins of public intervention on housing production process are explained in the social and political contexts of the era. The limited contributions of utopists, reformists, and philanthropists are mentioned. The initial examples of the housing production for multitudes are stated as they form the housing production method of the century.

In the third chapter, the transformation in the attitudes of public institutions, architects and planners are explained. Increasing impacts of architecture and planning in housing production process are related with the implementation of the industrial construction techniques. The process of formation of standards and their use in the housing production are clarified. This chapter covers the first half

of the twentieth century, claiming that the reasons of the grassroots movements of the 1960s are seeded in this period.

The fourth chapter deals with the adverse social consequences of the housing production, especially after the Second World War. The origins of the urban protests and riots are examined with the responses that came from planning and architecture. The problems of the conventional methods of housing production are discussed in order to clarify the emergence of the alternative approaches: user-oriented methods.

In the fifth chapter, after explaining the origins and terminology of the user-oriented methods, these approaches are exemplified in three different scales: dwelling unit scale, scale of clusters and multi-unit structures, and city neighborhood scale. The evaluations of the given examples are based on their performance to increase user satisfaction, to decrease the social problems, and to be efficient in the social, political, administrative, and financial context of their locality.

In the last chapter the three complementary areas are described with their alterations since the nineteenth century. The problems they caused and the solutions that the user-oriented methods brought are explained. The chapter concludes by stating shortcomings of the user-oriented methods and solutions being provided recently with the use of digital technology. Two studies done in Turkey are mentioned as they relate to the application of user-oriented methods in Turkey. The applications of the user-oriented methods in the United States and Western Europe are discussed in order to clarify if they provide solutions for the problems of conventional methods in the countries they are applied. The evaluation is related to the future applications of housing production in Turkey.

CHAPTER 2

FORMATION OF NEED, CONCEPT AND METHOD: NINETEENTH CENTURY

Nineteenth century was the crucial period in which the need of housing the multitude occurred due to the rapid transformation in the production methods after the industrial revolution. Although there were examples of housing production in the previous centuries, because of the large population movements to urban areas following the employment opportunities of industrial production, urgent need of housing became the dominant issue in the nineteenth century.

In other words, the first component of the housing production process, the formation of need, began in the nineteenth century. Population increase caused high densities of accommodation in urban areas (Benevolo, 1975, Tafuri and Dal Co, 1976, Burnett, 1978). Rapid growth of population with the lack of sufficient amount of housing stock generated the urgent need for housing production for multitude. During the nineteenth century, this multitude was represented by the low-income working class.

Moreover, because of changing production mode social relations also changed. The sense of community was damaged in the new competitive environment of industrial production methods (Hatch, 1984). On the other hand, the new mode of production led to the invention of new materials and construction techniques to be used in building industry (Russell, 1981). Although, the extensive practices of mass production techniques in housing construction were in the twentieth

century, the earliest examples of industrial production techniques in the nineteenth century were important because they established the basis for the extensive practices in the next century (Burnett, 1978). Therefore, the means of housing production for multitude were formed.

The concept of housing, which was based on producing cheaply, quickly and for large amounts of people, was generated in the nineteenth century. Since the entire century was occupied with the problem of accommodation in "bursting cities and desolate country side", the meaning of house was replaced with housing, which was a process involving finance, planning, construction and administration as a whole (Pawley, 1971: 10). Moreover, limited public intervention and consequently high involvement of private sector in housing production encouraged the rationalization of the housing concept to be poor in quality and rich in quantity. Therefore, the concept of housing was formed in the hand of speculative builders as the financer, builder and administrator. Public intervention was limited to the generation of regulations about health and fire protection issues. Besides the limited proposals of utopists, which were not implemented excluding some exceptions, architects were out of the housing production process (Hamdi, 1991). Although the impacts of architects and utopists were minimal (Hamdi, 1991), they provided alternatives for the existing conditions and caused the next century developments to be seeded (Ellin, 1995).

Nevertheless, at the end of the century, due to the uncontrolled and insufficient production of housing, living conditions of the working class were alarming. Besides the threatening health conditions, moral problems emerged through the high-density occupation of the existing housing stock (Engels, 1845, Benevolo, 1975).

In this period, the actual need, the means of production method and the concept of housing were formed. The impacts of industrial revolution on the housing conditions with declining social conditions were the reasons of *need*. Because of the limited public intervention through legislation, the *concept* was formed by the private sector due to ignorance of architects. Transformation of production mode caused the formation of means of mass production, which was implemented in

housing construction in twentieth century. Therefore, the *method* of housing production in nineteenth century was based on small-scale speculative builders' high-density construction by using local and traditional techniques in addition to limited contribution of philanthropic activities and local reform organizations.

This chapter is composed of four sections. In the first section the impacts of industrial revolution are mentioned in order to explain the origins of increasing need of housing due to population movements. In addition to population movements, the influences of the changing production mode as a consequence of industrial revolution, on social life and construction industry are mentioned in this section. Second section reveals the declining conditions of living in nineteenth century. In third and fourth sections, limited influence of public institutions and architects are explained respectively in order to clarify the dominant role of speculative builders in the housing production process.

2.1 IMPACTS OF INDUSTRIAL REVOLUTION

The most important impact of industrial revolution on housing production was the increase in urban population. Other influences were consequently, the increase in the amount of goods, developments in transportation facilities and the spread of free market thought. Changing production mode through the industrial revolution effected the structure of the society and on the other hand, caused the developments in building industry.

From the mid-eighteenth century onwards, the industrial revolution began to effect the formation of social and physical settings of the cities, spreading out from England to the other countries of Europe and United States (Benevolo, 1975). However, the reasons for urgent housing problems occurred in the first half of nineteenth century with the rapid increase of population and the insufficient amount of housing stock for accommodation (Burnett, 1978).

Three main characteristics of industrial revolution effected the formation of industrial city, industrial society and new conditions of living. These are the increase in population, the increase in industrial production and the

mechanization of productive systems (Benevolo, 1960). Increases in population together with increases in production, leading to increases in number of employment opportunities in urban areas, caused the adverse conditions of living in limited accommodation stock, causing the need for housing. Overcrowding in urban areas created uninhabitable environments that the majority of working class lived in (Benevolo, 1975).

On the other hand, mechanization of productive systems caused the occurrence of a different society, in which the competition was high among standardized individual workers. With the change of production mode, structure of the social organization also changed resulting in the collapse of a sense of community (Hatch, 1984). Although the mechanization of the construction industry was not influential on housing production during the nineteenth century, technical developments in materials and methods of construction were noticeable and they influenced housing production during the next century.

2.1.1. THE SETTING OF THE INDUSTRIAL REVOLUTION

Settings of the industrial revolution were constituted by the conditions encouraging the increase of population in urban areas through increasing employment opportunities, consumption goods and means of transportation. Moreover, the profit maximizing aims of authorities and economically favorable groups in the free market avoiding the declining conditions of living were also noticeable.

During the nineteenth century, the increase in population in urban areas and the changing population distributions caused rapid growth of cities (Rowe, 1993). The increase in population had two main reasons: one of which was that the birth rate exceeded the level of death for the first time in history. The average life expectancy rose from thirty- five years to fifty in England at the turn of the nineteenth century (Benevolo, 1975). Second, and most important reason of increase in the population was the redistribution of population through the changes in production (Burnett, 1978). The opportunities of industrial employment and the incomparable availability of the consumer goods in cities

attracted farmers and workers of the countryside (Rowe, 1993). This new generation, which included higher percentages of young people (Benevolo, 1975), was more mobile than its ancestors. Because of the increasing attractiveness of the cities, the population moved towards the towns from rural areas (Burnett, 1978). Agricultural workers became the wage earners or industrial workers in cities because they followed the new factories located around the towns (Benevolo, 1975). Therefore, the towns became the poles of population growth partly because of the natural increase, but mostly because of the migration from countryside to urban areas.

The increase in urban population in most of cities became more overt in the second half of the nineteenth century. In Europe, the urban population almost tripled from 3.8 percent to over 10 percent from 1850 to 1895. Through the nineteenth century, in Europe, populations of the biggest cities like London (1 million to 4.2 million), Berlin (173,000 to 1.6 million) and Amsterdam (two- fold) increased. In United States, while the national population increased 12- fold, the urban population in the nation increased 72- fold. New York's population growth reached its peak in the first half of the century, with the rate of 47.3 percent (over 2.7 million). Chicago grew from its foundation in 1830 to 1890 and its population increased to 1.1 million (Rowe, 1993).

However, the main problem was the high-density that occurred through the rapid increase of population and the insufficient amount of housing in the urban areas. Although the overall densities of cities of Europe were higher than the densities of cities in United States (Rowe, 1993), the conditions of living were similar.

On the other hand, amount of production increased with the "technological advances and economic expansion", which also encouraged the increase in population (Benevolo, 1975: 733). The increase in the amount of production was both quantitative and qualitative because there were "more types of industry, more types of products, more processes of producing them" (Benevolo, 1960: xx). In England, during the seventy years from 1760 to 1830, the increase in iron production was 35-fold, in coal it was 30-fold and in cotton industry it was 70-fold

(Benevolo, 1960). Increase in production implied both the increasing employment opportunities and the increasing amount of consumption of increasing population.

Meanwhile, the development in communication and transportation (introduction of canals in 1760, railways in 1825 and steamships) increased the mobility of rapidly growing population and of any goods, regardless of its weight (Benevolo, 1975). Achieving sufficient mobility, facilitating the migration to big cities, large amounts of workers were concentrated in urban areas. However, towards the end of nineteenth century, the developments in transportation allowed this concentrated living to spread out with the help of streetcars and commuter railways (Rowe, 1993). Yet, during the nineteenth century, increasing transportation facilities encouraged the increasing numbers in urban areas and the continuing developments in the production methods both in United States and in Western Europe.

The difference between Western Europe and United States was basically the timing. Since the developments in United States took place later, the intensity of industrial development was lower and the consequent urbanization was less rapid. Therefore, modern economic and social transformation of United States took place from 1865 to 1933, while the same transformation of England took place from 1832 to 1945 (Rowe, 1993).

Both in Europe and in United States, these changes did not mean equity. On the contrary, every development caused further serious changes in society through worse conditions of inequity (Benevolo, 1975). The new trends in political thought also encouraged the inequity in society by limiting the public intervention and following Adam Smith's advice. In 1776 Adam Smith published his "Inquiry into the Nature and Causes of the Wealth of Nations" claiming that the "world of economics was ruled by objective and impersonal laws like world of nature" (Benevolo, 1960: xxii). For him, the main foundations of these laws were not the demands of the state but the individuals' gain through their free activity in the market. On the other hand, in 1798 in the "Essay on the Principle of Population", Thomas Malthus related the problems of population and the problems of economic development. According to this publication, further increase in

population would be prevented with the limits of hunger because the rate of increase in population exceeded the rate of increase in means of subsistence (Benevolo, 1960). The ruling class found it profitable to sell the land in public ownership to pay debts because when they encouraged private enterprise, they would not have any responsibility of the chaotic environment in the cities but would make profit out of it (Benevolo, 1975). These ideas of Smith and Malthus also met with the interests of the wealthy groups as well as that of authorities. Therefore, the conditions of living in urban areas continued to decline with the reluctance of both groups to intervene.

The main problem was the lack of co-ordination between the progress in scientific and technical issues and the general organization in the society. This lack of co-ordination implied the lack of sufficient administrative provisions, which would control the consequences of the economic transformations. Some of the political bodies were aware of the rapid change and the need of reform. Yet, they thought that reform should be based on the society's inherited values and avoided the new values. However, there were others who were neglecting the rapid change at all and were surprised with the consequences of this change (Benevolo, 1960). The authorities' avoidance encouraged the worsening conditions of living.

Therefore, nineteenth century urban dwelling densities created alarming conditions, with the neglect of public authorities and the high rate of involvement in the production of private companies through their profit maximizing aims (Rowe, 1993).

The settings of industrial revolution were basically composed of the high rates of population growth in urban areas through increasing employment opportunities with the changing production modes and the avoidance of the worsening living conditions due to inadequate number of housing units. Thus, rapidly increasing population in urban areas created the need and public authorities' avoidance of their responsibilities created the appropriate circumstances for the nineteenth century housing conditions.

In addition to increase in population and products, change of production mode was also noticeable. Namely, the change in production mode from craftsmanship to industrial production effected the conditions of social life.

2.1.2 CHANGE OF PRODUCTION MODE

During the nineteenth century society experienced a critical transformation of production mode from craftsmanship to industrial production. This experience resulted in the change of the social life and the traditional meanings of work and family. Therefore, the impacts of technological development were not limited with the increasing mobility of people and goods or the introduction of new materials and building techniques or mechanization of production. Indeed, the consequent transformation in the work organization effected the society in terms of loosing the sense of community.

Before the industrial revolution, craft production was the rule and the shops, which were traditionally attached to the owners` houses, were small, including eight employees on average. However, each worker, with the hope of being a self- employed master himself, owned his own tools, where rules and regulations of craft associations protected the rights of the workers (Hatch, 1984).

With the onset of industrialization, the wholesale merchants turned in to industrialists and the whole system of society changed with the transformation of the production mode. Small artisans could not stand against the power of the factory, which caused two main features: one is the more skillful and faster use of machinery, second is the more concentrated and more controlled allocation of the workers (Hatch, 1984). The "merchant capitalists'" attitudes of profit maximization effected the traditional structure of the family and "reduced human beings to a commodity", which should be bought at the lowest price (Hatch, 1984: 5).

To industrialize a process meant to organize or rearrange the labor, material and equipment in an efficient way, which outperformed the previous craft-oriented methods (Sullivan, 1978). This rearrangement implied the collapse of skill differences among workers. Moreover, the re-organization of the materials and

equipment implied that the workers' ownership of their own tools had ended. Since the workers were forced to give up the means of production (the tools), the creativity process also ended in the workplaces. Therefore, the more narrow the division of labor became in the unskilled works, the less aware of the whole system of production the workers became (Hatch, 1984). As opposed to craftsmanship, industrial methods of production did not involve the human effort in production (Rowe, 1993).

Moreover, the remoteness of human involvement resulted in the uniformity of the labor (Rowe, 1993). Therefore, the "de-skilling" of work decreased the differences among the workers and the consequently emerging competition negatively effected the relations between workers because of the high rates of unemployment (Hatch, 1984).

The impacts of industrial revolution on the change of production mode resulted in the change of relationships in the society. The structure of family lost its traditional form with the loss of traditional meaning of work. The unavoidable competitive market caused the collapse of community (Hatch, 1984). Therefore, with the changing production mode and with the effects of this change on the economic structure, the meanings and values of concepts of family and community changed.

On the other hand, the formation of the method of housing production was related with the changing production mode as well. However, this relation was not overt during the nineteenth century. Although there were number of inventions and implementations of these inventions during the century, it was not until the end of the nineteenth century that the developments in construction industry were applied in the housing production process.

2.1.3. THE IMPACTS OF NEW PRODUCTION MODES ON CONSTRUCTION INDUSTRY

Introduction of new materials and production techniques stimulated the practices of the new construction methods in the nineteenth century. However, these

developments were initially taking place in the specialized production units of industrial goods and then transformed to the construction industry. Moreover, the designers and builders of the buildings, in which the new materials and techniques were used, were different from the speculative builders, who were building large amounts of housing by using local and traditional methods of construction. Therefore, the nineteenth century was the period of development in the construction industry. Yet, because of the adverse organization of speculative builders of housing, who were incapable of implementing new techniques and materials unless it was forced through legislation, it was not yet the period of implementation of these new construction methods and materials in housing production.

In the nineteenth century, massive industrialization took place primarily in England and caused the transformation in the approaches of making buildings (Russell, 1981). The industrialization of the building industry implied "the reorganization of resources in such a fashion so as to create an industry that manufactures or constructs buildings or related components in a manner that is superior to the craft-oriented means previously employed" (Sullivan, 1978: 2). The most important and effective influence of mechanization on the building industry was the ability of producing interchangeable parts. The primary aim was to improve efficiency in the construction process. However, mechanization of production methods effected the formation of a whole new way of thinking about the buildings. Although the mechanization was not the product of the nineteenth century, the noticeable developments occurred in the nineteenth century (Russell, 1981).

Nevertheless, the first inventions of industrial production were not in building industry. Basically the wars and the need for more rapid and efficient ways of producing consumption goods encouraged the developments in this area. Namely, "the first real example of machine production of standard parts, under controlled conditions" was the production of blocks, which were used in the gun ships in the beginning and which later led to enormous implications (Russell, 1981: 36). The mechanized block-making plant was established in 1803 in England and became completely independent of external contractors' supplies in

1805. The desire to be more powerful in the wars implied defending property at the national scale. On the other hand, the importance of defense of possession created the second area of inventions in industrial production: lock production (Russell, 1981).

The invention of new materials were basically initiated after the shortage of wood in England in the fifteenth and sixteenth centuries, and accelerated after the increasing use of coal in smelting iron and steel. The traditional materials such as stone, brick, and timber became more available through increasing transportation facilities and new materials such as cast iron, glass, steel were introduced (Benevolo, 1960). Therefore, the developments in transportation encouraged the use of relatively new materials by helping with their distribution. Cast and wrought iron were the new materials of the eighteenth and the nineteenth century, later on steel became another material used in construction industry (Sullivan, 1978).

The initial examples of using industrialized production methods and relatively new materials was proof of the success of a rational sequence of production of standardized components with machine tools and without much intervention of the human factor, under controlled conditions.

Before the construction of buildings, bridge constructions were examples of the use of new methods and materials. The first example was the Menai Bridge, built in 1826, through industrial construction methods and the use of wrought iron (Sullivan, 1978). The developments in bridges led to the implementation of relatively new methods and materials in the construction of buildings.

One of the first and most important implementations of industrial production on the construction industry was the Crystal Palace in 1851 by Joseph Paxton (Russell, 1981; Sullivan, 1978). There had been other iron structures like train stations in Euston and Kings Cross. However, these examples were built for utilitarian purposes. The Crystal Palace was the first to be constructed with relatively new construction methods and materials through non-utilitarian approaches (Sullivan, 1978). Its design was composed of structural and cladding modules, prefabricated, standardized, and mass-produced interchangeable

components. In addition to the components, the erection techniques were also mechanized, such as the use of the roof glazing wagon and the use of the framework as its own scaffold, which resulted in the rapid erection of the whole building with its light steel structure, weather-proof lightweight skin and curtain walls (Figures 1 and 2). During the construction, designers, engineers and suppliers worked as an integrated organization (Russell, 1981). Although the Crystal Palace demonstrated the efficient use of cast and wrought iron in design and construction, it was also important that the construction considerably took a shorter time with the use of standardized and mass-produced elements (Sullivan, 1978).

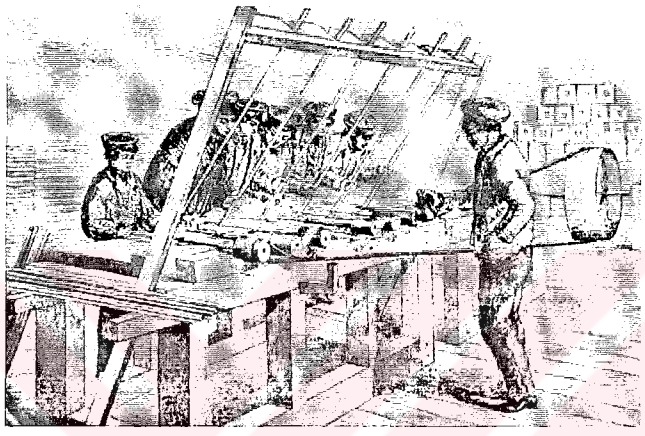


Figure 1. Mass production techniques for Crystal Palace (Russell, 1981: 43).

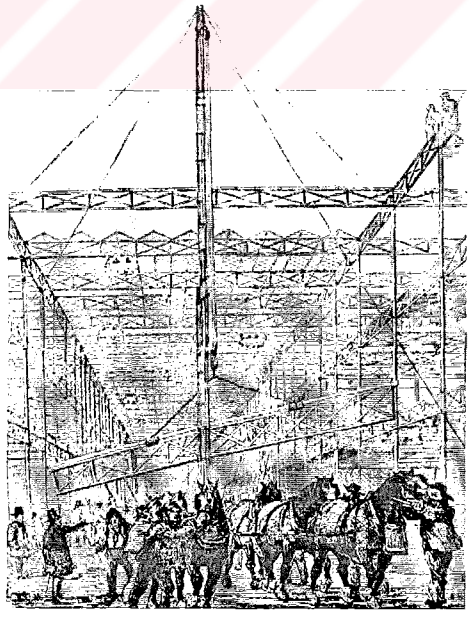


Figure 2. Construction of Crystal Palace (Russell, 1981: 44).

As another invention in mechanized production methods, cast iron played an important role after its introduction in 1790s, in England, in textile mills, as prevention against the threat of fire. The construction of cast iron frame mills were the initial use, which then led to the construction of churches with cast iron interiors and stone exteriors in 1814 and 1816. Moreover, its use as a decorative element additional to construction purposes was encouraged with its availability through opportunities of shipment (Russell, 1981).

The use of iron and steel frames was another implication of development in machinery production in the building industry. Although the first production of wrought-iron joist sections was in 1845 in Paris, the development of the multi-storey buildings around the steel frames and the elevators was during the second half of nineteenth century. The first building with a wrought-iron skeleton was Jules Saulnier's chocolate works near Paris, built in 1871/72, which was followed by many buildings especially in the newly developing Chicago with further developments in the steel, like the introduction of Bessemer steel (Russell, 1981).

In 1856, Henry Bessemer invented the method to make steel stronger and more available for a reasonable price. Shortly after 1850s, the iron and steel industry were capable of producing iron rails and deep H beams. On the other hand, the Chicago fire in 1871 caused the extensive use of these materials, which were perfect in fire prevention, and led to the birth of multi-storey office tower and the structural form of the steel frame. After the developments in bridge and train station construction, it was time to build vertically (Sullivan, 1978).

The use of concrete advanced with the increase in the production and use of iron and steel. Although concrete had been known for a longer time, its serious use in the construction industry was initiated early in 1800s with the development of Portland cement. In 1832 Isambard Brunel used reinforced concrete in an arch, which he built in connection to a tunnel under the Thames. However, it was not until the beginning of the next century that precast and reinforced concrete were efficiently used in building industry (Sullivan, 1978). Yet, their introduction was important because of their extensive use in the prefabricated concrete housing production after the Second World War.

The technological inventions and their implications in the building industry were not scarce in the nineteenth century, especially in the second half. However, these developments were not reflected in the production of working class housing, which was carried by speculative builders. Speculative builders were not innovators. On the contrary, they used traditional and local methods of production, which was then assumed to be cheaper and quicker.

Therefore, the benefits of the technology were achieved by small, but rapidly growing section of the community (Burnett, 1978). However, housing was built by speculative builders, who had no power to change the conditions of sanitation, drainage, ventilation or sewerage through their limited individual productions of housing, "unless a local authority compelled (them) to" (Burnett, 1978: 86).

Consequently, it would not be something common among builders to read "The Builder", which was founded in 1842 to reflect the arguments about "agglomerated housing" and methods of system building. It was stated by the editor of this journal, George Godwin, that machinery should be used in the construction of houses of laboring classes in order to reduce construction costs (Burnett, 1978). However, since there was no restriction to force the builders who were not powerful or willing, mass production techniques were not implemented in low-cost housing construction until the late nineteenth century.

Besides the use of local traditional methods in construction, the sub-contracting system was also noticeable as a reason for production of low quality housing. There was no proper supervision of the construction process, which included separate sections for bricklaying, carpentry, plumbing and so on. (Burnett, 1978).

Although inventions in materials and techniques of the building industry were not used in the construction of low-income housing until the late nineteenth century, they led to the developments in the mass production, which became the major technique of housing production with the turn of the century. Moreover, these transformations in mass production effected the practice of architecture, which influenced the approaches to housing production in the first half of twentieth century.

In addition to poor construction quality, the demographic, social and physical transformations in the city of nineteenth century created conditions for uninhabitable environments of living for the majority of the society. With the industrial revolution, the population increased rapidly in urban areas creating the need for large numbers of houses for low-income groups. While transportation facilities provided the mobility of people and goods, the authorities failed to control these developments. Changing production modes resulted in changes in the social structure and influenced inventions in material and production methods of construction industry.

These alterations in numbers, needs, production methods, social structure and social order created the appropriate conditions for the nineteenth century housing and social life, which had remained uncontrolled until then.

2.2. CONDITIONS OF HOUSING AND SOCIAL LIFE

The setting of the industrial revolution was based on the conditions of the mid-eighteenth century (Benevolo, 1975). However, through the nineteenth century, with the changing political beliefs, life style and production methods, the problems became clearer. The city centers were ignored with their declining conditions both in environmental and in social terms (Hatch, 1984).

The industrial era had two main influences on cities. First, is the transformation of the "urban nuclei", and second, is the "construction of new peripheral areas" (Benevolo, 1975: 753). The inherited conditions of the nucleus from the earlier centuries were not compatible with the new requirements of the new life. Houses were too small for the increased amount of inhabitants and streets were too narrow for the increased traffic (Benevolo, 1975). As a result, the members of the society, who were economically advantaged, chose to move outside the city centers, which then turned into overcrowded slum areas (Burnett, 1978). The new inhabitants, who were the poor or the new arrivals from the countryside occupied historical buildings and the former houses of the nobility, which were being divided up into "makeshift lodgings" while the green areas were used to build houses or industrial workshops (Benevolo, 1975: 753).

On the outskirts of the cities, there were unplanned independent developments, which included the construction of individual houses of high- income groups on one hand, and on the other hand the factories, warehouses, and housing for the poor (Benevolo, 1975). Besides the lower percentage of luxury housing, which was based on ownership, the higher percentage of low-income housing was more noticeable because the alternative for inner-city overcrowded slum areas was initiated by them (Bilgin, 1997). These low-income houses, which were the continuation of the countryside life style, were named as "cottages" in England (Figures 3 and 4) (Burnett, 1978). They were built as detached houses, far away from the cities, with their outside wet spaces, on the sides of the inter- city roads in order to provide the necessary amount of housing for the workers, who came from countryside to work for the factories (Bilgin, 1997).

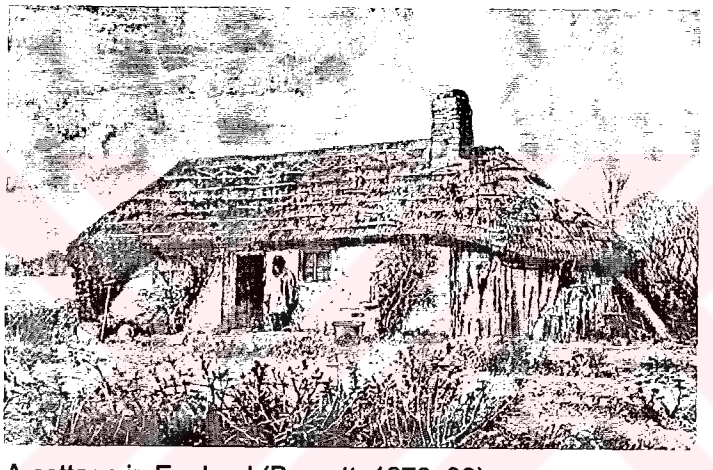


Figure 3. A cottage in England (Burnett, 1978: 89).

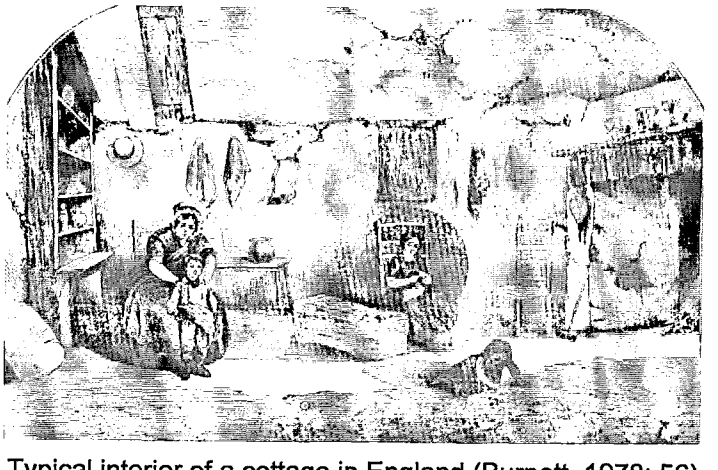


Figure 4. Typical interior of a cottage in England (Burnett, 1978: 56).

At the same time, middle-income or upper middle-income groups resided in the previous houses of nobility as well. Yet the differences of the houses occupied by the low-income groups were very clear. The houses with larger gardens implied higher social status because the poor was living much closer, "either in the terrace houses or tenement blocks" (Benevolo, 1975: 754).

The types of housing for working classes consisted of two groups. The first group, which was achieved through subdivision or re-use of the existing housing stock, was the environment of the poorest living conditions. In England, the first group included three types named as cellar- dwellings, lodging- houses and tenement houses. Since the subdivision process was cheaper and quicker than the building process, the urgent solution for the rapid increasing need of housing assumed to be the subdivision of the existing buildings, which previously belonged to higher- income groups. In all three types the sanitation was very low and the conditions of living in these overcrowded rooms encouraged social deficiencies (Figure 5) (Burnett, 1978).

Figure 5. A street view from a poor part of London (Benevolo, 1980: 745).

The second group of working class housing had the advantage of being built specifically for working class families. Therefore, they were better in building quality and living conditions. The back-to-back houses, the terrace houses (Figure 6), workshop houses and the employer houses, with increasing quality

respectively, were the three types of this group (Burnett, 1978). They provided more privacy and adequate sanitation compared to the first group.

Figure 6. An example of terrace houses in Manchester (Burnett, 1978: 120).

Nineteenth century housing for low-income groups were built by using the traditional construction materials (Bilgin, 1997). They were constructed by speculators either a few at a time or in vast complexes (Benevolo, 1975). These houses were composed of many small rooms with simply a door, a window and four walls, surrounding a landing or a corridor. The agglomeration of these rooms side by side or on the top of each other formed the buildings, which had dead-end streets, linked courts and light wells among them (Figure 7) (Bilgin, 1997). The aim of the speculative developers was to make the maximum profit. Therefore, they were using the cheapest forms of building materials and paying the lowest possible wages for the workers (Benevolo, 1975). Back to back houses in England, Mietkaserne in Germany (Figure 8), Cite Ouvriere in France, Dumbbell in United States were the main examples of this type of housing (Bilgin, 1997).

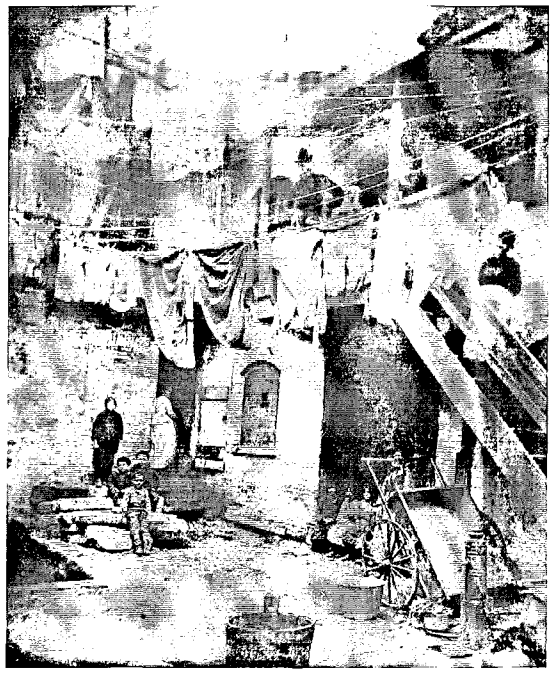


Figure 7. An example of an inner court (Rowe, 1993: 51).

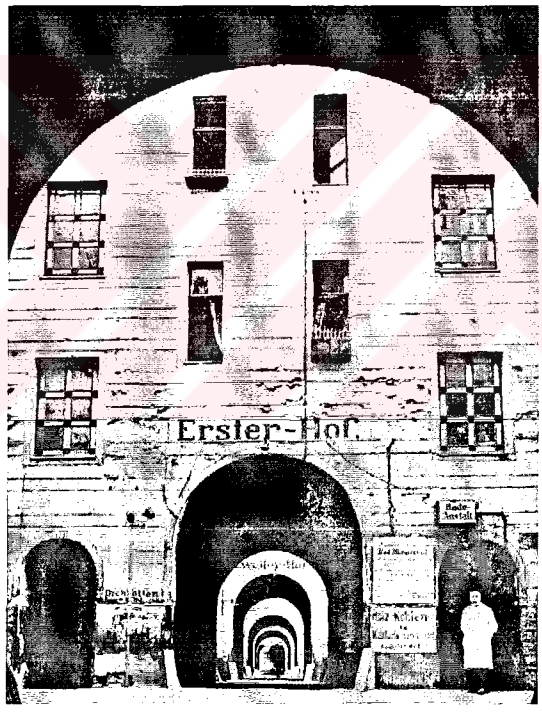


Figure 8. An example of Mietkaserne in Berlin (Tafuri and Dal Co, 1976: 27).

The concentration of large numbers of houses in limited areas caused overcrowding and unsanitary conditions of living (problems about disposal and the lack of open-air activities) in unsafe buildings (Rowe, 1993, Engels, 1845). The open sewers running down the narrow streets, on which the garbage

accumulated, created severe problems of health, threatening the whole society. Moreover, the low-income working class houses were located near the factories, which filled the houses with fumes and noise, and poisoned the waterways (Benevolo, 1975, Engels, 1845).

In the nineteenth century, mostly speculative builders practiced the production of housing, which was initiated by the excessive need of rapidly increasing population in cities. Since the developments were unplanned, the consequences were also unexpected. Besides the social decline through the change of production mode, the decline in the quality of physical environment and consequently the spreading diseases also caused problems. These problems accelerated public interventions and the declaration of housing standards on one hand, and the activities of reformers on the other hand.

2.3. REFORMS AND INTERVENTIONS

The rapid increase of population and density in urban areas with the insufficient stock of accommodation created the need for housing. Transformation of production mode provided the new tools and techniques for fast and cheap production. Yet, the process of housing production was highly dependent on the legal issues.

In England, in the first half of the century, public authorities did not deal with the problems of the urban environment and the formation of uninhabitable conditions in housing areas. Although in the second half of the century, public authorities provided legislation aimed at improving the urban areas, it was limited. Therefore, speculative builders were concentrated on their own profit maximizing aims. Nevertheless, insufficiency of the housing acts caused the increasing number of building societies, which were unorganized and independent. Through the end of the century, local authorities were empowered and they provided the regulations in their jurisdiction areas but mostly not performing as direct builders because of the legislative restrictions of the central government on the local authorities. On the other hand, United States was following with a time gap and the intervention was based on more economical issues than sanitary purposes.

However, it was obvious that during the nineteenth century, the worst living conditions in working class residential areas, which were formed through rapid increase of population in urban areas (Burnett, 1978), threatened the whole society and interventions became inevitable (Benevolo, 1975). Especially in the second half of the nineteenth century, legislative activities began both in Western Europe and in United States. These activities seemed to represent both the increasing control of the governments on the spatial developments of urban areas and the decreasing power of "laissez- faire economic growth" (Rowe, 1993, Benevolo, 1975). Nevertheless, the power of the free market was not totally decreasing. Indeed, increasing the efficiency of the economic activities was the embedded reason for intervention, especially in United States (Hamdi, 1991).

Yet, the initial aim was to provide public health and safety with adequate light and ventilation in addition to improved fire protection (Bilgin, 1997). However, the different timing of different countries created different legislative activities of governments. Since the first example of housing acts occurred in England, the reasons for public intervention are explained though experiences in England. The following two sections concentrate on impacts of the different intervention programs and reform activities in the United States and countries of Western Europe on housing practices.

2.3.1. ORIGINS OF PUBLIC INTERVENTION

Urban environment had required some degree of public intervention even in the pre- industrial period. Therefore, from the mid-eighteenth century onwards there had been special authorities, such as Improvement Commissions, controlling the physical environment. However, with the onset of industrialization, the density and variety increased and extensive public intervention became inevitable (Sutcliffe, 1982).

This chaotic environment was described as a "liberal city" by Benevolo (1985: 755). It was the outcome of the unregulated and uncoordinated activities of public but mostly private sector. However, "individual freedom, demanded as a pre-condition for the expansion of the industrial economy, turned out to be incapable

of exercising proper control over the urban and housing developments that were the direct results of this expansion." (Benevolo, 1975: 755)

There were limited precautions to prevent the inevitable consequences of this chaotic environment until the second half of the century. Moreover, the aim of public intervention, which seemed to be dealing with the housing issues, was to increase the efficiency of this industrial economy, which seemed to fail to overcome its own consequences. Namely, free market was unable to provide decent living conditions for the workers, which were inevitable in industrial production process.

In the beginning of the nineteenth century, in England, the authorities were already dealing with the provision of thoroughfare, drainage and the control of smoke and other noxious emanations to make the lives of the inhabitants easier (Sutcliffe, 1982). It was obvious that in an urban area, regulating some of the conditions was necessary. Access to common facilities (such as drainage) was cheaper for individuals then to achieve these facilities by themselves. Besides, there is no guarantee of preventing fire for an individual unless the others were taking precautions about fire as well (Sutcliffe, 1982).

The reasons for the expansion of public intervention from this limited and mostly unimplemented formation were formulated in four explanations: administrative, ideological, technological and structural. Administrative explanation is based on the assumption that bureaucracy could function to some extent if it is a distinct system in the society. Therefore, the extension of administrative tools would improve the conditions for individuals.

Ideological explanation assumes that the individual happiness was related not only to individual but also to the environment in which he/she was living. The restrictions brought to the individual would lead the improved conditions of society.

The technological explanation covers the necessities of the expansion of the urban areas and the increasing complexity of the urban facilities in the century.

Since there was technical progress in infrastructure and medical facilities, public authorities would undertake the provision of these facilities in a more efficient way than the individual enterprise (Sutcliffe, 1982).

The weaknesses of these three explanations empowers the structural explanation, which claims that public intervention in the nineteenth century aimed to fill the gap between "the actual and the desired performance of the urban environment" (Sutcliffe, 1982: 112). The two approaches, one of which accepts the influence of physical environment on the human well- being and the other, which claims that the capitalist production is responsible for the urban crisis in the nineteenth century, support the structural explanation (Sutcliffe, 1982).

Therefore, the failure of the free market mechanism to provide efficiency and security effected the majority of society in such a negative way that the individuals became unable to ask for better living conditions. The worst living conditions effected both the efficiency of the market by reducing the security of property and the health of the whole society by indirectly causing the occurrence and spread of diseases. Although the public interventions seemed to weaken the power of free market on one hand, on the other hand they aimed at helping to increase its efficiency.

It was claimed that the main purpose of the public responses to the declining conditions of housing was not to improve the conditions for the sake of poor people. The reasons varied from preventing the disturbance and creating jobs to accelerating the industry, especially in United States (Hamdi, 1991). Thus, the origins of public intervention might seem to be stimulated by the declining conditions. However, increasing the efficiency of the free market was the major purpose.

The political conditions of Europe were crucially influential on the intervention issues. There were leftists on one hand, who lost their belief in sectional reforms. The most noticeable leftists were Marx and Engels, who published their Manifesto of the Communist Party in 1848. Their claim was to empower the working class by providing the control over means of production and to enable

them to make changes through the whole system. However, this theory was not practiced until 1917 (Benevolo, 1975).

On the other hand there were rightists such as the regime of Napoleon III in France, Bismarck in Germany, the Conservatives under Disraeli in England. Their concern was to ensure that the changes in society did not get out of control. They believed in the necessity of public intervention by the State. Nevertheless, the intervention was assumed to be in favor of entrepreneurs and landlords to correct the contradictions caused by the living conditions of low-income groups. Therefore, the public sector and the private sector were supposed to have their own domains. The intervention was acceptable in the issues of thoroughfares and utility installations, which were the issues beyond the capability of private sector (Benevolo, 1975).

Public authorities' intervention in the market happened through legislation. Yet, the authorities were mostly the local ones and they worked together with the building societies, especially in England (Burnett, 1978). The reports, which were mostly followed with acts, had changed through the century in terms of their contents. Although the main aim was to increase efficiency, it was not explicit in the declared regulations. The initial legislative activities about housing in mid-nineteenth century concentrated on public health and safety issues. Through the end of the century, the process extended into matters of public welfare, provision of open spaces, residential facilities and layout (Rowe, 1993).

The importance of the origins of public intervention in the nineteenth century was that the policies were not in favor of the disadvantaged groups in the society. It was either for the rest of the society to provide security in terms of fire and diseases or for the authorities and wealthy classes to provide efficiency in the performance of the urban environment in economical terms. Therefore, public intervention, indeed, encouraged the economical and social order, which in turn formed the worst living conditions for the working class. Public interventions served the system of standardized individuals and a competitive market environment, while claiming to improve the living conditions of the low-income groups.

The existing method of construction of housing remained the same partly because of the public intervention. Speculative builders of the nineteenth century were implicitly encouraged by the authorities to build fast and many, regardless of the quality. However, there were reformers and building societies aiming to improve the living conditions for the working class. On the other hand, local authorities were more actively involved in the rehabilitation processes in spite of the limiting acts. Therefore, the impacts of legislation and especially reformers were noticeable, and they led to the formation of new concepts of housing.

2.3.2. IMPACT OF LEGISLATION AND HOUSING REFORMS

Before 1840s, the decline in the urban environment caught the attention of reformers and legislators. However, their attention was on the urban environment as a whole, not particularly on housing issues. Housing was seen as one of many reasons of sanitation problems (Burnett, 1978). Yet, in England the Cholera Act of 1832, after the cholera epidemic in 1831, gave the authorities the permission to enter any house for preventing the disease. Although the aim was to protect the health of the privileged minority in the society, houses were one of the subjects of the act (Hamdi, 1991).

The earliest Report, which was specifically about the housing conditions, was prepared by the Health of Towns Committee in England in 1840, proposing that back-to back houses should be banned, cellar houses should not be resided, streets should be 30ft wide, and drainage had to be prepared before construction of the houses. The report also recommended a new regulation, which would obligate builders to have their land and building controlled by a group of surveyors, which was assigned by the authorities. Yet, the restrictions were exceeding the affordability of builders and inhabitants. Some of the proposals of this report were totally neglected, some of them were postponed to the Report of Royal Commission in 1844-5, which concentrated on the drainage and water supply. These aspects became laws in the Public Health Act of 1848 surveyors (Burnett, 1978).

However, before the Public Health Act, in 1844 Metropolitan Building Act provided the regulation for builders to have their land and building be examined by a group of surveyors. Moreover, with this act, for the first time the spatial characteristics were considered, at least in theory. The Metropolitan Building Act of 1844 laid down minimum widths for new streets and minimum open spaces for new buildings. Later, with the next three Building Acts of 1855, 1867 and 1878, physical characteristics were included in more detail, like the height of the ceilings or quality of construction materials (Burnett, 1978).

However, since the regulations and acts, which were brought by the national authorities were insufficient and remained not to be practiced, in the first half of the nineteenth century in England, many local authorities declared their own regulations about housing conditions for their jurisdiction areas, independent from the national authorities. Indeed, these local regulations were the real influences on the housing reform activities (Burnett, 1978).

Local authorities were providing private acts or were passing "by-laws under other statutory authority such as the Public Health Act of 1858" to regulate buildings of the speculative builders (Burnett, 1978: 155). The aims of the by-laws, which were passed during 1860s, were to provide sufficient open spaces and street widths in order to achieve better ventilation and natural lighting. However, all the regulations of the central authority were brought under public health matters because the property rights were not flexible enough to be regulated by acts. Therefore, the acts, which increased the power of local authorities to regulate the housing conditions, were basically about health issues, such as the Sanitary Law Amendment Act of 1874 and the Public Health Act of 1875. The most influential act was the Public Health Act of 1890, which allowed the local authorities to control the details of construction, such as structure of floors, staircases or the rooms, and to demolish the buildings, which were not following the regulations (Burnett, 1978).

Besides the local authorities, "charitable and semi-charitable societies and companies, individual employers" were also effective in housing production for low-income groups of the nineteenth century (Burnett, 1978: 173). Until 1850, the

two important voluntary bodies were the Metropolitan Association for Improving Dwellings of the Industrious Classes and the Society for Improving the Condition of the Laboring Classes, which led to the formation of "Prince Albert's Model Cottages". These were exhibited in 1851 in the Crystal Palace, in the Great Exhibition, supported by Prince Albert in London. It was influential on further developments in Europe by providing the prototype of the working class family housing (Bilgin, 1997). Especially, the formation of housing type, which was provided by the employers, was influenced by this exhibition. For example, the building society named as "Societe Mulhousienne des Cites Ouvrieres", which was established by textile producers in Elsas, France, in 1852, used the plans of these cottages (Bilgin, 1997: 24).

In United States, although the events were similar to those in England for the beginning of legislation, the timing was different. After the increasing threat of the working class living conditions for the society in United States, the first health bill was declared: the Health Act of 1866. However, the United States, being composed of many immigrants, added another dimension to the housing problem. The problem was not only to provide appropriate shelter or to improve the existing conditions of living for the working class, but also to Americanize the new immigrant working class. Thus, the Tenement Act of 1867 was declared in New York City in order to enable the government to control and improve the conditions of health, sanitation and fire protection besides the other aspects of environment. (Hamdi, 1991). The next Tenement Act in United States was in 1901, which then provided more restrictions on features of housing (Davis, 1995).

Many societies functioned during the second half of nineteenth century in England and provided housing for working classes with low rents. By the time of Royal Commission of 1885, these societies were being enrolled actively in housing issues for nearly forty years. They were aware of the reality that, the working class was in the need of housing near their workplaces. Therefore the majority of their housing was located in the central urban areas so their investments concentrated both in the rehabilitation of the existing buildings and in the construction of multi-storey flats (Burnett, 1978). On the other hand, employer housing located on the outskirts of the cities was favorable also in England, as in

France. In the mid-nineteenth century, employer housing that was characterized by its low-density and out of city-center formation was involved in housing production processes. The best known example was Saltaire, which was the creation of the Bradford alpaca manufacturer (Burnett, 1978). In United States, the example was Pullman, near Chicago (Bilgin, 1997).

After a quarter, in 1880s and 1890s, the employer housing entered a distinct phase. It was claimed that the industrial life could be planned and controlled in rural areas but using the advantages of both rural and urban areas. The construction of these settlements aimed to provide housing standards of middle-income for the low-income wage earners (Burnett, 1978).

Meanwhile a planning regulation was introduced to restrict the construction area of a building in proportion of the dimensions of the plot. This regulation helped the introduction of semi-detached houses and three or four-storey blocks with wide back gardens. These concepts were carried further by trying to adapt middle-income housing concepts into the working class housing, especially by Raymond Unwin, who was the architect of a model village in New Earswick (Burnett, 1978).

Two possible solutions for working class housing problems (the multi-storey blocks in the center and garden villages in the suburbs) were adopted by local authority housing schemes after they were empowered by the Housing of the Working Class Act of 1890, which followed the Report of Royal Commission. In this act local authorities were allowed, but not encouraged build houses because of the second part of the act, which enforced the local authorities to sell the houses within ten years after construction. However, providing regulations and improving the existing stock was highly encouraged. The next act for housing, Housing of the Working Class Act of 1900 carried particular importance because it provided larger areas of jurisdiction for the local authorities around the cities, especially around London, to acquire land and to build outside the main location of the city (Burnett, 1978). However, because of the limited applications of these acts in England, it was the private initiative that prevented the overcrowding of the urban areas to be worse (Benevolo, 1960).

In France, the law of 1850, allowing Communes to supervise basic sanitary requirements in houses and intervene in the necessary cases, was used largely by Haussmann in order to build new streets. The following acts of 1902 and 1912 provided the opportunity to intervene in the houses and blocks, which were in unsanitary condition, eliminating the road construction reasons. In old Paris many slum clearance projects were carried out due to these acts. Although the scale of involvement in housing production process was smaller than it was in England, here some philanthropic societies were established in this country as well. With the act of 1894, state aid for these societies were granted. Therefore, in France, public intervention was limited to sanitary regulations leaving the production process mostly to the private sector as well (Benevolo, 1960).

In Italy, a serious epidemic in 1885 caused the public intervention to be concentrated on sanitary regulations in slum areas. The first housing law was passed in 1903 (Luzzatti's Law) and was followed by the consolidation act of 1908, which handed the housing problems to independent institutions to build and rent. This approach continued in the next century by limiting the subsidized housing production (Benevolo, 1960).

German legislation was designed to discourage isolated enterprises and to create co-operative societies in order to achieve homogeneity. These societies were controlled by the law of 1868 and financial support was provided by the law of 1889. The number of building co-operatives was 38 in 1890 and increased to 1400 in 1914 (Benevolo, 1960).

It is obvious that the public intervention in the nineteenth century on housing issues was limited with health and safety regulations encouraging the private sector to build housing. Even though the regulations were limited, the practices of housing production were influenced by the legislative and reforming activities during the second half of the nineteenth century in United States and Western Europe. However, due to the early beginning of industrialization, England was the most active country in terms of housing regulations. The main impact was the formation of two types of housing alternatives: multi-storey blocks and garden villages. With the turn of the next century these two alternatives were highly

influential in the development of the urban environment. Moreover, the end of this era marked the beginning of the process, which was the transformation of the subject groups of housing from working class or low-income groups to the majority of the society.

In addition to the legislative and reform activities, the proposals of the utopists and the contributions of planning and architecture were influential in the development of housing concepts. However, utopists, architects and planners were not involved in the production process all through the nineteenth century.

2.4. ALTERNATIVE APPROACHES TO THE HOUSING PROBLEM

As a consequence of the actual production of housing and declining conditions of living, there occurred alternative approaches that aimed at improving them. Utopists provided alternatives for the housing problem, reviewing the social organization structure (Benevolo, 1975). However, their implementations were limited. On the other hand, architects were not dealing with housing production. (Hamdi, 1991).

Two notable utopists dealt with both the physical conditions and the social implications of the city in the nineteenth century: Robert Owen and Charles Fourier. Although they were not influential on the housing production process during the century, they seeded some viewpoints for worker housing that was produced through the end of the century. However, architects disregarded the housing issues except a few negligible contributions.

2.4.1. UTOPISTS

The problems of the urban life encouraged the utopists of the nineteenth century to provide new orders of social life, which were supposed to emerge in new environments of living. In spite of the very few exceptions, they remained utopias without being practiced. However, they were important in terms of suggesting the necessity of a revolution in the social order and in the living environment. Moreover, they influenced the housing concepts of planning and architecture in

the next century, while causing alterations in employer housing practices during the nineteenth century.

From 1815 onwards, theories dealing with both politics and town planning were provided. The new order of the society was assumed to be between the orders of urban and rural, achieving all the benefits of self-contained economic and cultural life of urban areas and also preserving the cohesiveness of a rural life (Benevolo, 1975). Yet, implementation of these revolutionary ideas was not possible in the first half of the century.

Two utopists, Robert Owen (1771- 1858) and Charles Fourier (1772- 1837) were noticeable during the century. Owen, being a rich English industrialist, proposed a settlement for 1200 people on an area of 500 hectares of agricultural land (Figure 9). The houses were thought to form a square, which had three sides accommodated by married couples and one side designated for young people and guests. In the middle of the square there would be public facilities, recreational areas, kitchens and communal restaurants. The external perimeter was thought to be composed of gardens and a ring road and the exterior would include industrial areas in addition to a laundry, a brewery, a mill and farm buildings. He claimed that there was no need for courts and prisons in this new social order (Benevolo, 1975).

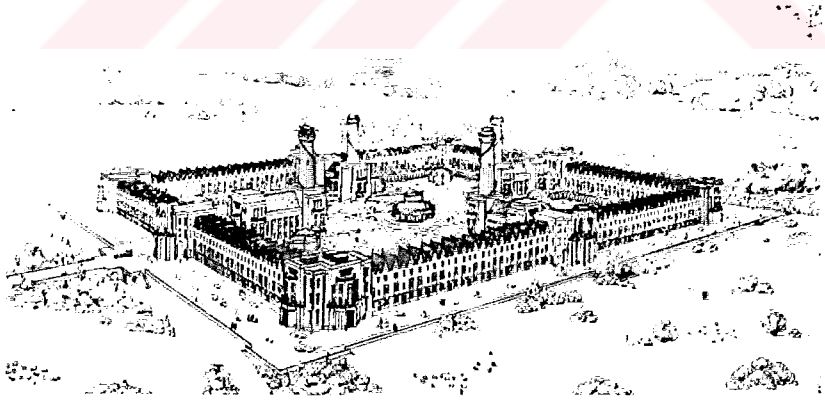


Figure 9. A village design proposed according to Owen's ideas (Benevolo, 1980: 757).

Owen wanted to implement this plan. Therefore, he presented his ideas to the English government and local authorities between 1817 and 1820 but was

rejected. Subsequently, he tried to implement this plan in Northern America and in 1825 bought land in Indiana. However, he failed to implement the plan because of the lack of other adjacent villages to his model village (Benevolo, 1975). Thus, Owen's ideas for the ideal settlement and society remained unpracticed except for his housing development at New Lamark, Scotland.

As the second noticeable utopist of nineteenth century, French writer, Charles Fourier (1772- 1837) proposed a new political and philosophical system, in which 1620 people from different social backgrounds would live in a single building called Phalanstere (Figure 10) and the group would be called the Phalanx. The total area would be 250 hectares including the omega shaped monumental building, which would be occupied by adults on the second and third floor, by children on mezzanine floor and by the guests in the attic, with an inner courtyard and a number of lesser courtyards. There were number of entrances for carriages on the ground floor, and the first floor had a system of covered galleries that would function as streets (Benevolo, 1975).

Figure 10. Fourier's Phalanstere: an envisioned image (Choay, 1969: 82).

Differing from Owen's utopia, the proposals of Fourier were practiced in a wide range of countries. Between 1830 and 1850, there were at least fifty attempts in France, Russia, Algeria and United States. The most important implementation of these thoughts was realized by an industrialist from Guise, in France, Jean Baptiste Godin, who constructed a building for his workforce, named Familistere (Figures 11, 12 and 13), inspired from Phalanstere but different in that each family had their own apartment. The main section consisted of three or four-storey blocks and medium sized courtyards, which were covered with glass roofs to be used as internal walkways. Service buildings were located in adjacent

buildings and the whole system was located in a park with two rivers (Benevolo, 1975). It was built between 1860 and 1890. The housing blocks of the settlement, which were inspired by Versailles, Louvre or Palais Royal, were claimed to be the construction of palaces of the people (Bilgin, 1997). Therefore, after 1880, Familistere was run by a worker's co- operative (Benevolo, 1975).

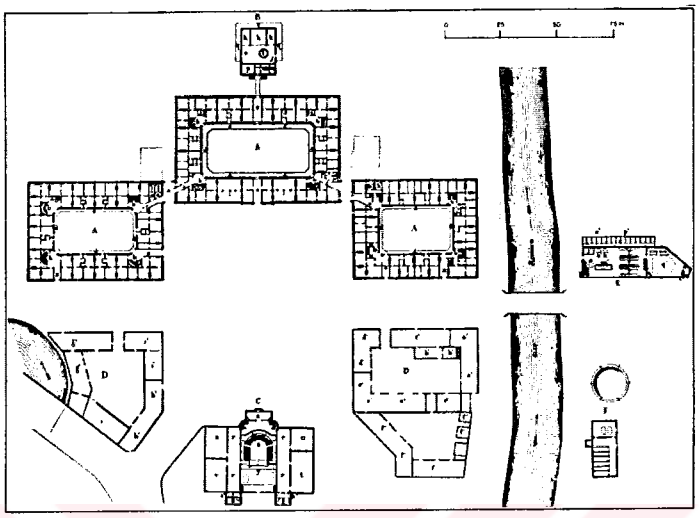


Figure 11. Godin's Familistere: plan (Benevolo, 1980: 760).

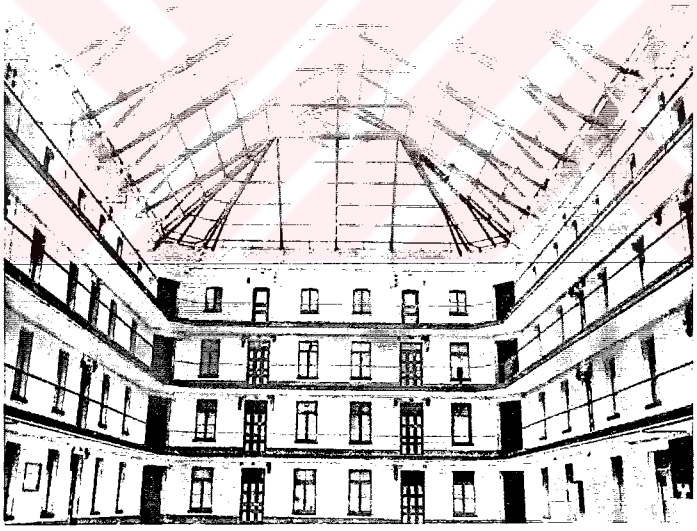


Figure 12. Godin's Familistere: view of courtyard as of 1980 (Benevolo, 1980: 763).

Figure 13. Godin's Familistere: An engraving of children's nursery (Benevolo, 1980: 764).

The uniqueness of Familistere was that it was the only utopist settlement that was constructed perfectly as it was designed in the nineteenth century. The practice of Godin led to the construction of some of the housing models in the twentieth century (Bilgin, 1997).

Both Owen and Fourier proposed new political systems and social orders in new settlements, which were located outside the existing urban areas. Since their proposals were reactions to the spontaneous and random developments in the cities, they believed that alternative housing should be located outside the existing chaos of the urban areas.

Utopists were influential in the very limited number of practices during the nineteenth century. However, in addition to the beliefs of architects and planners, they were important in the formation of new housing concepts in the next century.

2.4.2. ROLE OF ARCHITECTS IN HOUSING PRODUCTION

During the nineteenth century, architects' influence on housing issues was very limited (Burnett, 1978). Since the concern of architecture was on much "higher practices" than housing, most of the architects were not attracted by the housing design through the century (Hamdi, 1991). Their practices concentrated more on public buildings, churches, and town and country mansions rather than on

housing the multitude, which was assumed to have nothing to do with architecture (Burnett, 1978).

The limited roles of architects in England in the nineteenth century can be grouped into three types. The first type that occurred during the first half of the century consisted of a model cottage movement to attract the interest of the architects. Although dealing with the sanitary purposes was not accepted as an architectural contribution, the proposed models were influential on the reformists. The second type was concerned with decoration, neglecting sanitary problems. Third, which was dominant in the second half of the century, was dealing with improvements in the plans, which were provided by the architects through philanthropic bodies. As a whole, the role of the architect was not crucial in housing construction throughout the century (Burnett, 1978).

In the first half of the century, the picturesque designs by those, who were challenged by the model cottage movement to improve sanitary conditions, enabled the constructors to build at a modest cost. One of the representatives of this group, John Nash, who was the architect of Regent Street in London, designed a model village at Blaise in England in 1809. Moreover, in 1790s John Sloane and John Wood had already published plans for laborer's cottages (Hamdi, 1991). Although the contributions of architects to model cottage movement was not so serious in the context of housing problems, they initiated ideals and through the rest of the century they served as the sources of aspiration for the reformers (Burnett, 1978).

The second type, proposals by architects involved in ordinary housing, was mostly about mere decoration, which were aimed at suggesting that the belongings of the wealthy classes were not so rare. Yet, without plan contributions, the decoration was not sufficient for improvement (Burnett, 1978).

Although the involvement was still very limited, plan contributions of architects, constituting the third type, occurred from 1840s onwards through some of the philanthropic and semi-philanthropic societies, because they were able to attract professional interest after they began to build tenement blocks and cottage flats

(Burnett, 1978). Dealing with the floor plan was not a revolution but it was important as a contribution to the construction of minimum size but still livable houses for low-income groups. (Bilgin, 1997)

The most important architect in England, who was involved in housing improvement issues, was Henry Roberts (Hamdi, 1991; Burnett, 1978). He retired from practicing architecture so that he could better serve the Philanthropic Society for Improving the Conditions of the Laboring Class, which was founded in 1844 (Hamdi, 1991). Therefore, his practices were not professional at all, they but more like charities (Burnett, 1978). He realized that problems about housing were not related to architectural issues. They were related to sanitation, housing standards, public intervention, politics and management (Hamdi, 1991). However, Henry Robert's biggest contribution was through his design of minimum size houses for low-income groups with sufficient air circulation, lightning and installation of large housing blocks, which were exhibited in Great Exhibition of 1851 in London (Bilgin, 1997).

One of his contemporaries, Henry Derbyshire, shared these ideas and worked for the Peabody Trust for the same aims, but not as a charity (Hamdi, 1991; Burnett, 1978). Another professional was Frederick Chancellor, who worked for Metropolitan Association (Burnett, 1978). Richard Elsam was another architect, who shared the same concerns and in 1816 wrote a book for model cottages for rural workers called Hints for Improving the Condition of the Peasantry. His explicit claim was that the peasantry's contribution to the increasing wealth was doubtless. Therefore, increasing the wealth of the peasantry should be the concern of the wealthy people (Hamdi, 1991).

Nevertheless, besides the small companies of speculative builders, the largest housing agency of London, Sidney Waterlow's Improved Industrial Dwellings Company tried to avoid the expenses of hiring an architect because their service was found unnecessary among the housing builders. Speculative builders were considered sufficient in building, based on their "experience and empirical knowledge" varying with the "site possibilities and the prevailing house forms of the locality" (Burnett, 1978: 25).

Most of the architects were not helping to improve this condition. George Gilbert Scott, a designer of cathedrals, was asked to design a working class suburb in Halifax. He provided a design with no concern of practical standards, building economies or environmental conditions (Hamdi, 1991; Burnett, 1978). This was the expected response of the contemporary architects to the demands of housing design (Burnett, 1978).

In spite of the several types of involvement of architects in housing issues, it was claimed that there was not an architectural contribution in England to the housing problems of the nineteenth century, until Norman Shaw's middle class suburb design of Bedford Park in 1876 (Hamdi, 1991; Burnett, 1978).

On the other hand, in United States, most architects, like their counterparts in Europe, were not influential in the development of housing schemes because of the large amount of builders, developers and private entrepreneurs (Hamdi, 1991). Since the emphasis of regulations was focused on health and safety issues, architects' effort was to provide "model tenement" plans, which were ensuring sufficient light, air and protection against fire, instead of searching for creative designs (Davis, 1995).

This type of involvement occurred mostly through competitions such as in New York in 1879, which was initiated by Plumber Sanitation Magazine. The architect of the winning design, James E. Ware, Jr., provided both safety and economic returns. Although Ware's dumbbell scheme became the basis of standards for configurations and airshafts, it was not appropriate for the users because the ventilation shafts soon turned out to be the locations that were used for garbage storage by the dwellers. However, in terms of provision of health and safety, there were successful projects. Riverside Tenement Yard in Brooklyn, designed by William Field in 1890 for the Improved Dwelling Association included a courtyard, provided both light and ventilation while it was a playground for the children (Figure 14) (Davis, 1995).

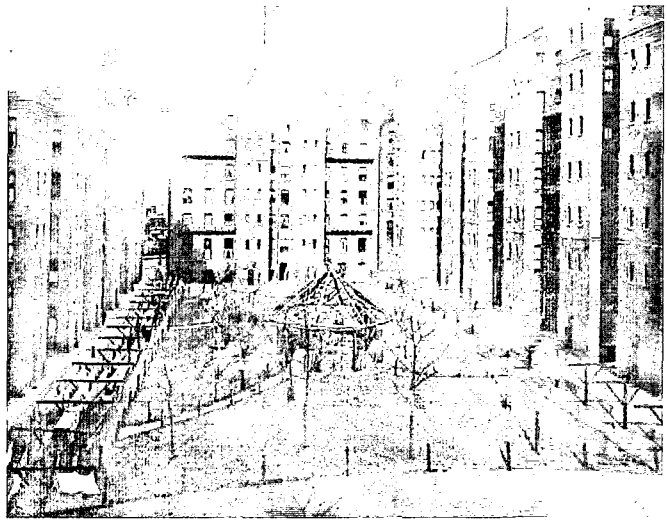


Figure 14. William Field's Riverside Tenement Yard: a view from the courtyard (Davis, 1995: 9).

In addition to the practical benefits of apartments, individual houses were more desirable for some of the reformists architects like Henry Wright and Lawrence Veiller. They claimed that being an American meant to live in an owned detached house, which carried the concept of independence, self determination and self sufficiency (Davis, 1995).

However, most of the reformist architects were aware of the fact that higher density housing was necessary in the urban areas. Three approaches occurred with this point of view. One group of architects proposed inexpensive single houses on the outskirts of the city. Another group tried to introduce the concept of single-family housing into apartments through physical elements in their designs. One example of this effort was Frank Lloyd Wright's Francisco Terrace, built in 1895 in Chicago (Figure 15). Individual dwelling was emphasized in a collective form by providing two stories of apartments that were entered through a shared courtyard. On the second level, entrances were provided through a common balcony. The third group believed that the apartment forms, especially by those with courtyards, encouraged the sense of community. Therefore, their point was that there were some positive aspects in apartments, which were lacking in single houses (Davis, 1995).

Figure 15. Frank Lloyd Wright's Francisco Terrace: a view from the courtyard (Davis, 1995: 10).

During the century, a multitude of housing was sponsored by the industrialists, who were trying to use the provision of housing as another tool for the control over the workers and for increasing profit. As one of these industrialists, railroad car magnate George Pullman hired an architect and a landscape architect in 1884 to create a whole town with 1400 dwellings rented to employees. The types of dwellings were related to the positions of the employees (Davis, 1995). Therefore, employer housing was one of the most fashionable practices in which architects, both in Western Europe and in United States were involved.

The role of architects can be summarized in two groups: those, who were working for the philanthropic bodies for improvement, and those, who were serving the aims of industrialists. The first group was active mostly in Western Europe and second group was active mostly in the United States, but not until the second half of the century. Since architects' involvement was very limited in number, builders were dominant in terms of the general process of housing production all through the nineteenth century.

2.5. CONCLUSION: THE METHOD OF HOUSING PRODUCTION IN THE NINETEENTH CENTURY

The method of housing production during the nineteenth century can be identified by examining the alterations in three complementary areas: the construction

industry, the public policies and the role of architects. Developments in the construction industry provided the means of mass production of housing, which were implemented in the next century because of the inability of the speculative builders to implement these new techniques in construction of housing in the nineteenth century. On the other hand, public intervention was concentrated on increasing the efficiency of the free market. Therefore, primary concern of the policies was to bring health and safety regulations on the low-income housing construction in order to guarantee the safety of the privileged groups and the efficiency of the market. Nevertheless, applications of these regulations were also limited. Thus, housing construction was left to the speculative builders despite the philanthropic and reformist activities, increasing in number through the end of the century. Meanwhile, architecture was almost totally left out of the housing construction process. Although some utopias emerged, their implementation was in negligible amount. Very few architects were involved in philanthropic formations or served to the industrialists for their profit maximizing aims by controlling the housing environment of the workers. Lack of involvement of the architects in housing production process also led to the increasing dominance of speculative builders.

Therefore, it is possible to claim that speculative builders shaped the housing production method of the nineteenth century. With the uncoordinated and reluctant formation of public sector, construction industry and architectural profession, uncontrolled, profit maximizing, small-scale production of speculative builders by using local and traditional techniques of construction invaded the century. The outcome was low quality of construction on improper sites, unsanitary conditions of living, overcrowding and occupation of substandard housing due to high rates of rent.

Basically, two new types of housing production occurred in the century: garden villages and block apartments. Garden villages were initiated as implementations of employer housing, which was financed by the industrialists for their work force. Since some of the industrial production units were located out of the city centers, the employer housing was mostly formed in relatively low-density garden village type. On the other hand, shift of high-income groups from inner cities towards the

outskirts was initiated in the nineteenth century. However, compared to amount of workers' housing on the outskirts, high-income houses were negligible. Thus, garden villages were dominantly inhabited by low-income working class during the century. Second, block apartments limited with four or five-storeys were constructed in inner cities. The living conditions in apartment blocks were even worse because of their occupancy density.

The importance of these two types of housing was that they continued in the same formation during the twentieth century as well. However, the inhabitants of housing changed in the twentieth century from merely low-income groups to both low- and middle-income groups. Moreover, with the start of application of improvements in construction industry to housing production, the scale of the firms of speculative builders increased. In addition to extended influence of construction industry, the housing policies, and professions of architecture and planning began to be influential. Therefore, the housing production method of the twentieth century followed its roots coming from the nineteenth century by keeping the extensive role of private sector and the two basic formations of housing. Nevertheless, due to the changes in public policies, construction industry and roles of architects and planners, a new method of housing production was formed in the twentieth century.

CHAPTER 3

TRANSFORMATION OF THE CONCEPT AND THE METHOD OF HOUSING PRODUCTION: FIRST HALF OF THE TWENTIETH CENTURY

Through the end of nineteenth century, both in Western Europe and in United States, the health and safety problems in housing environments were realized. However, the intervention of public institutions was limited and contributions of planning and architecture were almost negligible. On the other hand, the improvements in the building industry were not implemented in the production of housing. With the turn of the century, the involvement of public institutions in the housing production process increased with the advent of industrialized building systems, in the use of both materials and construction methods. Moreover, the roles of planners and architects were extended in housing production process. The concepts introduced in the previous century were developed and coordinated with the mass production techniques. Although new forms of architectural roles emerged in housing production process, architects' involvement was still limited.

Applications of developments in the building industry in housing construction, increasing involvement of public sector and extended, yet still limited involvement of architects and planners in housing production were the three constituents, which formed the housing production conditions of the first half of twentieth century. Like in the previous century, these three areas of development, namely building industry, housing policies and roles of planners and architects, were complementary and so influential on each other.

New materials and methods of construction were introduced during the nineteenth century. Yet, they were not seen as the materials or the methods appropriate for housing. With the turn of the twentieth century, these improvements were found profitable in housing construction both in United States and in Western Europe. On the other hand, governments, which were providing mere regulations for health and safety in the previous century, began subsidizing the housing production. Moreover, two world wars and economic depression became the main impacts on the increasing need for housing in United States and in Western Europe. Although the housing shortage never ended, with the help of the developments in building industry the governments tried to provide quicker and cheaper housing.

The powerful role of the speculative builder was not diminished. However, the character of the speculative builder changed with the use of new materials and construction methods in the field. The speculative builder using the local and traditional methods of construction in a small-scale production capacity in the nineteenth century began using industrial production methods in a bigger scale of production especially after the First World War. Yet, the planners and architects, who were not effectively involved in the mass production practices during the nineteenth century, began to provide influential approaches for housing construction. Although Ellin (1995) and Rowe (1993) claim that the use of the concepts, which were provided by planning and architecture, in housing production by private and public sector was the abuse of these concepts, architects and planners were not totally out of the process in the twentieth century.

Indeed, as a result of the changing concepts and conditions, housing turned out to be not only for low-income groups but also for middle-income groups. The changing production method from traditional techniques to mass production techniques created the necessity for mass consumption (Rowe, 1993). The increasing value of standardization and normalization encouraged this transformation as well. The machine turned out to be the generator of the valuable things to be consumed. The search for a universal taste began and it was achieved through mechanization of all types of production.

The complementary processes influencing the housing production can be described as a chain initiated with the establishment of norms and creation of technical standards. They were followed by the increased responsibility of governments to improve the conditions of housing and to overcome the housing shortage. Consequently the involvement of the public sector in the management of building activities became inevitable. With the contributions of new concepts in planning and architecture, opportunities of industrial production to be implemented in the building industry in order to create uniform dwellings were formed. This experience of housing production created the reasons of criticisms for housing environments in 1960s due to the deficiencies in social and physical conditions of housing environments.

The aim of this chapter is to reveal the transformation of housing production practices, concepts and methods, which were the target of criticisms in 1960s. The subject group of these practices turned out to be middle-income, while it was the low-income groups in the beginning. Mechanization in all forms of production became popular, while it was accepted to be merely profitable in the mid-nineteenth century. Therefore, it was the industrialists, wealthy groups and mostly governments, who supported the process of industrialization through the nineteenth century. Yet, with the changing concepts, architects and planners were involved in this supporting group in the early decades of the twentieth century. However, the original concepts generated in planning and architecture did not aim in creating complete uniformity in living environments. Indeed, they were looking for new systems for social and spatial structure that could be compatible with the requirements of the new era. Namely, they were trying to overcome the chaos of the urban environment, which was formed in nineteenth century. Most of these approaches tried to provide variation in the combination of standardized units. Nevertheless, standardization of units became attractive for speculative builders and public institutions in economical terms. Thus, standardization and normalization in housing was supported both by the financial sources, mostly public authorities, and by the practitioners, mostly speculative builders. Roles of planners and architects remained marginal during the actual production processes. Moreover, industrialization of building systems provided the adequate tools for the housing production.

This chapter is composed of three sections. In the first section, the impacts of mechanization are examined in order to state the origins of application of mass production techniques in housing. Second section deals with the transformation in institutional settings, which led to the spread of these applications through financial support. In the third section, the influences of architecture and planning professions are stated, claiming that their contributions in terms of providing concepts were large, while their roles in the actual construction process were limited.

3.1. DEVELOPMENTS IN BUILDING INDUSTRY

The impact of the developments in the building industry on housing construction processes was not obvious until the early decades of twentieth century. Traditional methods were preferred both by the speculative builders in economical terms, and by the architects in stylistic terms. Before the industrialized building systems began to be applied largely in housing construction processes, mechanization of the production methods influenced the concepts of design professions.

Since the invasion of mechanized production systems was rapid, the society could not deal with the consequences of this mechanization. Therefore, involvement of mechanization in daily life and its applications were questioned. In order to achieve a universal taste through creation of standards, a relation between art and technology was searched. Although the aim was to create variations using standardized elements in all scales of production, the process turned out to be establishing standards to be used regardless of the specific conditions of the users and locations.

Thus, the dominant application of mass production techniques in housing mostly through prefabrication occurred after the various professions became comfortable with mass production and standardization.

It is important to realize that the application of mass production techniques in housing was not a direct consequence of the developments in the building

industry. It was the result of a series of transformations in the attitudes of public institutions and architecture and planning professions. However, the developments in building industry and the changing approaches in design professions seeded the means of the housing production, which was criticized in 1960s due to the problems generated by the application of universal standards regardless of the specific conditions of the communities and localities.

3.1.1. THE RELATION BETWEEN ART AND TECHNOLOGY: THE EMERGENCE OF STANDARDS

During the nineteenth century the construction industry was developed enough to provide industrial applications for the housing construction. However, except very few instances traditional methods and materials were favored. Especially in England, where traditional practices with ornamentation were accepted to be the most popular, while new materials and methods were seen associated with engineers for the entirely new structures, like railroad stations. On the other hand, by the end of the nineteenth century, prefabrication techniques were used for housing production by several European countries in their colonial outposts, where adequate building materials and skilled labor were lacking (Rowe, 1993).

Soon, the attitudes for avoiding mass production in housing changed. American architect, Frank Lloyd Wright, claimed that there was no contradiction between the value of individual home and mass production. For him, mass production in housing would be the reflection of a "democratic culture" (Rowe, 1993: 79). His claim was a clue for the rapid transformation of the production techniques of housing.

However, before transformation of production methods in housing construction, the rapid intrusion of industrial production methods in daily life created a gap between these methods and society, in the late nineteenth century. There were several points of views and practices aimed at filling this gap during the period covering the end of nineteenth century and the beginning of the twentieth century.

Because of the disintegration of industrial production and society, the Arts and Crafts movement emerged, seeking a relationship between the making of products and the people. New ways of organizing private home and furnishings were searched (Tafuri and Dal Co, 1976). However, with the turn of the century standardization was accepted to be a necessity among the members of this group as well (Russell, 1981).

On the other hand, the approaches, claiming that there were right and wrong ways of using the machine became favorable with the turn of the century. In spite of the architectural mainstream, accepting the formal organization and style to be the primary issues, Frank Lloyd Wright was one of the influential contributors emphasizing the importance of building methods in architecture. He used horizontal and vertical grid planning and standardized sizes. Furthermore, in 1911, he proposed American System Ready-cut method of production, describing it as a system (Russell, 1981).

Wright's contributions can be summarized in three headings. First and most important one was his attitude in favor of standardization of construction units and materials. His second contribution was his three dimensional planning using dimensional grids, which also encouraged standardization of construction process. Lastly, his interest in controlling the environment through mechanical means was notable (Russell, 1981).

Wright, being aware of the social conditions of late nineteenth century, dealt with the use of machine in the construction methods in order to propose the "right ways" of using it (Russell, 1981: 74). He claimed that "the right way" of using it was to utilize the machine and utilization was inherent in the "nature of machine" (Russell, 1981: 76). Therefore, his point was also related to the use of machine in arts and craft. He claimed that the real search of art should be achieving the simplicity and the machine is the way to provide this simplicity by its nature. This point of view matched with the approach of Austrian architect Adolf Loos, who related the decoration or ornamentation with degeneration of the society in his article in 1908 (Russell, 1981, Benevolo, 1960). This transformation of value from

decoration to simplicity followed the routes of attempts, which aimed to establish a strong relation between art and technology.

During the first quarter of the twentieth century, there was an effort to create unity between art and technology in order to assign the aesthetic terms to the universally standard norms.

The foundation of Deutscher Werkbund, in Germany, by Friedrich Naumann, Karl Schmidt, and Herman Muthesius in 1907 was the first formal attempt to create cooperation between industrial processes and designers (Tafuri and Dal Co, 1976, Rowe, 1993). Immediately after the foundation, the architect, Peter Behrens was appointed as the designer of AEG in Berlin, one of the biggest industrial corporations (Tafuri and Dal Co, 1976). Later on, Muthesius made several artists, some architects and a dozen manufacturers, who were involved in the applied arts, meet in order to encourage the increase in profits of production and the decrease in the amount of traditional ways of production (Rowe, 1993).

In 1914 Muthesius argued that there was a need of "establishment of a national culture around the unification of general taste" (Rowe, 1993: 80). However, the debates besides the publications and exhibitions, were going on in 1916 and continued after the First World War (Tafuri and Dal Co, 1976).

Behrens, with his strong belief in industrial production and standardization, designed industrial objects, posters and publicity material in addition to three factories for AEG (Tafuri and Dal Co, 1976). His design of electric kettles in 1909, which were composed of interchangeable standard parts was one of the notable representations of his point of view. He provided thirty variations of the kettle with these interchangeable standard parts. On the other hand, Walter Gropius, who became an assistant in Behren's office in 1907, believed that industrialization was a way to create a unity between art and technology as well (Rowe, 1993). Gropius' manifesto, in 1919, claimed that there should be a unity among architecture, sculpture and painting (Russel, 1981). His thoughts found repetition after the foundation of Bauhaus in 1919. He mentioned the importance of standardization for dimensional and architectural typological norms, in the

memorandum titled as Program for the Founding of General Housing Construction Company Following Artistically Uniform Principles, which he prepared for Walter Rathenau, the AEG head (Benevolo, 1960).

The first application of Gropius' concept took place in a housing project in Torten-Dessau between 1926 and 1928 (Figure 16). In the construction of houses, reinforced concrete, cinder blocks, cross walls and beams were standardized. They were manufactured on the site. The importance of this project was the realization of the standardized housing units (Benevolo, 1960, Rowe, 1993). The Bauhaus was one of the most important representatives of the concept of standardization in architectural design, in the first half of twentieth century.

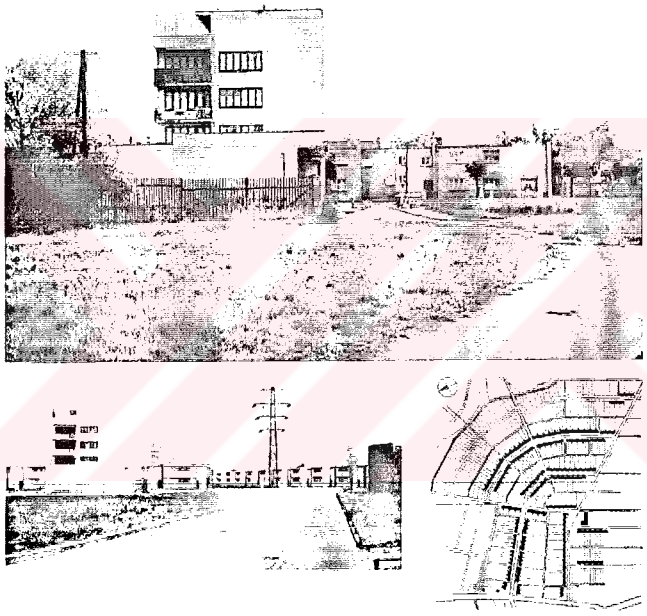


Figure 16. Site plan, initial and contemporary views of Torten, Dessau, designed by Gropius (Benevolo, 1960: 516).

After its establishment in 1919 in Weimar, Bauhaus moved to Dessau in 1925 in a new building designed by Gropius and Adolf Meyer. In the Bauhaus, it was believed that the totality of the building, being an artefact, should be contained in the form of the building, regardless of the specific people that would use it, and the location with its environment. With this approach, the architects replaced the people and places and their differences with idealizations of the machine

technology. Moreover, he mentioned the necessity of decreasing the cost of production of housing for national benefit. He claimed that it was impossible to decrease the cost by using the traditional methods of building (Russell, 1981). Therefore, he recommended changing the whole system in order to achieve a new one, in which the factory manufactured standard elements would be put together on the site (Sullivan, 1978). Gropius' thoughts about prefabrication and construction of tall blocks of housing were applied in several countries (Benevolo, 1960).

Similarly, in Netherlands, the idea of a unity of the arts was originated with H. P. Berlage and continued with the periodical De Stijl, founded in 1917 by Theo van Doesburg. For Berlage, the whole process of building construction, especially housing construction, needed to become mass production in order to achieve the highest possibilities in terms of being cheap and quick (Rowe, 1993).

For Joseph Peter Oud, the relation between art and machine was critical because it was the use of machine, which will lead the art to reach to all society, not only to wealthy individuals. Moreover, in 1918 van der Waerder proposed standardization of all housing based on nine floor plans. In spite of the debates, which claimed that standardization was eliminating the creativity, design of housing in Netherlands was influenced mostly by technical and functional considerations of efficiency (Rowe, 1993).

If the Bauhaus was the institutional declaration of "iconography of the machine", Le Corbusier was the individual representative of this approach (Russell, 1981: 134). For him, the house was the machine for living. The standardized framework of Le Corbusier was implied by the Dom-ino House that was conceived in 1914 (Figure 17). This drawing, which was showing slab floors supported on a slender frame, claimed that floor layout may be independent of the structure (Russell, 1981). This was a frame to be filled with standardized elements. It was basically a model structure for low-cost housing projects in reinforced concrete that may be constructed with reproducible components, which also provided independence for its occupants (Tafuri and Dal Co, 1976).

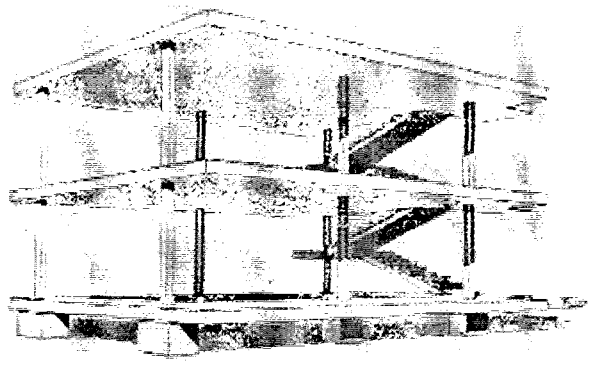


Figure 17. Le Corbusier: Dom-ino House (Russell, 1981: 125).

Later on, with Citrohan House, Le Corbusier brought together his major arguments for the mass-produced house. However, his major claim was realized with the Pessac Project, which consisted of a group of houses (Figure 18). In this project, he "modified the houses with all manner of devices from shutters, through pitched roofs to paint" (Russell, 1981: 131). The Pessac project was based on the modular building, which was supposed to be low-cost housing. Primarily, it was this aspect of the project, which attracted the attention of the industrialist Henri Fruges, who aimed to provide low-cost housing for his workers in a profitable way (Russell, 1981). Le Corbusier's influence was based on his ideas of the new sprit, which would encourage the mass production and reject tradition.

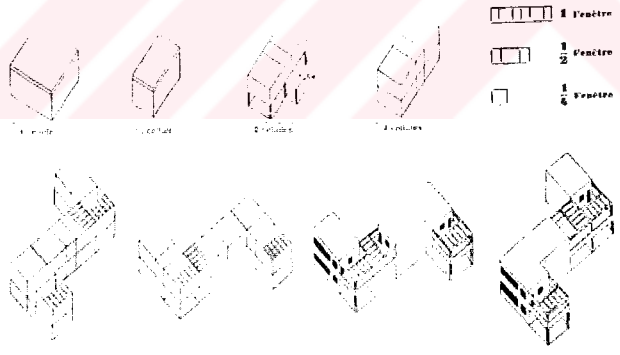


Figure 18. House modules in Pessac Project, Le Corbusier (Russell, 1981: 132).

The search for creating a unity between art and technology in the first half of twentieth century resulted in the extensive use of industrialized production methods with the increasing support of designers. Although designers looked for

achieving variations using standardized units, which were mass-produced, formation of general standards was inevitable.

Therefore, through the declaration of national standards in several countries, the environment went under rationalization. In 1902 British Engineering Standards Association was founded. It was followed by Deutsche Normen Assuchuss in 1916 and American Standards Association in 1918. These standards were mostly based on the constructed projects and they served for the high level of standardization in mechanized production process. By the 1920s, the efficiency of standardized production, with the necessities of mechanization and rationality of function, was accepted (Rowe, 1993).

The most comprehensive set of housing standards was provided by Ernst May in Frankfurt-am-Main. Frankfurt Standards covered twenty-four dwelling types ranging from single-family units to multi-family housing. Besides the house types, dimensions of doorways, window openings and built-in furnishings were completely standardized and with the bureaucratic power of Ernst May, they were all implemented (Rowe, 1993).

In both Western Europe and United States, starting with the end of the nineteenth century, a transformation of the concepts of the unity of art and technology was underway. This unity called for the emergence of standardized units. Therefore, this transformation of the concepts resulted in the creation of sympathy for standardization and mass production. Besides the changing concepts and developing positive attitudes for standardization, it was believed that introduction of mass production into housing would provide the cost and time efficiency. Thus, the whole process of construction turned out to be a mass production itself (Figure 19). Prefabrication was the method of this type of production.

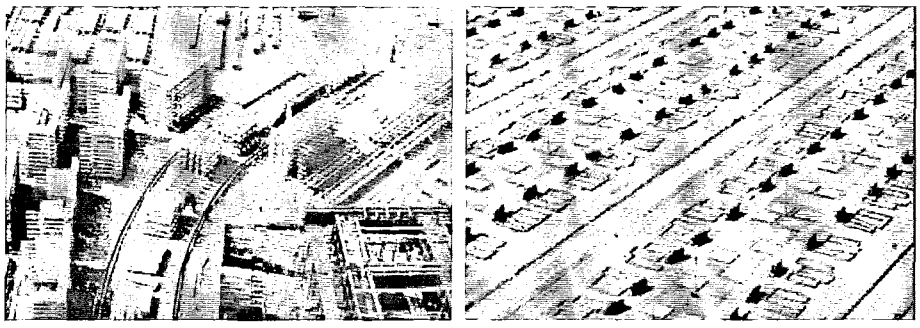


Figure 19. Industrialized building process (Rowe, 93: 80,184).

3.1.2. IMPACTS OF MASS PRODUCTION: PREFABRICATION

It is common to use the analogy of the automobile production line in order to explain the idea of prefabrication of building systems. Two names became well-known in the mass production methods: Frederick Winslow Taylor and Henry Ford. The former one mentioned the importance of management, which should be based on rational or scientific rules of order, in order to achieve more benefits with the existing labor force, while the latter emphasized that mass production methods provided the ability to make the product a commodity not only for wealthy people. Ford was trying to eliminate the wasted time and energy in order to increase the profits. He proposed to place the tools and the labor in the sequence of the operation and connect them with a sliding assembly line, where the tools move exactly in the same position so that each worker would do the same thing for the same part all through this line (Russell, 1981). Henry Ford and his assembly line process (Figure 20) were adapted to mass production of housing.

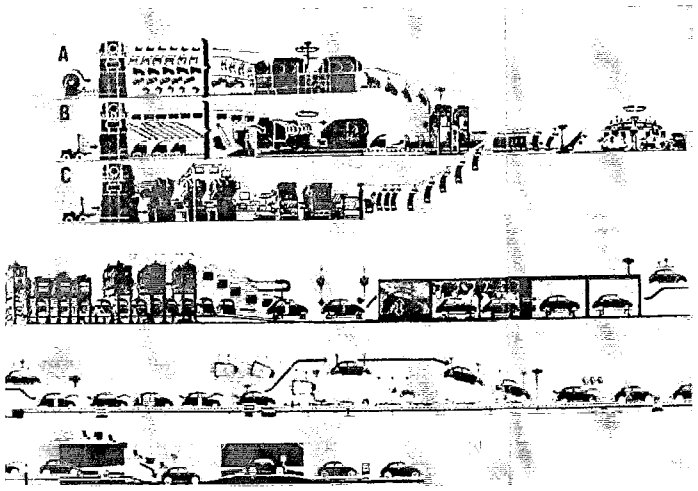


Figure 20. An example for Henry Ford's assembly line process: the Wolksvagen production line (Russell, 1981: 89).

However, construction materials, which were developed rapidly throughout the nineteenth century, did not continue their rapid progress in the first half of the twentieth century. Basically, additional developments occurred about the reinforced concrete and precast concrete, which were "the precursors of the use of prefabricated concrete" (Sullivan, 1978: 23). In addition to concrete, glass and steel were the other two major new materials, which were favored in the twentieth century (Russell, 1981). Yet, in early 1900s, these new materials were mostly used with the engineer's utilitarian attitudes. Soon, the potential of these new materials in providing enormous flexibility for structure and form was realized (Sullivan, 1978). For instance, Gropius was one of the leaders, who emphasized that with these new materials, the function of the wall needed to be redefined as something other than just an element of the support (Russell, 1981).

Although, the formal flexibility provided by the new materials was an important issue for the architects of the time, it was not the only attractive aspect of mass production methods used in housing construction. Indeed, the fact that these methods make the process more effective in terms of cost and time was more crucial at the time.

It is important to distinguish the developments in Western Europe and United States in terms of prefabricated housing practices in the first half of twentieth century. Moreover, the practices of prefabricated housing were more noticeable

after the Second World War. In spite of the developments in the concept, materials and application method of mass production of housing, it was not until after the Second World War, that prefabrication was effectively used. Especially in England speculative builders were still using traditional methods and materials, which they could find for lower costs. However, after the First World War, although the materials mostly remained the same, the prefabrication techniques began to be applied (Russell, 1981).

In United States, there was a greater attempt to generate mass-produced housing capabilities. In 1932 General Houses Corporation was established with the support of major manufacturers such as General Electric, Inland Steel, American Radiator, Pittsburgh Plate Glass and the Container Corporation of America. General Houses Corporation was not successful because of the lack of organization among the national franchise dealers who were supposed to be responsible for sales, construction and maintenance. Yet, its proposal for the prefabricated steel house at the 1933 Century of Progress Exhibition in Chicago was influential in terms of attracting numerous industrial concerns in the prefabricated housing market. Nevertheless, because of the unexpectedly high cost of prefabricated steel structures, prefabricated housing lost its competitiveness with traditional housing construction (Sullivan, 1978). Until the Second World War, prefabricated housing was less than one percent of all housing construction in United States (Rowe, 1993).

During the Second World War, in Western Europe and in United States, housing construction nearly stopped. After the War, in United States, the housing shortage problem was intended to be solved by prefabricated housing (Figure 21). In 1946 Carl Strandlund, a designer with an engineering background, developed a porcelain enamel and steel prefabricated house, which failed through the unexpected difference between the expected and actual cost (Sullivan, 1978). However, industrial housing or industrially produced housing was supported and it became the prevailing housing practice after the Second World War.

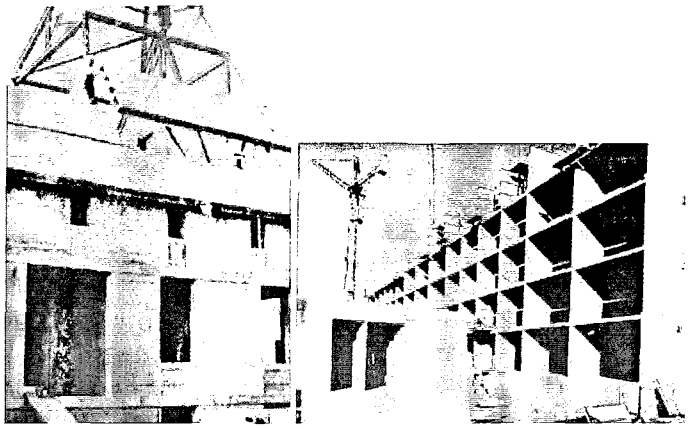


Figure 21. Prefabrication in housing (Rowe, 1993: 60, 61).

In Western Europe, the developments in precast concrete housing systems were more rapid. The housing shortage after the Second World War with the short supply of wood in most of the Western Europe influenced the use of concrete and industrialized building systems (Sullivan, 1978).

Prefabrication techniques in housing construction or industrialization of housing construction process and elements had three main influences on the production of housing. Through the first half of twentieth century, together with the last half of nineteenth century, rationalization of life turned out to be the inevitable way of progress. First of all, prefabrication techniques brought the possibilities of practicing the concepts of this new way of life. The machine, which carried simplicity and implied the end of linkage with the past, became more favorable in most types of production. Moreover, prefabricated housing provided a new image for life as an alternative for the old. Indeed, as Russell (1981) mentioned, governments' preference for mass production techniques for housing was partly based on this image of the housing created by the new method. It was a statement of a promise for better times, especially in England repeating itself after the both World Wars.

The second impact of application of prefabrication techniques in housing construction was, even though the initial attempts failed in terms of cost efficiency, the opportunity for cheaper construction in later practices (Benevolo, 1960). The unbearable living conditions of low-income groups, which were already formed in the previous century, had not improved, despite the

precautions, reforms or legislative activities. Furthermore, middle-income groups were also seeking affordable housing (Rowe, 1993). Thus, cost efficiency was the most important criterion in housing production.

The third impact was the possibility to decrease the time that was necessary for construction with the prefabrication techniques. It was crucial to build fast, especially after the Second World War due to growing housing shortage and worsening economical conditions.

It is important to mention that the application of prefabrication techniques in housing production was not interpreted in the same way. For example, Habraken (1972: 50) claimed "prefabrication means no more than the manufacture of housing components in one place and assembly in another". Therefore, its efficiency is highly dependent on the transportation cost of components or the presence of the means of assembly in the planned location (Habraken, 1961).

Despite the counter approaches, prefabrication techniques were implemented in wide range of countries. Nevertheless, these three advantages of prefabrication were not sufficient for the realization of huge amount of prefabricated housing supply after the Second World War. As it was implied before, the practices of prefabricated housing were encouraged by the regulations (Rowe, 1993) and basically by the changing attitudes of institutions both in Western Europe and in United Sates. It was the direct government support for housing both in the form of directives and finance, which caused the prefabricated house building systems to dominate dramatically (Russell, 1981).

3.2. IMPACTS OF CHANGING INSTITUTIONAL SETTINGS

Direct enablement in housing production, which occurred in twentieth century, was a new policy for United States and the countries of Western Europe. At the turn of the twentieth century, the conditions of living in the industrial city were still unacceptable. It became obvious that neither group of philanthropists and reformers, nor private enterprise was able to succeed in improving the conditions of housing. On the other hand social reactions were increasing gradually,

especially in England. Therefore, high involvement of public institutions seemed to be the solution for housing problem.

The first half of the twentieth century was the period of increasing involvement of public institutions in the housing area, namely through building regulations but mostly through direct enablement policies. The extended role of governments with the turn of the century began to be influential on housing conditions. However, it was not before the subsidization policies after the Second World War that the public institutions dominated the housing provision as financial suppliers and direct producers.

Because of the different timing of different countries, the transformation of public institutions from providing mere heath and safety regulations to being the actual financial suppliers or direct producers did not take place simultaneously in Western Europe and United States. Nevertheless, their consequences were similar after the Second World War.

In general, they were the direct enablement policies and consequently the subsidization legislation and direct provision, which were influential on the housing practices, especially after the Second World War. The public institutions became the influential agents in terms of controlling, producing and financing the housing practices.

3.2.1. LEGISLATION AND BUILDING REGULATIONS

Building regulations had already begun with public health and safety legislation in the nineteenth century both in United Sates and in Western Europe. However, in the United States, legislation was very limited until New York Tenement Act of 1901, which provided restrictions on features of housing (Davis, 1995). Later on, the regulations included in this act were passed nearly for all cities in United States until 1919. With similar concerns, such as regulating the minimum size, providing the sufficient air and light, preventing fire and installing drainage in adequate standards, the Housing Law of 1901 in Netherlands was passed. On

the other hand, in Germany and England similar legislation had been provided since mid-nineteenth century as well (Rowe, 1993).

In the United States tenements acts were mostly based on local surveys as it was in England (Rowe, 1993). Except the time difference, the developments in United States were following the ones in England. Therefore, similar to England, the real influences were generated by the reformers not by the acts. The active era of reformers in England was the second half of the nineteenth century, while the Progressive Era of United States was the first quarter of the twentieth century.

In England, Public Health Acts and building by-laws had brought the regulations about health and public safety since 1875. Moreover, reformers and philanthropists were actively involved in housing improvement actions through the second half of the nineteenth century, as explained in the second chapter. Although another Public Health Act was brought in 1936, it was the only one in the twentieth century dealing with the health issues (Burnett, 1978). Therefore, the involvement of the central government in the subsidization of housing from 1919 onwards was more influential than the health regulations, in England.

On the other hand, social reformers and writers of the Progressive Era in the United States had various concerns like humanism, morality or self-interest. Jacob Riis wrote one of the influential books of the Progressive Era in 1902, named the Battle with the Slum. Besides, Laurence Veiller issued his Housing Reform: A Handbook for Practical Use, in 1910. It was followed by his A Model Housing Law, in 1914 (Rowe, 1993). Whatever their origins or their interests were, the social reformers constituted the regulatory movements in the first quarter of the century in United Sates.

Housing reformers of United States concentrated on providing adequate housing through legislation. There were two approaches to achieve this aim. The first one dealt with restrictive housing legislation, which sought to prevent the existence of inadequate housing and enforce minimum standards for new construction or upgrading. The second approach dealt with constructive legislation, which sought

to provide adequate housing through established programs in communities. These were based on local and state legislation (Andrachek, 1979).

However, until the end of the First World War, these reform movements were not sufficiently supported by legislation in United States. Although a few municipal and state governments provided some improvement programs about both housing and social conditions, the power of the central government was not applied until the end of the First World War (Andrachek, 1979).

The situation in the Netherlands was different because of the timing of the reform movements, which started in 1855 with a report on housing conditions of the working class and continued with another survey of slum housing in 1873. With the nation wide Housing Law of 1901, the health and safety regulations were provided. Moreover, in 1912 a regulation was brought about the physical appearance of the houses as well (Rowe, 1993).

The basic structure of Dutch Housing Law remained similar until the contemporary era, while the tenement acts of United States were replaced by multiple unit legislation, which began in 1929 (Rowe, 1993). In 1920s, the use of minimum standards for housing with their reciprocal influences on building practices and house types was largely accepted both in Western Europe and in United States.

Indeed, the housing reform became influential on housing practices with the extension of involvement of public institutions such as governments, local authorities and organizations of social reformers after the First World War. The concern of these public institutions made the social aims to be the primary issue. Furthermore, not only the financial and political aspects of housing but also the spatial and technical aspects became crucial in terms of regulations (Bilgin, 1997).

The regulating legislation activities of public institutions dominated the inter-war period. However, they were not the real contributors of the housing improvement activities. Although the reformers both in Western Europe and in United States

was not encouraged by the appropriate legislation, they led to the developments in housing. Direct enablement activities of public institutions began to be influential after the First World War. However, these enablement policies dominated the housing production market after the Second World War. Following the developments in the building industry, these subsidized houses were the majority of housing development that was criticized in 1960s due to the social reactions they caused.

3.2.2. DIRECT ENABLEMENT BY GOVERNMENTS

Especially in the period between 1920 and 1930, in contrast with the piecemeal private provision of dwellings, higher levels of public concern and involvement occurred (Rowe, 1993). Nevertheless, a high level of involvement of public institutions in actual housing production was after the Second World War. Direct enablement by governments occurred in three forms: legal creation of housing cooperatives, direct financial subsidies and direct provisions.

The building societies of the previous century were the basis for cooperative housing in twentieth century both in Western Europe and United States. Again, it was England leading the creation of *cooperative housing* in 1844. By 1907, cooperative housing societies were largely involved in the housing production process (Rowe, 1993).

In the Netherlands, housing associations were active since the nineteenth century as masters associations formed by the employers or members of the middle class. Their aim was to provide healthy and safe housing for working class people. Basically, the members of these masters association had access to cooperative housing in the early decades of the twentieth century. Indeed, between 1918 and 1920, 743 new housing associations were legally established (Rowe, 1993).

In Germany, although a strong sense of solidarity for housing reforms had already existed since the class struggles of 1848, the cooperative housing for workers was activated with the Compulsory Insurance Acts of 1883 and 1899. By

1914, 1400 housing societies had been established in Germany, effectively involved in housing production (Rowe, 1993).

Sweden and Belgium experienced the cooperative housing relatively later. In Sweden, state guaranteed the loan interest to cooperatives after the Second World War. Therefore, several important building cooperatives, for instance H. S. B. of Stockholm (1923), the leading association for planning activities in Sweden, were formed. In Belgium, in 1920 the Societe Nationale des habitations bon marche was found to finance the other housing cooperatives (Benevolo, 1960).

As the second direct enablement of government institutions, *direct public funding* was influential on the housing practices in Germany and the Netherlands. With the turn of the century, in both countries, direct funding was provided to housing associations through local authorities or central governments (Rowe, 1993).

On the other hand, building societies in United States had already been involved in housing production in the nineteenth century following the first example in Philadelphia. Although the building societies were enjoying profitable low- interest loans, it was not until the National Housing Act of 1934, after Great Depression, that "the modern system of government-backed long term, relatively low-interest home loans" were available (Rowe, 1993: 87).

The Depression provoked serious government financial intervention into housing. The reason was partly to increase the affordability of housing, but mainly to stimulate the economy. The Wagner-Steagall Housing Act of 1937 legitimized direct federal subsidies to housing. The first fully subsidized project, which was reworking of a block of existing tenements, was made in New York in 1936, named as First Houses (Figure 22) (Davis, 1995). However, the debate over government involvement in housing production continued during and after the Second World War. In 1941, urban rehabilitation and redevelopment policies became visible in the Federal Housing Administration's publication, A Handbook on Urban Redevelopment for Cities in the United States. Providing sufficient funds to the local authorities for urban renewal was proposed (Rowe, 1993).

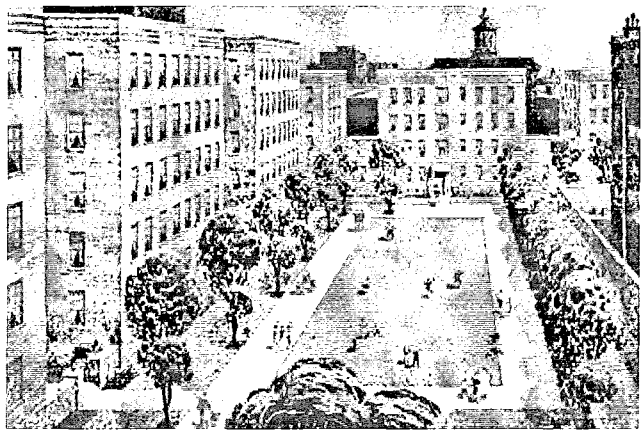


Figure 22. First fully subsidized project in the US: First Houses (Davis, 1995: 13).

Through 1940s and into 1950s, two changes were experienced in government and public attitudes for housing. First, was the transformation of housing into a public utility, which should be based on "cost-containment measures" to be federally funded. Second, was the formation of "towers-in-the-park" concept, which was accepted but never confirmed to be less expensive to built. Nevertheless, Government-sponsored home-ownership programs encouraged the continuation of a preference for single-family house as well (Davis, 1995:13).

The 1949 Housing Act was the first legislation stating that there is a need for decent home for everybody, as a suburban single-family house or high-rise urban housing (Davis, 1995). Although the act concentrated on the degree of involvement of the government in the redevelopment activities, where private sector failed, it was a comprehensive approach compared to the earlier policies (Rowe, 1993). Therefore, insufficient legislation for housing until the First World War was compensated afterwards with subsidizing policies of government in United States.

However, with the Housing Act of 1954, the tendency turned out to replace the greater reliance on local responsibility and private action (Davis, 1995). Moreover, there was a basic shift from urban redevelopment to urban renewal, with an encouragement for the private sector to be involved. The most important influence of this shift to urban renewal was that the areas, which were not really in total decline, became the subjects of renewal as well. Subsequent housing

acts in 1956 and 1959 followed the same approach (Rowe, 1993, Tafuri and Dal Co, 1976). Yet, the federal subsidy was increased with the Housing Act of 1961, which aimed to provide adequate funds for the families who had sufficient income to afford public housing but not to rent a decent house without government subsidy (Rice, 1979). These were the moderate-income families, who for the first time were being financially assisted by the government (Rowe, 1993). Because of the easing of federal requirements, increasing speed of process of applications and extending the amount of available funds, a construction boom was experienced (Rice, 1979).

In England, subsidization policies began as early as 1909 with the Housing Act that was emphasizing direct state assistance by the Exchequer, a national subsidy to aid private builders and local authorities. The Rent and Mortgage Restriction Act of 1915 provided rent control on extremely increased rents. However, this act turned out to be a regulation, which decreased the activity of speculative builders to produce low-cost housing (Burnett, 1978). Nevertheless, the Glasgow Rent Strike of 1915, which was threatening to take revolutionary overtones, called for a intervention of the government. A month after the peak of the strike, rent control was provided in 1915. It was followed by the Housing and Town Planning Act of 1919 (Addison Act), mandating local governments to provide housing for low-income groups. It was the first time in history that housing was accepted to be a human right and its responsibility was taken by the government (Castells, 1983).

In 1923 another Housing Act (Chamberlain Act) was introduced providing subsidy in order to encourage private enterprise building again. Yet, in 1924 it was realized that the housing shortage for working class people was even more than it was in 1919 and the Wheatley Act of 1924 restored and encouraged housing provision of local authorities with more subsidization. In 1930, when the economic depression moved into a crisis, the Greenwood Act was introduced, providing Exchequer subsidy for the people displaced or re-housed. With the Housing Act of 1933, government policy began to concentrate only on providing subsidy through local governments for slum clearance and improvement of slum conditions. This act aimed to make the private enterprise deal with ordinary

working class housing (Burnett, 1978). On the other hand, the Housing Act of 1936 guided the building of new housing on largely open sites by subsidization (Rowe, 1993).

After the Second World War, eleven Housing Acts, which concentrated on subsidy for slum clearance and improvement of unfit dwellings rather than new building shaped the living environment of England. For the first ten years house building was for general needs and was carried out mainly by local authorities. In 1954, the government had convinced itself that the housing shortage was on the way to being solved and decreased the amount of housing subsidy with the Housing Repairs and Rent Act of 1954. Two years later, the government provided subsidy for slum clearance and one-bedroom dwellings. In the late fifties, the government concentrated on encouraging private enterprise, owner-occupation and then with the Rent Act of 1957, rent control was partially removed. However with the new housing crisis, the government brought a new Housing Act in 1961, increasing subsidy for construction of new buildings. With the Housing Corporation Act of 1964, local authorities and housing societies were encouraged again to produce housing (Burnett, 1978).

The third extension of public authority, *direct provision of housing,* occurred through acquiring the land and developing it for public purposes such as housing. The intentions to provide housing directly emerged in the first half of the century with similar concerns both in Western Europe and United States.

The municipal power developed in Germany during the nineteenth century led to the operation of land acquisition and public improvement projects. The establishment of a controlling authority aimed to prevent the speculations on land, which would have been threatening during the industrialization process of Germany in the nineteenth century. As a result of the controlling power, German cities were mostly developed with housing provided by the public authorities (Rowe, 1993). With the law of 1918, municipal offices for building became necessary. From then on, 50 percent of the housing production was provided by public bodies in Germany (Benevolo, 1960).

In Italy Institutes for Popular Housing built about 80,000 dwellings between the two world wars. However, in France, the legislation for direct provision began earlier. A law of 1912 empowered the communal administration to build "popular houses" (Benevolo, 1960). Two similar offices, which provided 18,000 houses, were established in 1914 and 1915 (Benevolo, 1960).

In the Netherlands, the Housing law of 1901, increasing the governmental responsibilities, allowed the local authorities to provide housing. The first-rate architects of the time, such as Oud and Dudok were involved in the municipal building activities (Benevolo, 1960). Moreover, town planning was required and the economical conditions were adjusted in order to encourage local authorities to be directly involved in provision of housing. Although regional plans were required after 1931, it was not before 1930 that the planning and zoning procedures were applied (Rowe, 1993).

In 1916, United States experienced the first comprehensive zoning ordinance, which caused the preparation of the New York comprehensive plan, indicating allowable uses in each area. This enactment was followed by a Model Land Use Code in 1920, aimed at achieving a procedural uniformity for the regulation of land uses in all cities of United States. In 1926 the U.S. Supreme Court approved the government's right to zone and from then on, zoning according to a comprehensive plan became the standard practice. However, the direct provision of housing became possible with the passage of the Federal Public Housing Act in 1937 (Rowe, 1993).

Shortly after the Second World War, in England, public authorities concentrated on the provision of housing. The urban policy was directed in three areas: slum clearance and rehabilitation, construction of new towns and to a lesser extent redevelopment in the areas between the inner cities and early suburban developments. The idea of new towns was first proposed by Sir Patrick Abercrombie suggesting an establishment of new towns in a ring of 60 kilometers from the center of the city, separated by a greenbelt. In new towns, the integration of housing with work places was understood as an essential principle. However, the main aim of these new towns was to control the decentralization of

industry that was not in balance at the time, the inter-war era. The idea was supported by Urthwatt Committee report in 1937. The establishment of Ministry of Town and Country Planning in 1943 was followed by the New Town Act of 1946 and the Town Planning Act of 1947, all of which were encouraging the provision of new towns. In 1964 the government became committed to the provision of housing in England (Rowe, 1993).

The impact of transformation in the attitudes of public institutions were based on the fact that governments began to subsidize and build housing in the first half of twentieth century, while the trend was only providing health and safety regulations in the previous century. Therefore, governments became one of the major components of housing production trying to provide the maximum amount of housing with limited budgets for the undetermined large groups of dwellers with limited incomes.

Thus, using industrialized building systems in housing construction were extremely convenient for public authorities. As Russell (1981) mentioned, industrialization and housing were accepted as one concept by public authorities. It was partly because of the established relations between industrial production and working class housing by the influential names such as Gropius. Yet, mostly, the opportunity of being independent of the location through the construction process was an important criterion in addition to the expectation that industrial building systems would provide cost efficiency. Nevertheless, as Russell (1981) claimed the match of strict hierarchical structure of public institutions and institutionalized procedures of building in the industrialized building systems was the reason for the extended use of mass production techniques in housing construction by public institutions.

It was not only the transformation in the public policies that led to the standardization of construction process and consequently production of the units. Planning and architecture that remained almost non-influential through the nineteenth century began to change as well. Although different from the previous century, some new concepts occurred in planning and architecture, the active roles of these two professions in housing production were still limited.

3.3. IMPACT OF PLANNING AND ARCHITECTURE ON HOUSING PRODUCTION

The public institutions' involvement in housing production increased after the turn of the twentieth century. However, these legal instruments did not provide an effective city-planning framework. Most of the planning regulations remained in theory without being practiced (Benevolo, 1960). Nevertheless, the occurrence of new concepts in both architecture and planning enabled the emergence of new practices. Indeed, "post-war housing production took the advantage of conceptual and technical developments in architecture and planning established during the inter-war years of the twenties and thirties" (Rowe, 1993: 186).

In this section the aim is to emphasize the building concepts in planning and architecture in order to identify their extended roles compared to the previous century. Following the increasing implementation of industrial building systems and the emerging position of the public institutions as financial suppliers, the transformation in these professions was inevitable. In the previous century, the architects were not dealing with everyday building environment and despite the worst conditions of living, public institutions did not provide direct financial support for the housing projects. Moreover, developments in the building industry were not applied in housing construction processes. However, at the turn of the century circumstances began to change with the transformations in public institutions and application of developments in the building industry. Therefore, different from the utopists of the previous century, architects and planners were involved in the development of housing projects, in the milieu that provided the adequate tools through the transformations in building industry and public institutions.

Thus, new concepts were formed with these encouraging conditions. The concentration of these approaches varied from transformation of the daily life to re-organization of society. The concepts were represented by leading names. The initial ones were formed in the late nineteenth century and became practiced later in the early twentieth century. The concept of garden city, which was practiced in the employer housing before it was called by that name, was the

earliest of these approaches. Ebenezer Howard made the garden city concept publicized. Camillo Sitte was responsible for the idea of city beautiful. While Tony Garnier proposed and partly implemented his industrial city, the linear city idea was formed by Arturo Soria y Mata, who was a Spanish engineer. Moreover, a Dutch architect, Berlage provided theories and practiced them through his concentration on linking the architectural developments with development of cities.

On the other hand, in the later decades of the first half of twentieth century, in addition to Frank Lloyd Wright's Broad Acre City, new concepts of Le Corbusier and Walter Gropius became influential. Moreover, Ernst May and Joseph Peter Oud were the two important architects practicing these concepts in terms of both architecture and planning.

Although these leading names were mostly architects and some of them were from unrelated professions, they affected the practices of both planning and architecture. Therefore, in the first part of this section, these names are mentioned to emphasize their contributions in the planning field. In the second part, the roles of architects are explained through these new concepts of planning, the new formation of legislative activities and the development in the building industry.

3.3.1. NEW APPROACHES IN PLANNING

Planning activities were mainly generated by the regulations that were brought by legislation. However, the practices of early twentieth century were based on approaches that were seeded in the end of nineteenth century. These approaches shaped the environment in the early decades of the twentieth century and they effected the formation of the following practices and approaches. Jacobs (1961: 17) described these ideas as "the varieties of the orthodox modern city planning and city architectural design".

The garden city concept was being practiced since late nineteenth century in the forms of employer housing. Moreover, encouraging regulations were already

being provided. In 1898 Ebenezer Howard's Tomorrow: A Peaceful Path to Real Reform (or its 1902 version, Garden Cities of Tomorrow) provided a detailed urban model (Figure 23), based on building satellite cities with space, open air and sunlight instead of the existing crowded cities (Rowe, 1993, Benevolo, 1960, Tafuri and Dal Co, 1976, Kaplan, 1973, Jacobs, 1961). Self-sufficiency of these satellite cities was crucial because it distinguished the garden city concept from the early practices of employer housing, provided by the employers for their workers. In theory, the Garden City would be surrounded by an agricultural belt line, which in return would provide profit for the community of the settlement. The number of inhabitants of the Garden City should be limited to 30,000 people. The life of this community was proposed to be like a merger between town and country life (Rowe, 1993, Benevolo, 1960). The town and the agricultural belt were designed to be permanently controlled by the public authority under which the town was developed (Jacobs, 1961).

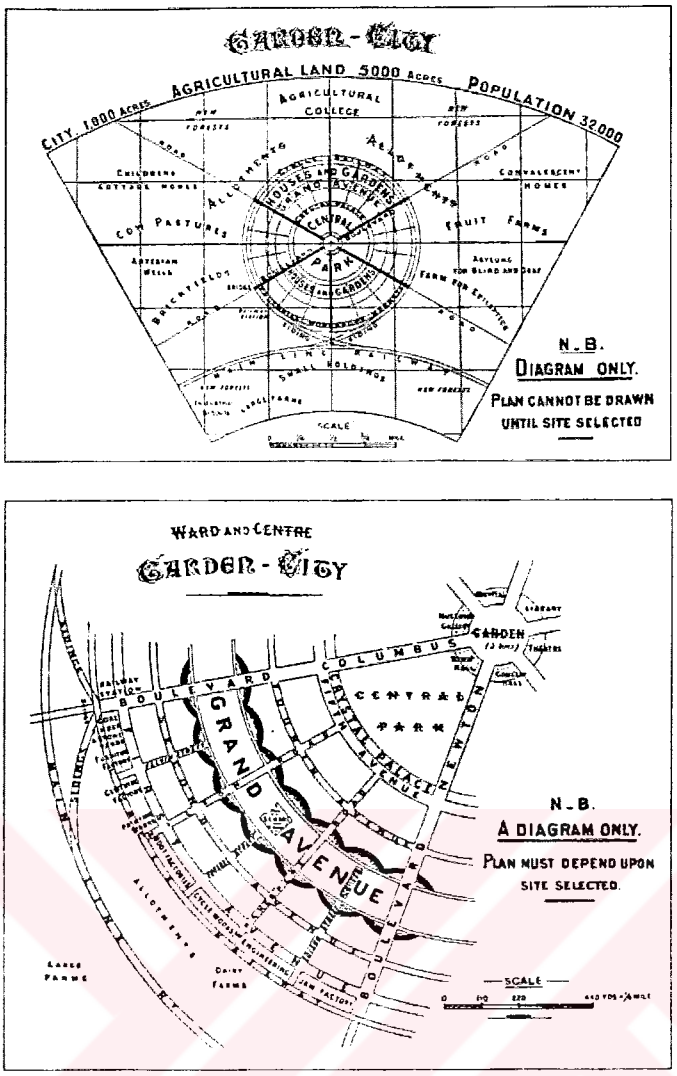


Figure 23. Howard's Garden City: plans (Rowe, 1993: 94).

The first applications of Howard's ideas were the town of Letchworth in England and then later Welwyn (Figure 24). In 1903, the first Garden City Company was registered with 4,000 acres of land in the north of London. Raymond Unwin and his partner R. Barry Parker, who were two residential architects, prepared the preliminary plan that was accepted in 1904. Shortly thereafter, the construction began. Letchworth carried the social and physical organization of Howard's original ideas. However, the image of picturesque, low-density country village was designed by the architects (Rowe, 1993, Benevolo, 1960, Tafuri and Dal Co, 1976).

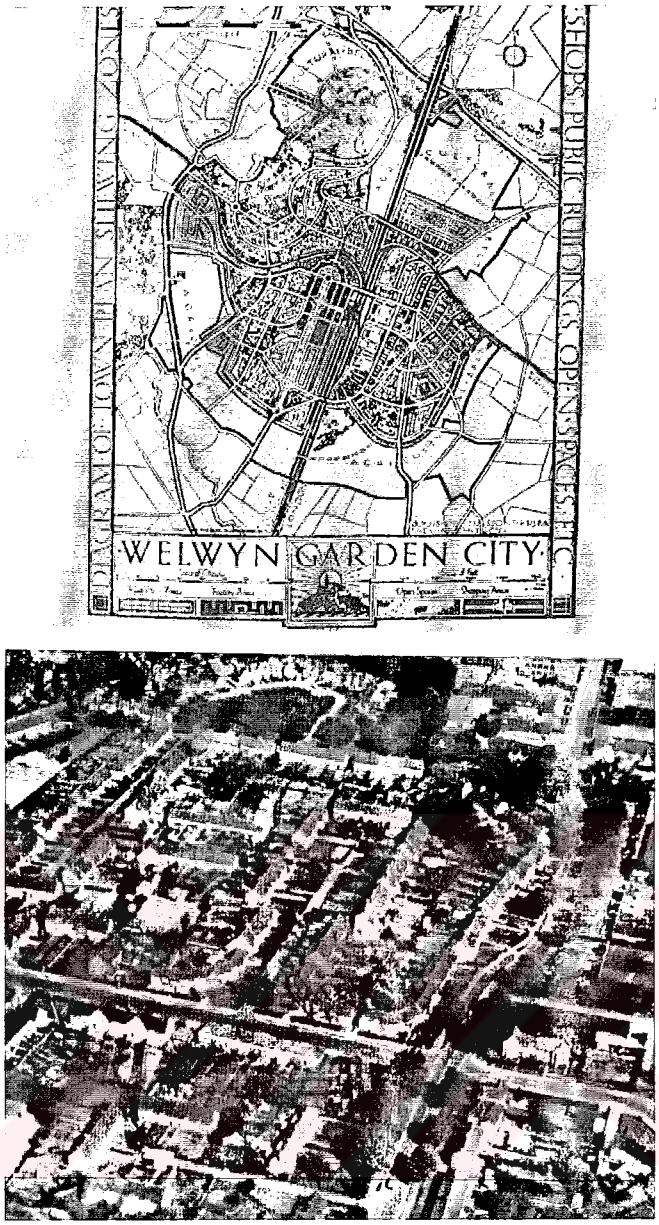


Figure 24. Top: plan of Welwyn Garden city, Bottom: aerial view of Letchworth Garden city (Tafuri and Dal Co, 1976: 33).

Because of Welwyn's smaller site, the agricultural belt, intended to provide the means of self-sufficiency, became progressively smaller and turned out to be a mere green belt. Indeed, through the increasing number of practices, the garden city idea, which began as utopian idea became an ordinary city. The original concept left the principles of elegant layout of roads, uniform buildings, and distributed open spaces (Benevolo, 1960).

However, Raymond Unwin continued to practice the garden city concept and became influential in English and American town planning circles. Before publishing his book, Town Planning in Practice in 1909, his Hempstead Garden Suburb of 1905-1907 had already influenced the planning field (Rowe, 1993).

The spread of the garden city concept was rapid and diverse. With the rapidly increasing members, the Garden City Association led to the formation of International Garden City Association and then the International Housing and Town Planning Federation (Rowe, 1993). Hampstead Garden near London (Figure 25) (1907), garden cities of the Chermin de Fer du Nord (1919-1924), Floreal and Logis on the outskirts of Brussels (1921), Monte Sacro in Rome (1928) were the initial garden cities that were implemented (Benevolo, 1960).

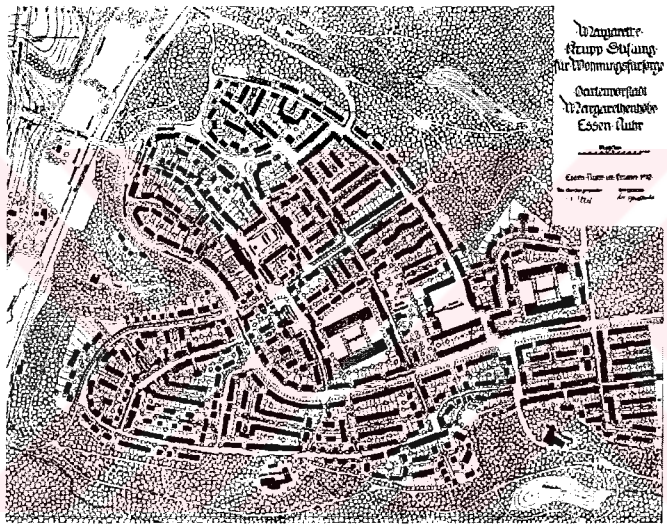


Figure 25. Plan of Hampstead Garden City near London (Benevolo, 1960: 354).

The Regional Planning Association in New York maintained the garden city concept between 1910 and 1930. The first application of the garden city in United States was in 1923, Sunny-side Gardens in New York (Rowe, 1993). Shortly after that, in 1928 Radburn, New York (Figure 26) became one of the most famous of the garden city concepts. Actually it was not a city but a satellite city with a favorable ratio between buildings and green spaces in a certain character achieved through certain regulations (Benevolo, 1960). Later on, the depression-built, government-sponsored Green Belt towns, which were actually suburbs,

were built as the incomplete modifications of the garden city concept in United States (Jacobs, 1961).

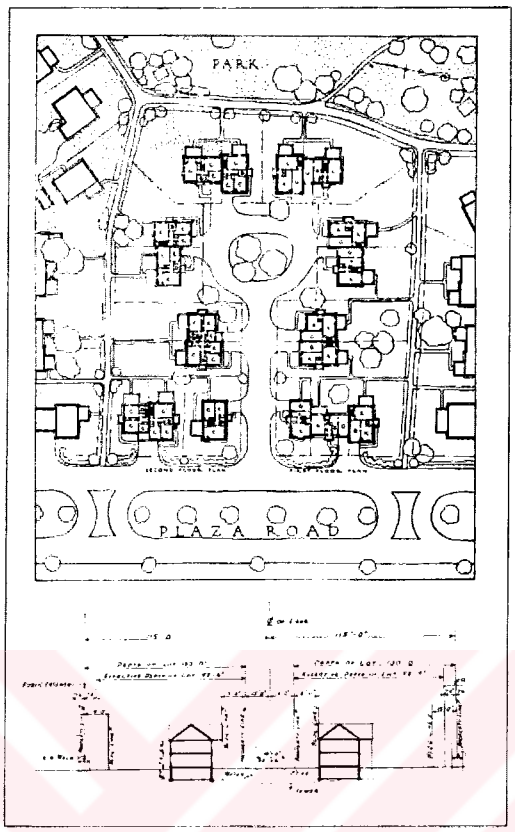


Figure 26. Radburn, New York: plan and typical section (Rowe, 1993: 195).

Howard's influence on American city planning was in two directions. First, in the regional planning, the garden cities were rationally distributed regarding industrial and agricultural locations. Sir Patrick Geddes, a Scots biologist and philosopher, was one of the influential names, who thought of city planning in terms of regional planning (Kaplan, 1976, Jacobs, 1961). Second, in architecture, the approaches of Howard and Geddes were carried by Lewis Mumford, Clarence Stein, Henry Wright, and Catherine Bauer (members of a New York organization: Regional Planning Association), whose strong influences on housing production due to generation of policies are mentioned in the next section of this chapter. Their viewpoints were based on the failure of the chaotic central cities. Therefore, the model housing schemes by Stein and Wright were mainly suburban settings, which were demonstrated by Bauer and Mumford, in an attitude that the solution of the inner-city problem was the production of isolated and segregated suburban

environments (Jacobs, 1961). However, the garden city was implemented forming suburban settlements all through the century in the United States.

The influence of the garden city movement was also noticeable in Germany. The first application was the Krupp's Margarathenhohe near Essen in 1906 (Benevolo, 1960). It was followed, in the Spandau district of Berlin, between 1913 and 1917. Although in the beginning the applications of the garden city concept were not effective housing solutions because of their high rents, a consistency occurred later on between these concept and government's decentralization policies. Ernst May, being a former assistant of Raymond Unwin between 1920 and 1912, implemented many principles of the garden city concept in the housing estates, built in Frankfurt (Rowe, 1993).

The Netherlands was also affected by the garden city concept. H. P. Berlage applied these principles in Amsterdam South between 1900 and 1905 and later on the outskirts of Rotterdam between 1916 and 1919. However, after First World War, these principles were criticized by the political left for favoring the bourgeois single-family house on a private lot. Moreover, the traditional style did not match with the dominating viewpoints of De Stijl. Nevertheless, the Vreewijk project of Berlage, and the Kiefhoek project of J. J. P. Oud (figure 27) were implemented as the low-rise single-family housing on private lots (Rowe, 1993).

Figure 27. Kiefhoek project by J. J. P. Oud: site plan and aerial view (Benevolo, 1960: 465).

Garden city movement was influenced by the nineteenth century utopists, who proposed a new social structure in a new type of city, based on self-sufficiency. In principle, the style was left to the architects. However, after the transformation of this concept into the implementation of uniform single-family housing on private lots with lots of greenery, the concept lost its revolutionary character. As Burnett (1978) mentioned, the spatial principles of the garden city movement led to the formation of suburban development and new towns in England.

In the garden city movement problems of the city were oversimplified. Howard's concept was focused on housing provision and all the other functions were assumed to be subsidiary. Therefore, the outcome of the concept carried "suburban physical qualities and small-town social qualities" (Jacobs, 1961: 19).

Before the spread of the garden city concept, through the end of nineteenth century, Camillo Sitte, being largely responsible for city beautiful concept, criticized the practices of his time in terms of town planning. In addition he thought that, "art and utility were mutually exclusive" but the city planning practices of the nineteenth century dealt only with technical aspects (Benevolo, 1960: 349). For him, the arrangement of streets meant dealing with nothing but

technical aspects. Monotony, excessive regularity and symmetry were the results of these plans. While criticizing the imitation of historical values, he proposed the preservation of whole complexes, if not the whole districts (Benevolo, 1960). The city beautiful movement was a reaction against the rigid attitudes of city planners. However, his argument based on aesthetics was not influential in an era, in which the general trend was to rationalize the environment. Moreover, Jacobs (1961) argued that the city beautiful movement turned out to be Center Monumental, building civic center or cultural center that was a complete unit and never became a part of the city.

As a part of the principle proposals, Tony Garnier, a French architect, formed the model of Cite Industrielle (Industrial City, Figure 28). In his proposal, the residential quarters consisted of small, detached houses standing along a uniform network of roads. He mentioned the importance of hygienic factors such as sun, air, vegetation, well-spaced buildings, separation of pedestrian and vehicle circulation, and the garden city. He had the opportunity to implement the principles of Industrial City in Lyon. Between 1904 and 1914 he built public buildings and residential quarters in Lyon after he met with E. Herriot, the mayor of the city at the time (Benevolo, 1960). Although Garnier focused on using advanced technology in terms of construction and material, his basic concern was not merely utilitarian. "By identifying the new city with reign of labor, Garnier intended to demonstrate that it must be the place best exemplifying the most advanced technologies" (Tafuri and Dal Co, 1976).

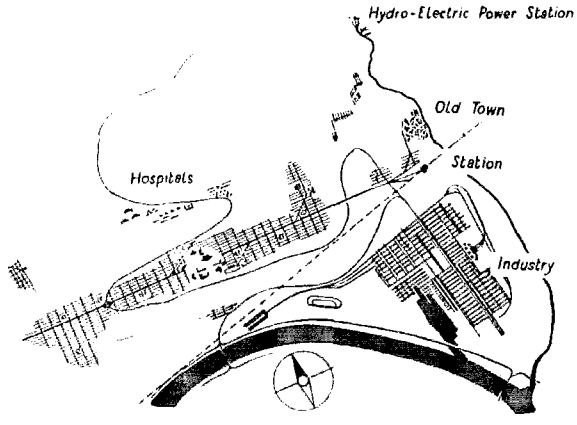


Figure 28. Industrial City by Tony Garnier: schematic plan (Choay, 1969: 85).

On the other hand, close to Howard's concept and influenced by Garnier, Soria y Mata proposed the linear city concept (Figure 29), based on the assumption that new legal instruments for the control of building land should be possessed in order to build cities. With his consciousness of the big impacts of developing transportation modes, he claimed that the cities should be in an indefinite linear form with railways running along their axis. The central road would run along the residential areas, which were composed of detached single-family housing with gardens and vegetable plots. Although his awareness of transportation in the city was crucial, the lack of emphasis on industry was the weakness of his model. His basic principle, the city with a linear form, was influential on the theoretical studies in Germany in 1920s and it was partially applied in the Cite Lineaire Industrialle of Le Corbusier that was mostly influenced from Garnier (Benevolo, 1960).

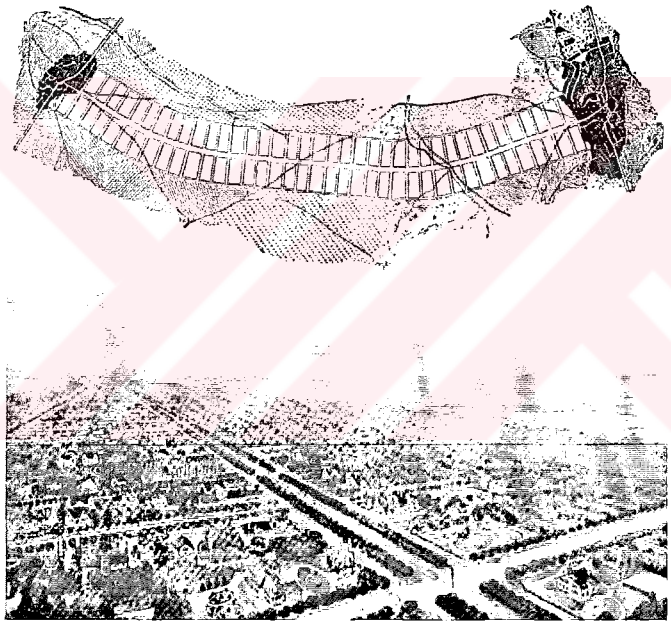


Figure 29. Linear City by Soria y Mata: plan and aerial view (Choay, 1969: 83).

These urban models, namely garden city, city beautiful, industrial city and linear city, were the most noticeable ideas proposed to deal with the increasing problems of industrial town in the late nineteenth and early twentieth centuries. Besides their implementations, their theoretical influences were also crucial. Through the following decades, these approaches, especially garden city

concept, evolved and was largely practiced. Furthermore, other leading approaches occurred after the first quarter of the twentieth century, represented by Walter Gropuis, Le Corbusier, and Frank Lloyd Wright. In addition to their architectural practices, their city planning approaches were also influential.

Walter Gropius had a vision for city planning that was based on districts. These districts were defined through the intervention area for the disordered setting on the city outskirts to be transformed into a calculated and ordered one. His point was mainly on the residential districts and after the first residential implementation in Dessau, the houses for teachers of Bauhaus, in 1928 he left the school in order to provide definitive clarification for the housing problem by actively working in the economical and political settings. In 1927 he won the competition for the Dammerstock district of Karlsruhe. He proposed north to south oriented blocks to be able to provide sunlight for the both facades. They were served by pedestrian ways and perpendicular roadways. The variety that seemed lacking in the plan was provided with the changing heights of blocks. Public buildings were provided at the edges, which was coordinated to the existing features of the area. He applied similar principles in Siemensstadt District as well (Benevolo, 1960).

Gropius was not trying to recommend a perfect form for dwelling. On the contrary, he compared the two traditional solutions, namely detached single-family house and collective dwelling or the high-rise block, grasping the advantages of each type. However, he mentioned the necessity of prefabricated components in housing production for economic concerns. On the other hand, Le Corbusier and Frank Lloyd Wright made clear choices between the two types (Benevolo, 1960). Nevertheless, as Habraken (1972: 16) mentioned, "the notion 'dwelling' is entirely subjective and is certainly not related to any particular form'".

Le Corbusier carried mostly the impacts of garden city movement in his early works. However, in his later works such as the proposal for Solon d'Automne in 1922, Le Corbusier recommended an emphasis on the central nucleus, increase in population density, big green areas and a rationalized circulation in the city (Tafuri and Dal Co, 1976). He claimed the necessity of "substitution of well-

spaced sky-scrapers for normal buildings in business centers, the grouping of dwellings in vertical units with communal amenities for residential districts" (Benevolo, 1960: 535). He called his ideal city the Radiant City, composed of skyscrapers in the park. In Le Corbusier's vertical city with its 1200 inhabitants, despite the high density, because of building up so high 95 percent of the land remained open. In addition to high-rise buildings, he proposed solutions for the traffic problems. He recommended to reduce the number of streets or to relocate them under the ground and separated pedestrians from the vehicle circulation as in garden cities. Indeed, although the representatives of the garden city movement were against the Radiant City, Le Corbusier's model was based on the principles of garden city, yet with higher densities achieved through high-rise buildings (Jacobs, 1961). The same principles were adopted for his proposal: Voisin Plan for Paris in 1925 (Figure 30). His "city-as-program" did not leave any space for events that can create a chaos in this organization (Tafuri and Dal Co, 1976: 140).

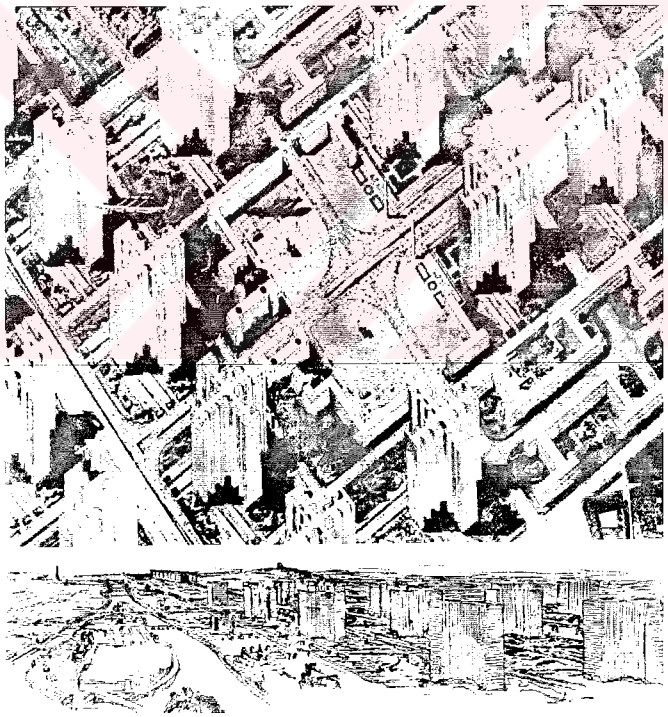


Figure 30. Aerial views of Plan Voisin by Le Corbusier (Benevolo, 1960: 443).

He dealt with town planning problems mainly in 1930s with a clear image of modern city replacing the old city (Figure 31) (Benevolo, 1960). His sketches for

the plans of Sao Paulo, Rio de Janeiro, and Montevideo from 1929 emphasized absolute artificiality in the extreme urban order. He exemplified this point of view in the Obus Plan for Algeries, begun in 1931, with "the long ribbon-like building running along the coast, the curvilinear blocks on the hills, the artery running from them down to the office skyscrapers on the shore" (Tafuri and Dal Co, 1976: 143). This proposal was a montage of artificial events or a superimposition of solutions organized independent of everything that preexisted on the site. He had other urban projects, such as the Macia Plan for Barcelona in 1932, the plans for the Antwerp estuary of 1933 and Hellocourt in 1935, which carried the same principles (Tafuri and Dal Co, 1976). Le Corbusier's proposal was not only about the physical environment, but also about social order. He claimed that his utopia was based on the maximum individual liberty (Jacobs, 1961). However, his proposals and implementations, especially in public housing, imposed a life-style on the inhabitants.

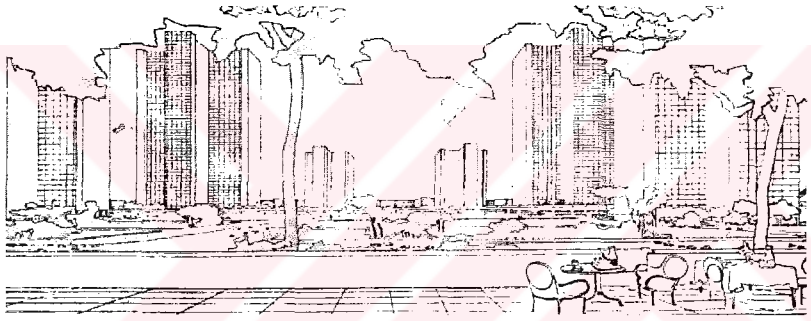


Figure 31. An image of the "Modern City" by Le Corbusier (Tafuri and Dal Co, 1976: 134).

The meetings of C.I.A.M (the Congres Internationaux d'Architecture Moderne), which was established in 1928, dealt mostly with city planning problems (Benevolo, 1960). It is possible to analyze the historical development of C.I.A.M in two phases: pre-war (1928-1937) and post-war (1947-1956). Because of the continuation of social and physical problems of the industrial city in the early decades of the twentieth century the concentration of the pre-war conferences was on urbanization. As the most influential member, Le Corbusier and his concepts of city was dominant in C.I.A.M (Gunay, 1988). The principles of the pre-war period were mainly reflected in the Athens Charter following Le Corbusier's concepts of functional segregation and organization, skyscrapers in

huge parks or row-housing providing sufficient greenery, dwelling units with minimum standards and segregation of vehicle and pedestrian circulation.

Being one of the important congresses, the fourth one took place in 1933 on a boat going from Marseilles to Athens. Thirty-three cities were examined and their chaotic situations were stated in contrast with the characteristics of order and functionality believed to be obtained in a modern city. Later, in 1941, the Athens Charter was published by Le Corbusier with a preface by Jean Giraudoux (Benevolo, 1960). It covered the overall statements of C.I.A.M including the solutions for the problems of existing urban areas. The main aim was to provide sun, space and greenery for everyone. The city was re-examined in its regional context. Moreover, the existing problems about residential areas, open spaces, working areas, traffic problems and historic heritages were mentioned with requirements to overcome these shortcomings (Le Corbusier, 1941). Athens Charter included separation and organization of functions, housing, work, recreation, circulation through zoning regulations, and a regional plan (Ellin, 1996).

During the post-war period of C.I.A.M, the emerging tendency was towards concerning with local conditions, low-density dwelling units in compact attached clusters. In the tenth and last congress of C.I.A.M, in 1956, "the younger generation of architects and planners had introduced new terminology like association and identity", despite the functional approach of C.I.A.M (Gunay, 1988: 30). The representatives of this younger generation of C.I.A.M later, met again but this time under the name of TeamX, arguing that specific form of environment must be generated in each particular situation (Gunay, 1988). The formation of TeamX was criticizing "alienating functionalism and calling for a new humanism capable of distilling out of the technological universe all its vital potentialities" (Tafuri and Dal Co, 1976).

However, C.I.A.M's proposal of function and order for urban environments was extremely influential on several Western European practices supported by the public authorities.The aims of C.I.A.M. and of Le Corbusier were not merely technical improvements. On the contrary, they attempted to create a utopia, in

which a political and moral transformation was taking place (Benevolo, 1960). The extreme functionality to be achieved through high-rise blocks in large green areas with access to sunlight led to the practice of block-housing, which gradually eliminated the large greenery criterion and focused on the production of dense high-rise blocks.

As another practitioner, Frank Lloyd Wright provided a theoretical scheme for town planning. The first period of Frank Lloyd Wright's work, until 1910, was based on the single-family houses or so-called prairie houses. He was concerned with the association of the buildings with their sites. Later, in 1932, he wrote the Disappearing City, in which he emphasized his lack of faith in the existing city. In 1934 he proposed his ideal city, Broadacre, that granted a characteristic acre for each inhabitant in order to avoid being bothered by neighbors. Each acre had a green area isolating it from the surrounding environment. In his practical scheme he proposed the use of traditional city as a workplace for limited time of the week and the day. In his proposal, the communal life supposed to take place in distant places and the sufficient means of transportation should be achieved by private cars (Benevolo, 1960).

Wright criticized the spread of the "international style" after 1925 by encouraging the reconsideration of the problem of skyscrapers (Tafuri and Dal Co, 1976). Although his Broadacre proposal was not a real design for an existing city, his viewpoint influenced the generation, which came active after the Second World War in the United States (Benevolo, 1960).

These city planning approaches, which began through the end of nineteenth century and continued in the first half of twentieth century, intended to be utopias looking for a new social order in new urban environments, criticizing the chaotic environment of the industrial town. Their recommendations aimed at improving the deficiencies of existing urban life. Based on the assumption that the society needed an ordered life, they tried to provide the means of this ordered life in cities. These proposals implied certain layouts for the ideal city of their own. Yet, most of them did not include stylistic preferences.

However, these approaches matched with the aims of governments, and especially after the Second World War, were influential on the provision of uniform housing either as single-family houses or as high-rise blocks by governments. These approaches supported housing, which was constructed by using industrialized building systems. Although their social considerations were neglected and their layout principles were abused, these planning approaches tended to standardize the individual by assuming the general need and desire for an ordered life.

These approaches were mostly generated by architects. Compared to the previous century, it is possible to claim that proposing or implementing these concepts had already extended the role of the architects. However, these architects' influences were restricted to the creation of the concepts and with the limited number of their implementations. Although these concepts had serious impacts on the legislative activities and consequently on the private sector production, in terms of professional involvement during the housing production process, architects were not dominant.

3.3.2. EXTENDED ROLES OF ARCHITECTS

Although architects were still reluctant to deal with housing in the first half of the twentieth century, their involvement in housing construction increased compared to the previous century. On the other hand, speculative builders becoming more organized, increased their scale of production.

Rowe (1993) claimed that after the First World War, a new era of realism started. This was an international movement based on practical reality. Thus, recognition of the circumstances and the opportunities of new technology were crucial. Objectivity was embedded in this movement by dealing with the everyday life and all its realistic consequences. Therefore, functionalism, utility and the absence of decoration were embraced.

The architectural roles after the First World War more or less formed through this point of view. Being aware of the conditions of the housing market, contributions

of architects were mostly in terms of functional architecture. As Burnett (1978) stated, since the architects were mostly engaged in the "battle of styles", they were not really influential in terms of style in speculative housing in England. Speculative builders were adopting any style that would provide maximum profit in return. However, very few architects were able to implement the high-rise blocks through the Second World War, after Gropius' arrival in England. Nevertheless, these were not favored in England. Dominating functionalism was appreciated only through the development of kitchens and bathrooms (Burnett, 1978).

In general the roles of architects in housing production may be grouped in their functionalist context. First, there were reformists again, who consulted the housing legislation of governments. For instance in United States, Catherine Bauer as one of the influential reformers helped the draft of many legislative proposals (Davis, 1995). In England, in addition to Tudor Walters Report of 1918, the Dudley Report of 1944 and Parker Morris Report of 1961 carrying the names of the architects, who prepared the reports, represented the three landmarks of the reform of housing design (Burnett, 1978, Bilgin, 1997).

In spite of the contributions of reformers, the governmental programs were providing standards to be multiplied. Therefore, in public housing architects were needed but they were accepted as an expensive attitude dealing with quality rather than quantity in an era of reforms, especially in United States. Nevertheless, local authorities and communities were more open to be worked with (Davis, 1995). The most famous example of architects working with local authorities in housing production was Ernst May, who began to work as the head of the department of housing and city planning in Frankfurt in 1925. May and his associates built an impressive number of housing in a circle around the city in only a few years. Through the publication Das Neue Frankfurt, not only the housing program was promoted but also, with great amount of documentation, the experiences were shared within the international arena. Although he was one of the influential members of the early years of C.I.A.M, compared to Loos' few villas and Corbusier's Pessac project consisted of thirty houses, May's fifteen thousand units was an impressive amount (Heynen, 1999). In spite of the smaller

amount of production, and relatively temporary involvement, there were other examples of architects working associated with the local authorities such as Mies van der Rohe (Wissenhofsiedlung in Stuttgart) and J. J. P. Oud (De Kiefhoek in Den Haag, the Netherlands) (Bilgin, 1997).

On the other hand, speculative builders, developers, and private entrepreneurs were scoring success both in United States and Western Europe. Roebucks and Levitt were the two most noticeable builders of the time. Especially Levitt, practicing in United States, combined traditional styles with developed construction techniques. The capacity of Levitt and sons reached 17,450 houses between 1947 and 1951. The reason for the success of Levitt was that his firm produced minimum sized standard housing that were eligible to expand with the inhabitants' own investments. All the social facilities, which were the origins of profit, were owned by his firm (Hamdi, 1991).

Under these circumstances, architects, who managed to say things about housing, established partnerships with the speculative builders. The partnership between the California builder, Joseph Eichler, and an architectural firm Anhen and Allen was an example of this kind of role. They constructed thousands of houses through their partnership and were supported by the architectural journals for being an example of the influence of the professional architects (Hamdi, 1991). However, most of the builders were still reluctant to hire architects because they were able to achieve designs from plan services or from "lumberyard architects", who offered minimal design services for the time of purchasing construction materials (Davis, 1995: 14). They were more like interior designers working for fees and certain amounts for the each built house (Davis, 1995).

There were a few architects, who tried to capture bits of the market occupied by the builders. These independent firms were established by architects mostly in collaboration with each other. One successful example of this attitude was the Architects Small House Service Bureau that was established in 1921 in Minneapolis (Hamdi, 1991). Although they were self-employers they were not different, in principle, from the plan providers of the builders. Hamdi (1991)

mentioned that they provided standard plans based on a minimum price per room, besides their conventional service for self-builders building houses with more than six rooms. Davis (1995) called them market architects regarding their role in the housing production process.

Following the roles of architects associated with public authorities and speculative builders, the last two ways of involvement in the housing projects for architects were studies and competitions. In 1933 New York Building Congress listed over 200 pieces of research going on about housing. Most of them were carried out by architects, while some of them were done by the Housing Study Guild, established in 1933 by Lewis Mumford and architects Clarence Stein and Henry Wright. These two architects were known for their model suburb of Sunnyside Gardens in Queens, built in 1928 (Hamdi, 1991).

On the other hand, competitions, which were mostly relative to style or technique, were being used in order to come up with new ideas. It was mentioned that the knowledge of architects on housing the multitude was limited in the nineteenth century. Furthermore, the lack of progress was still obvious in the Model Housing Competition for New York in 1934, which drew 1775 entries and only 22 of them showed any real knowledge of housing (Hamdi, 1991).

Besides the notable architects, which are examined in this study related both to developments in building industry with changing concepts about standardization and to the new approaches in planning, role of architects in everyday environment was still limited. Housing practices were in the hands of builders in terms of construction and of governments in terms of legislation and finance. However, architects such as Catherine Bauer, Lewis Mumford, Clarence Stein and Henry Wright in the United States, and Tudor Walter in England influenced the housing policies of their governments by being involved in the preparation of the housing schemes or housing reports. Therefore, architects' involvement was extended in terms of their impacts on generation of housing policies. Yet, in the production process, their involvement was still limited.

3.5. CONCLUSION: THE METHOD OF HOUSING PRODUCTION IN THE FIRST HALF OF THE TWENTIETH CENTURY

Three complementary areas of development, the construction industry, the public policies and the roles of architects and planners are examined in order to clarify the housing construction method of the first half of the twentieth century. First of all, the concepts of standardization and mechanization became popular in production. This resulted in favoring the industrial production methods and materials in every design profession. In addition to the contributions of designers for using standardized elements, construction industry was influenced in the extreme use of prefabrication. However, without the support of housing policies, the dominant use of prefabrication in housing construction was impossible. Therefore, the increasing application of prefabricated housing and the increasing involvement of public sector in housing production overlapped after the Second World War. Moreover, the enabling roles of governments, namely subsidizing and directly providing functions dominated the era in addition to the large extent of the speculative builders' roles. The reason of large amount of housing production carried by the private sector was also the housing policies. The general tendency of the governments was to provide financial support to the private sector rather than directly constructing. However, when the private market was stuck due to adverse economic circumstances, policies were oriented to increase the amount of direct provision and subsidies. After the production level was sufficient enough for the private market, the public market decreased its involvement, supporting the increasing amount of housing production carried by the private market.

Although the transformations in physical and social conditions were mostly the consequences of demographic trends, housing policies through economic considerations and application of new technologies in housing production, planners and architects were not totally out of the processes. Especially the architects, who worked for or with the policy generation institutions of the governments, were influential. In the United States, Bauer, Mumford, Stein and Wright were influenced by Geddes, who carried the principles of the garden city to regional planning scale and they implemented these principles in the housing policies of the government. Similar influences were observed in England.

Moreover, May and Oud were the examples of architects working with the local government.

Regarding the amount of housing production these were actually involved in, it is possible to claim that they were not largely taking influential roles in the practices of housing production. However, as Ellin (1995) claimed, the urban and suburban developments were based on the information or at least justification of the planning and architectural theories of the first half of twentieth century. The formation of the urban or suburban environment was following the implementations of garden cities, greenbelts, Broad-acre City, Radiant City, towers-in-the-park, machines-for-living or separation of functions as in zoning. Yet, without the interest of public and private market due to economic constraints, these theoretical proposals of planning and architecture would not be implemented in such a dominant scale. Moreover, the major principles of these theories were not implemented at all. Instead, these theories were used as the means of cost minimization for building housing.

Thus, the housing production method of the first half of the twentieth century was determined by the coordination of public sector and private sector in addition to planners' and architects' concepts of housing and its production related to mass production techniques, developed in the beginning of the century. Although the coordination of the three components was achieved, in 1960s the reactions from the society and the professions could not be prevented. The social conditions in these housing environments caused increasing crime rates, urban protests and riots.

CHAPTER 4

HOUSING IN CRISIS

"In the years following Second World War and leading up to the 1960s, the primary public interest and major Federal Government efforts had been directed toward increasing the quantity rather than the quality of housing" (Rice, 1979: 339). However, the conditions of housing and social life were determined by the practices of both public and private sector in housing production. Increasing suburban developments and urban renewal activities caused dramatic changes in the lives of low- and middle-income groups. Urban spontaneity was replaced with the repetition of uniform houses, which became mass-produced commodities.

With the rising crisis of meaning and unsuccessful policies of housing production, the "normative program of accommodations became increasingly questioned" (Rowe, 1993: 221). Moreover, "dissatisfaction with the built environment abounded among urban design professionals and the public at large" (Ellin, 1996: 212). The social decline in isolated housing environments of low-income groups became overt in 1960s and, the dissatisfaction with the monotonous environment and the decreasing degree of possession of living environment due to increasing commodification of the house generated criticisms among the middle-income groups.

The reactions both from outside and from within the disciplines of architecture and planning led to the movements of pluralism and the interests of providing user autonomy.

A group of planners and architects reacted against one of the most obvious consequences of modern way of architectural production (and its products): that is the alienation that resulted by the rigidity of the mode and the product. This response led to the solutions, which either let the prospective users be included in the design process or provided them with structures easy to be transformed according to the actual needs (Ellin, 1996).

This chapter is composed of three sections. In the first section conditions of social life and housing are mentioned regarding the power of speculative builders and public institutions throughout the first half of the twentieth century. The problems of housing environments are stated. Second section deals with the contours of the crisis. Following the increasing social problems, such as increasing crime and suicide rates and loss of meaning, urban protests and riots began in United States and in England. In the third section, the effects of the crisis in social milieu on planning and architecture is emphasized.

4.1. CONDITIONS OF HOUSING AND SOCIAL LIFE

The production of housing was accelerated during the inter-war years through reform activities in addition to speculative builders' dominant involvement. It stopped through the Second World War and then was initiated again after the war by public authorities direct provision and subsidization policies. After the levels of production reached the pre-war conditions, the acceleration in housing production was due to the high levels of involvement of private sector. The high levels of housing production in the post-war years took the advantage of previously generated concepts and approaches in planning and architecture. Moreover, as the guiding force of these developments, public subsidies favored industrialized production techniques. Although stylistic considerations were not important for both the speculative builders and the public institutions, the simple forms were popular because they were more appropriate for mass production techniques.

Behind the housing experiments of the era after the First World War, there was the assumption that "environment and social betterment were directly linked" (Rowe, 1993: 158). Improving the conditions of housing or providing new

environments would decrease social deficiencies. The belief in the great influence of physical characteristics caused the idea that the progress in urban environment would ease the poverty that was inherited from the previous century. Planning and architecture were serving this purpose with all means of mechanization in the building industry. Therefore, the most important issue in housing production turned out to be basically getting the job done. Ernst May, J. J. P. Oud, Henry Wright and Clarence Stain shared this pragmatic belief and implemented it in their practices (Rowe, 1993).

The actual production of housing experienced two peak points in the twentieth century in United States and Western Europe. First, was after the World War I and it was based on recovery. However, the first boom period occurred through experiments of new production techniques together with new approaches of social and spatial order, in public and private sector. Since the housing production nearly stopped during the Second World War, the private sector lost its dominance in the period shortly after the war. However, soon the leading practices of public authorities decreased and the private sector began to play an important role in the second housing boom after the World War II.

The post-war era of housing production created serious problems in social and spatial setting of urban environment. Although the high levels of production were the results of the demographic trends, the problem of housing shortage was never solved at all. On the contrary, new problems were generated due to the weaknesses of the used method of production in housing.

Two major trends occurred in the post-war era. First, the suburban movement of the middle class and second, the consequent movement of low-income groups in inner cities. While the suburban movement was characterized by low-density and big scale projects, inner city or transitional zone housing developments were mostly high-rise blocks. Soon, urban renewal and redevelopment activities covered the inner cities by replacing and destroying the communities.

4.1.1. HOUSING RECOVERY AFTER THE FIRST WOLD WAR

During most of the 1920s, the housing production was high in the United States and in Western Europe due to political stability and economical prosperity (Rowe, 1993). Increased production of housing after the First World War was not due to the war damages, except for France which lost an important part of its housing stock during the war (Benevolo, 1960). However, other Western European countries and of course United States experienced increases in housing production basically because of economic conditions.

In the *United Sates* housing production began slowly after the First World War and increasingly continued until the Great Depression. Although new dwelling units were built reflecting the American preference of single-family houses, during the boom years of mid 1920s considerable amount of multi-family structures were also constructed. Indeed, the percentage of single-family units decreased in this period, while the percentage of the apartments increased. However, the increasing production of housing tended to satisfy the desired urban growth in terms of low-density, garden oriented suburban settlements, which began to emerge before the First World War. In addition to governmental support, the developments in the building industry leading to mechanical and managerial efficiency encouraged the appropriate conditions for the private sector to produce housing. Besides the increasing capacity of the supply side, in 1920s, consumption capacity was also sufficient to demand the supplied amount of housing during the boom until the Great Depression (Rowe, 1993).

Subsidizing and its extensive applications began in *England* earlier. With the Addison (1919), Chamberlain (1923), Wheatley (1924) and Greenwood (1930) laws, in the inter-war period, the state subsidized up to 75 percent public and private building enterprises, which satisfied pre-determined rules of distribution and hygiene. In 1936, nearly 1,100,000 dwellings had been built by these subsidies that accounted for one third of the building production in England (Benevolo, 1960). Mostly garden cities were being encouraged by these subsidy policies (Benevolo, 1960, Tafuri and Dal Co, 1976).

Furthermore, England experienced another shift after the First World War. It was the change of building materials and methods leading to a wide range of experiments in prefabricated housing. The reason for changes in the production technique was neither merely housing shortage nor the incapability of the small industry type housing production to come up with high numbers. As mentioned before, the embedded reason was that after the war, government had the desire to appear supportive for the change from the old to the new. Housing in a totally new manner would be the most appropriate tool to achieve this image (Russell, 1981).

During 1920s, housing production increased in the *Netherlands* as well. The reasons for the production boom in the Netherlands were both the increasing population but mainly the necessity of replacing the substandard dwellings. However, unlike United States, mostly the municipal authorities and semipublic associations financed the recovery. Yet, the single-family housing was preferred in the Netherlands like in the United States but these were built mostly in row-house configuration (Rowe, 1993).

Housing production in United States and Western Europe after the First World War was in the form of high-rise residential blocks and suburban settlements through the involvement of both the private and the public sector. The level of housing production achieved in this period was more or less sufficient for the time. However, during the Second World War, housing production, which slowed down shortly before the war due to economic problems, almost stopped

4.1.2. HOUSING SHORTAGE AFTER THE SECOND WORLD WAR

Although the problems in United States originated from different roots, in Europe, physical damages of the Second World War were more than World War I. Because of the urgent need for recovery, the war was followed by a period of economic expansion, which made great social changes necessary. (Benevolo, 1960)

During the Second World War housing production stopped in almost every country. In the postwar era the problem of re-housing was the most serious of many nations in Western Europe. Technical advancements in housing design and housing production procedures, which were already developed before Second World War, provided the means of fast production of housing in this era with the complete support of both public and private sectors. Moreover, regarding housing as the privileged problem of the era, spatial patterns of urban development also began to change (Rowe, 1993).

In all countries, it was necessary to revive the housing industry. In the *United States*, in 1940, the number of unemployed and ill-housed Americans was more than eight million. Inner city slums and housing of ethnic minorities were in more desperate conditions than ever. Shortly after 1945, more than 9 million service people were demobilized. By the 1950s the population increase accelerated due to the increasing birth rate. Moreover, between 1940 and 1947 almost 50 percent of the population moved into a new home, in a different city, county or state. This high mobility continued during the suburban boom of 1950s and 1960s (Rowe, 1993).

Since the housing shortage problem in Europe was the result of different reasons, the overall scheme was different than United States. During the Second World War considerable percentages of housing stock in Europe was either totally demolished or severely damaged. In *England*, 35 percent of the housing stock was destroyed. Together with the insufficient provision of housing in the previous decades, this led to the occurrence of a significant overcrowding in the industrial areas and the major cities. Furthermore, most of the remaining housing stock after the war was also dilapidated and inadequately serviced. Although slum clearance programs began in 1930s, they were stopped during the wartime. Moreover, population increase and changes in the formation of households also influenced the housing shortage problem negatively (Rowe, 1993).

In *Germany*, during the war, 70 percent of the pre-existing housing stock was either destroyed or damaged. On the other hand, in *Italy* post war pressures on housing were based on population increase and regional imbalances of

population due to migration of workers rather than wartime damages, which was about five percent of the total housing stock (Benevolo, 1960). By 1950s the necessity of massive construction of low-cost housing was serious. The *Netherlands* also suffered from the wartime damages of housing (Rowe, 1993).

Although housing shortage after the World War II had different reasons in United Sates and Western Europe, declining social conditions in the housing environments were their common problem.

4.1.3. PUBLIC AND PRIVATE SECTOR IN HOUSING PRODUCTION

In most of the countries, the post-war recovery was provided by government action. Although the private sector was also considerably involved, it was not before the government sufficed the pre-war production levels (Rowe, 1993).

Housing production in United States and in Western Europe quickly reached the pre-war levels. By late 1940s or early 1950s United States, Netherlands, Germany and Italy reached their pre-war production levels, while England and Spain followed them later in 1960s. Although this increase in housing production was initiated by the public sector, most of the practices were carried out by the private sector. It was partially the consequence of the policies that aimed at shifting the burden of provision from the public to the private sector. Therefore, the percentage of public involvement in housing production gradually decreased especially after 1950, when pre-war housing production levels were mostly achieved (Rowe, 1993).

In the *United States*, the most important influence of legislation was with the urban renewal policies, which began with 1949 Housing Act. Despite the unsuccessful projects, which caused social reactions, especially after 1954, with the increasing participation of private sector, the renewal policies continued. This approach was based on displacing the inhabitants of the districts, which were located in the inner cities and were claimed to be declining, to the outskirts of the cities mostly in high-rise apartments (Rowe, 1993).

In 1950s, growing unemployment and increasing instability of the unskilled labor force caused enormous social costs and ever-faster deterioration of housing in heavily congested cities. Urban renewal was the symbol of a war against poverty and it was assumed to be a demonstration of good government. However, with the increasing involvement of the private sector in renewal projects, which was also supported by legislation, the consequence turned out to be increasing property values in urban areas due to uncontrolled speculations of the builders. The poorer neighborhoods were being displaced and simply replaced by housing that was constructed with high standards and priced according to the market (Tafuri and Del Co, 1976). As a result of urban renewal activities, not only people were uprooted but also an unhealthy boom in real estate values and prices was experienced.

On the other hand, the increasing opportunities of loans and credits for single-family home building industry led to suburban developments in the United States. The development in transportation access supported this development (Rowe, 1993). In 1954, 75 percent of the population was living in the suburbs, which had nothing in common with the communities proposed earlier by the progressive planners. The expansion of the middle class settlements of this type was supported by expansion of the automobile market. The commuters were the real inhabitants of highways that were located like an arterial system (Tafuri and Del Co, 1976). This outward development, in other words urban sprawl, resulted in the residing minorities and urban poor in the declining inner cities. In 1961 more than 19 million families in United States were reported to subsist in substandard housing conditions (Rowe, 1993). Since the problems defined by the authorities for the inner cities planned to be solved by urban renewal projects, multi-family housing production began to increase in the United States in 1960s. In 1970, 40 percent of the new housing production was multi-family, while it was 22 percent in 1960 (Davis, 1995). Despite the increasing percentage of multi-family apartments in new housing production, suburban production kept its dominant figure.

The government had a marginal role in housing production for middle and low-income groups in United Sates. Although there were exceptional contributions of

public bodies, the majority of the production was carried out by private sector (Tafuri and Del Co, 1976).

However, shortly before the Second World War, in order to overcome the housing shortage, public authorities in *England* began to provide housing on any available site, which could be acquired without worrying about the problems of slum clearance and redevelopment of the central areas (Rowe, 1993). Nevertheless, the production level of housing significantly decreased quickly due to the war. The number of houses and flats built in 1938 was 350,000, while it became 7,000 in 1944, right before the end of the Second World War (Russell, 1981). The most influential policy was the generation of new towns, which were mostly directly provided by the central government in the beginning and by the local authorities in the following applications, as satellite cities in order to decentralize the industry. Initially the idea was generated as an emergency measure before the Second World War, for London due to the high concentration of industry. However, after the Town Planning Act of 1947, new towns became applicable in the whole country under ordinary circumstances. By 1954 about half the population anticipated for the seven new towns around London had been settled into them. The emergence of the image of new towns was slow because of the impression of uncertainty for them in the society (Benevolo, 1960).

Although new towns were projected by the finest planners and architects of England, such as Frederick Gibberd and Berthold Lubetkin, they were based on the principles of the garden city movement. These settlements turned out to be large and fully equipped suburbs and they were criticized for being low-density ghettos with extensive commercial centers. Later on, despite the contrary expectations of public authorities, it was also accepted that they satisfied neither the necessary amount nor the expected efficiency in cost (Tafuri and Del Co, 1976).

Moreover, in England, the supporting approaches of prefabricated housing were dominant after the Second World War. It was expected that serious shortage would only be solved through "the machine" regarding the analogy established between cheap and quick production of goods and housing (Russell, 1981: 235).

Therefore the post-war production of housing was based on prefabrication techniques, which caused many debates on its products and the nature of life in England.

In *Italy*, public subsidies after the Second World War were not successful. Indeed, they played a diminishing role in the provision of housing (Rowe, 1993). The reason was the lack of co-ordination among different levels of public authorities due to the transformation in the city planning system. In the "sector of popular biding", a new body was established in 1949, I.N.A. Casa, which was financed by the tax deducted from the wages of all workers. This organization was concentrated on quality rather than quantity. The main aim was to create a central control on the technical and economical management of all relevant activities. However, its contribution was not sufficient for the time. On the other hand, private sector was in a rapid progress. The lack of city planning control caused the decline of inner cities in addition to degeneration of the whole urban image. By the late 1950s, all cities were surrounded by suburban characteristic settlements (Benevolo, 1960).

Housing production in United Sates and Western Europe after the Second World War was carried by private and public sector together. Governments became involved with or financially supported the suburban developments and urban renewal activities.

4.1.4. PROBLEMS OF HOUSING ENVIRONMENTS

During the massive amount of housing production after the Second World War, it became obvious that something was wrong. High level of housing production in the post-war era led to two types of formation: the spread of suburban settlements mostly for middle-income groups and the increasing population of low-income, disadvantaged groups in inner cities being subject to urban renewal and redevelopment projects (Ellin, 1996).

The industries that had been mobilized for war shifted to high way construction and home appliances production, both of which helped the mass movement of

middle classes to suburbs. This tendency left the central cities mostly to the poor. In order to revitalize the declining inner cities, subsidized urban renewal programs, which caused the replacement of current urban fabric with tower-and-slab housing projects and large cultural and financial districts, dominated (Ellin, 1996). These two types of spatial and social formation initiated the problems of housing for the multitude. Especially urban renewal and redevelopment projects, which were supported and financed by the public sector, were the origins of the problems.

Indeed, these two spatial formations were due to two basic population movements in United States during the post war era. The first was the middle- and upper-income groups moving outside the city centers to suburbs that were distinguished with their low density and large scale developments (Figure 32). As the second relocation, the rural migrants, poor and disadvantaged groups (poor, aged and most often the black people) were moving in to the remaining areas of the central cities (Kaplan, 1973, Newman, 1972). The twenty-two largest cities of United States gained over 2,150,000 non-white residents between 1950 and 1960, while loosing 1,120,000 whites to the suburbs. Therefore, the minorities became the high percentage in the inner cities (Kaplan, 1973). The Federal Government through sufficient financial support and increased construction of highways assisted the shift of middle- and upper-income groups. On the other hand, the problems of the inner cities with their new occupants were obvious and low-income housing programs in addition to public housing projects were provided (Newman, 1972).

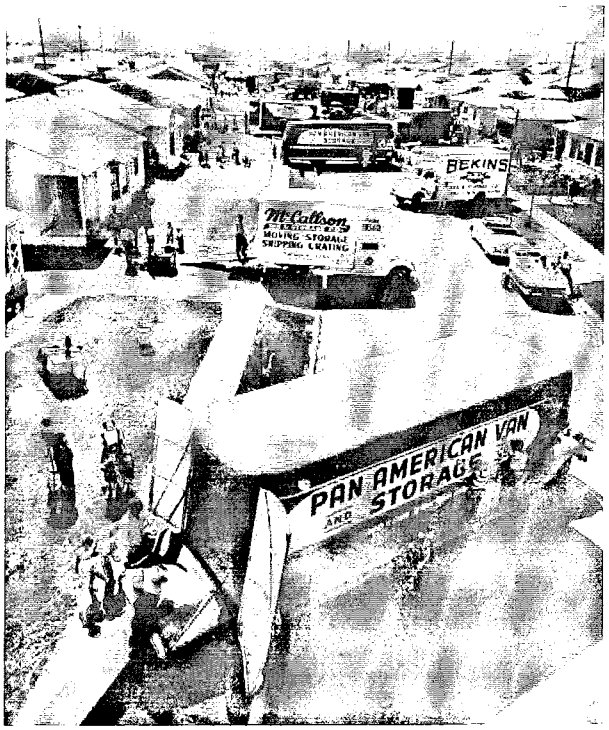


Figure 32. Rapid movement of middle-income groups to suburbs in the US (Rowe, 1993: 26).

However, the urban renewal activities and high-rise housing projects for low-income and disadvantaged groups that were subsidized by the governments led to social problems. In United States, by 1963, urban renewal agency had demolished 243,000 households' houses, including 177,000 families; most of them were poor and black. The clearances allowed for the construction of 20,000 public housing units in addition to inadequate provisions for all the others who were displaced (Hamdi, 1991).

Because of the increased land costs in the inner cities, high-rise apartments were inevitable. Although the high-rise residential buildings were not totally new for United States, they were new for the low- and middle-income groups. Moreover, their scale and management was totally different from the luxurious examples. Therefore, they meant a new life style for the poor and disadvantaged groups causing serious security problems (Newman, 1972).

In Western Europe, since the post war production in inner cities was either oriented towards achieving the pre-war conditions, or aimed not to change at all, the tower-and-slab housing projects were located just outside the city centers,

while the suburban development followed the same orientation as the United States (Ellin, 1996). Despite the slight difference in their location, in the high-rise housing projects security problems occurred in Western Europe as well. Urban renewal and redevelopment projects implemented both in Western Europe and United States were causing reactions in society.

In spite of the problems generated through isolation and imposing new life styles, this type of housing production, which was composed of uniform units in suburbs and high-rise blocks in inner cities, was favored in private sector as it was being encouraged by the public sector. Due to the high levels of housing production, both suburban and urban development took advantage of mass production techniques by building homes almost in an assembly line fashion. As Davis (1995), Russell (1981), Tafuri and Del Co (1976), Hamdi (1991), Rowe (1993) and Ellin (1996) stated, homebuilder Abraham Levitt, whose firm could produce complete thirty houses in one day in 1950s, was the pioneering example for mass production of housing in United States.

The quality of mass produced high-rise housing projects began to be questioned, especially in England after the progressive collapse of one corner of 22-storey Ronan Point due to a loose gas cooker nut on the 18th floor in 1968. The tragedy of Ronan Point increased the reluctance against high-rise local authority housing. Although many authorities continued to build in the same way, they tried to provide the safety of the tenants by strengthening the existing high-rise blocks. In most of the projects the covering panels were removed and extensive repair programs were applied, especially after 1978. However, because of the structural problems these repairs could not provide full security for the tenants of the high-rise blocks (Russell, 1981).

Post-war developments in the United States and in Western Europe destroyed much of the urban heritage. Through urban renewal projects, they caused displacement of people and disruption of communities. Following the major development of suburban settlements and new towns, they increased the social segregation in regional scale. Due to the organizations of new settlements, they diminished the public realm. Through the abuse of mass production techniques,

"environmental insensitivity and aesthetic monotony" were created (Ellin, 1996: 212).

4.2. CONTOURS OF CRISIS

The high production level of housing after the Second World War caused the formation of monotonous housing environments for middle- and low-income groups. In addition to problems generated through segregation and relocation due to suburban developments and urban renewal projects, the traditional meaning of dwelling was lost in this monotonous environment. Moreover, the increasing social decline in high-rise housing environments was one of the major components of the crisis.

Both types of housing, high-rise blocks and low-density suburban settlements were monotonous environments consisting of uniform units designed for average customers. The possession of the living environment became impossible for the inhabitants. Moreover, because of the production method, the houses turned out to be commodities. Besides, most of these high-rise blocks became dangerous places because of the increasing crime rates.

In 1960s grassroots of the societies in both United States and Western Europe were mobilized. Although the member of the groups and the motivators of the riots changed, they had the same ground: the problems of their residential environment.

4.2.1. LOSS OF MEANNING AND INCREASING SOCIAL PROBLEMS

There were two main problems of the existing housing stock in 1960s. First, with the increasing scale of housing projects, uniformity and commodification became the characteristics of the housing practices. The traditional meaning of the house disappeared due to lack of possession in these housing projects resulting personal dissatisfactions (Habraken, 1961). Second, social problems occurred with the isolation of the low-income and disadvantaged groups in terms of

housing. This caused high rates of crime, suicides, use of drugs and infant mortality (Newman, 1972).

Rowe (1993) relates the first group of problems to the increasing housing production. After the Second Wold War, the production rates almost doubled the pre-war levels. However, the procedure for making housing was little changed. With the increasing scale of production due to the increasing need, the production became more abstract and less responsive to the particular local circumstances. Therefore, these practices became increasingly similar and consequently architecturally reduced, socially unresponsive (Rowe, 1993).

Uniformity, as a result of being architecturally reduced, was a dominant characteristic of housing environments (Figure 33). During 1950s and 1960s the concentration of the housing policies, especially in United States, was mainly trying to meet the housing demands of middle-income groups. It is a popular belief that this aim made the assembly line production process reasonable for housing production, which in return became the major tool of producing large-scale monotonous housing environments (Rice, 1979). In this monotonous environment, rows of nearly identical units dominated. Uniformity in housing environments, either in suburban areas or in the high-rise apartments became the major characteristic.

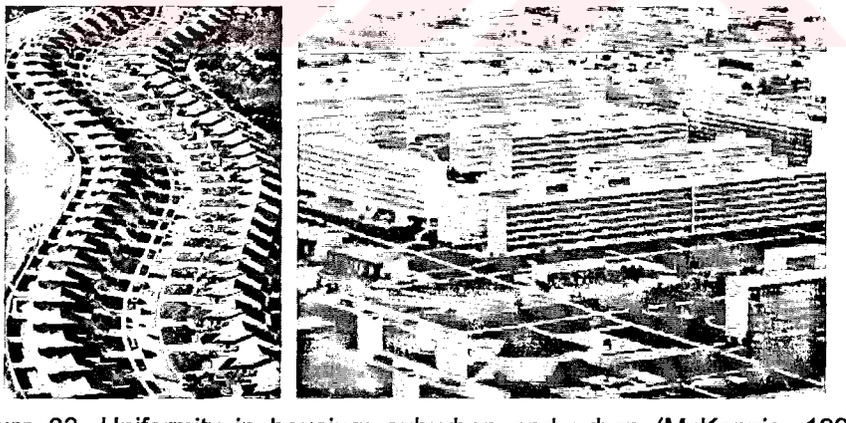


Figure 33. Uniformity in housing: suburban and urban (McKenzie, 1994: cover page; Rowe, 1993: 204).

On the other hand, Habraken (1972) claims that uniformity is not the result of mass production methods, namely assembly line production process. For him, it

is important to distinguish the consequences of the action of the machine and the non-action of man. Action of machine does not necessarily bring the non-action of man. According to Habraken (1972), even if the housing productions were carried out by the most primitive means, the product would carry the symptoms of uniformity as well. Therefore, the problem in housing production methods was the generalization of the users and the representation of them in uniform units. Uniformity "is rigorous exclusion of the action of individual man" (Habraken, 1961: 28).

Although the explanations for the reasons of uniformity vary, the consequences of it are commonly accepted. Since uniformity means the ignorance of the human dimension in housing production, the environment is independent of the people using it. The inhabitants cannot possess their environment in housing environments because they are designed for the average person, whom in fact does not exist at all, and are formed through the replication of this average unit (Habraken, 1961). However, increasing international mobility helped the creation of multicultural mix of urban populations in addition to the individual differences. "The guest workers in Germany and Switzerland, the colonial immigrants in Britain and France, the Hispanic and Asian influxes to the United States, quickly brought with them cultural as well as social differences, many requiring reflection in the shaping of contemporary housing" (Rowe, 1993: 223).

Moreover, the house is an important way of illustration of individual's position in life. It is a "social expression" in one hand, and a "way of establishing individual's ego" on the other (Habraken, 1961: 14). However, both of them were left unsatisfied in housing practices that prevented the dweller to possess the dwelling (Habraken, 1961). In these housing practices there was no way for the inhabitants to influence their environment. They lost touch with it. They had lost the ability to solve their own most basic environmental problems because the whole system was based on the assumption that the inhabitants' roles were merely living in the compelled housing environment (Wates and Knevitt, 1987).

In addition to the problem of uniformity and lack of possession, commodification was another problem in housing practices. It was accepted that dwelling was

nothing but an object to be consumed. Therefore, housing was approached as a functional problem and the dweller was treated as a consumer of a product (Habraken, 1961). Commodification of housing brought increasing levels of home ownership together, especially in United States. Moreover, minimum standards were enhanced through commodification and because of the economic considerations; there was little tolerance for experimentation of new ways of production (Rowe, 1993).

This approach for housing perfectly matched with the speculative builders' aims, which were basically producing commodities in forms of houses. Moreover, housing policies were following the same route (Davis, 1995). Although the underlying aim was rather to minimize the cost than to maximize the profit, producing houses for an average consumer made the production process easier, quicker and cheaper. Therefore, the characteristics of the majority of post-war housing production in public and in private sector emphasize uniformity and commodification.

The peripheral areas and the transition zones, which were closer to the inner cities, became the implementation areas of this kind of housing production in United States and Western Europe forming monotonous housing tracks. The house that was a product and mostly a commodity for the average user, who was assumed to have the same needs and preferences replaced the traditional idea of home.

In addition to the loss of meaning of house, the second problem was the social, spatial and functional isolation of these huge housing projects and consequently increasing social destruction. As Kaplan (1973) mentioned the new inhabitants of the inner cities were increasingly becoming alienated from the mainstream of life in United States, in their substantially over-crowded, decaying and segregated areas of living. Moreover, as Rowe (1993) stated, due to the exaggerations in the scale of housing projects and budget constraints, the space between housing estates became no-man's-land, and was totally neglected. These under defined areas became inhospitable and alienating.

The intention to provide adequate house for every family did not succeeded. Poverty, crime and social destruction increased in housing environments of low-income groups. In United States, especially the transition areas were in the worst conditions in terms of social decline. For example, Chicago's so-called black belt of poverty located in a transition zone between suburbs and the city center was in isolation. Another example was Robert Taylor Homes, which consisted of 4312 dwellings formed by 28 sixteen-storey apartments. Almost all families were below the poverty line and the infant mortality rate was three times of the national average. Columbia Point in Boston, as another example, was built in 1951 under the 1947 Federal Act of low rent housing. The complex consisted of 75 seven-storey apartments occupied by 1500 families. Although the intentions were good and the density was lower than the previous example, the social and physical isolation together with deterioration was inevitable. This project, which is called Harbor Point today, went under substantial redevelopment in order to achieve mixed-income housing but never succeeded (Rowe, 1993).

Newman (1972) claims that the social problems in housing environments were due to the adaptation process of the low-income population to the new life styles. This adaptation process differed according to the building types. For him, the high-rise apartments in inner cities were the places in which crime rates were higher. He states that the overall increasing crime rates and vandalism in inner city housing environments led to the expressions of fear on the part of urban residents resulting in the change of their life styles, such as eliminating going out at nights. However, it was statistically proven that 70 percent of all the recorded crime was taking place in the high-rise buildings. He claims that "the interior of the buildings suffers, from being public in nature and yet hidden from public view and consequently unable to benefit from the continual surveillance to which the public areas of our cities are normally subject" (Newman, 1973: 6).

Pruitt-Igoe, a housing project in St. Louis, was one of the most famous examples of high crime rates and their inevitable consequences. Pruitt-Igoe's fourteen-storey blocks were filled up with mainly the recent immigrants from the rural South, where the population density was fifteen to twenty people per square mile (Wolfe, 1981). It became a national malaise soon after its construction. The area

between buildings remained deserted and the galleries became high crime areas. It was defined by the inhabitants that everywhere, except inside the individual dwelling units, in Pruitt-Igoe was public and nobody's sphere of influence. The overall vacancy rate in the project was 70 percent (Newman, 1973). In order to make Pruitt-Igoe habitable, millions of dollars, commission meetings, and task force projects were expended. Finally, in 1971, a general meeting was called involving everyone still living in the project and they were asked for their suggestions. Wolfe (1981) states that this was an important historic situation for two reasons. First, it was the first time in worker housing history that the workers were asked for their opinions. Second, they wanted the destruction of the project. In July of 1972, the city blew up the three central blocks of Pruitt-Igoe with dynamite (Figure 34) (Wolfe, 1981). Almost every major city in United States has its own example of demolished high-rise housing projects such as Rosen Apartments in Philadelphia and Columbus Homes in Newark (Newman, 1972).

Figure 34. Destruction of Pruitt-Igoe project (Wolfe, 1981: 81).

Although the housing policies went under re-examination and revision, old failures continued. Success of the department that was responsible for building new housing in United States continued to be measured with the number of new dwelling units (Newman, 1972). Almost at the same time that Pruitt-Igoe was demolished, "Oriental Gardens project went up in New Haven, the model city of urban renewal in America" (Wolfe, 1981: 82). The Federal Government's Department of Housing and Urban Development asked the architect to provide the vision of the future housing projects. The Oriental Garden was made of

clusters of prefabricated modules. These modules did not fit well and cracks led the rain and cold inside the units. In September 1980, there were only seventeen tenants left in the project (Wolfe, 1981).

Peripheral areas of Western Europe cities experienced similar problems but with less exaggerated outcomes. During their housing booms, each country constructed rows of multi-storey slab blocks, within which the services and open spaces were not adequately provided (Rowe, 1993). In England, high levels of unemployment, concentration of people with social difficulties, decayed infrastructure, and bad physical conditions were the major problems of inner city housing environments. "The tragedy of mental stress, physical illness, and crime" became unquantifiable (Wates and Knevitt, 1987: 66).

Although the problems were related to the scale of production, the real problem was due to the lack of consideration of the human dimension in the production method. On one hand, there were individual dissatisfactions due to increasing uniformity and commodification, and consequently creation of impersonalized living environments for middle and low-income groups. On the other hand, especially for low-income and disadvantaged groups, there was the security problem due to increasing crime rates in these isolated housing projects. In addition to these problems, the urban renewal projects were uprooting the communities as a legitimized activity. Therefore, social reactions became inevitable in this social and spatial setting.

4.2.2. REACTIONS WITHIN THE SOCIETY

"The rattle of gunfire in the streets of Harlem in 1964 an the incendiary conflagrations that lit the night sky over Watts in the following year heralded the detonation of the social dynamite that had accumulated in American cities, especially in the decades since the World War II" (Erber, 1970: xi). The problem of urban areas became a daily topic for the press and a part of social life.

The decade of 1960s, being a time of social and demographic change, saw many social events that had great impact on housing in United States (Rice, 1979).

Besides the other countries of Western Europe, England was one of the notable countries that experienced the social movements against the social and spatial formation of the urban environment in 1960s. Although Habraken (1972: 25) claimed that "it is the uniformity of modern neighborhoods rather than any other consequence of mass housing which awakens the opposition of the public", there are other explanations, which relate the social movements of 1960s to the increasing practices of urban renewal and redevelopment projects.

Public reacted at inter-group hostility and social dislocation (Erber, 1970). Throughout the second half of the 1960s, various "grassroots mobilizations" ranging from the rent strikes to welfare rights demands and turning out to be fighting against urban renewal activities or highway construction took place in the urban areas of United States . These revolts were against the developments shaping the urban environment for the last fifty years, resulting in the occurrence of various inequities. The massive riots in black ghettos and the community-based struggles were two basic forms of these inner city revolts. However, these movements were taking place in a social upheaval context, which included the social rights movement, the rise of women liberation, the anti-war movement, and the student protests (Sanoff, 2000, Castells, 1983).

The inner cities' revolt came from the pattern of the inner cities that were promoting ethnic segregation, urban poverty, economic discrimination and political alienation. This social movement was very influential in terms of shaking the foundations of American cities (Castells, 1983).

Because of the basic differences of the two forms of social revolt, the ghetto riots and community-based struggles, which occurred in the same place at the same time, it is necessary to examine them separately.

Between 1964 and 1968 there were at least 329 important black riots in 257 American cities, which included 52,000 arrests, 8,000 injuries, and at least 220 killed. These riots did not hope to seize the power because of their limited scales. Their basic aims were related to police brutality, unemployment and housing. As the secondary concern, the representatives of the riots asked for better

education, more recreational facilities, reform in local authorities, and improvement of the living conditions in ghettos. The problems of the ghettos were namely the urban decay, overcrowding and lack of services. Ghettos then turned out to be cities in cities, which had alternative rules of their alternative society (Castells, 1983). According to Rice (1979: 338), the term "ghetto" was being used for "low-income neighborhood with abominable housing". Although the poverty level did not change in ghettos, because of the pressure of these riots on local governments, improvements in education and employment opportunities were achieved to some extent (Castells, 1983).

The riots were taking place, where the black population was large but the income levels were not the lowest, compared to other black ghettos. Thus, although the poverty was the common property of the black ghettos, it was not the basic cause of black revolt. Black riots were basically associated with the large population of black people, who were living in an environment involving "police harassment and undemocratic local government" (Castells, 1983: 52). However, the riots were stimulated by the housing conditions, federal policies leading urban renewal activities and community re-organizations through War on Poverty (Goodman, 1971).

In addition to riots of inner cities, provocative activities of community-based organizations were influential in terms of revolts. Federal Office for Economic Opportunity provided political legitimacy for the organization of social demands of poor neighborhoods through the Community Action Program. Thousands of organizations arose in the central cities (Castells, 1983).

The Community Organization Movement followed different trends in terms of origins of the aims. Four of these mobilizations can be named as the major ones: defense of urban services, politics of production, welfare rights and demands, collective consumption trade unionism. However, in spite of these contradictory aims, they all came from the crisis of the inner city as a social consumption, human interaction and political control (Castells, 1983, Goodman, 1971). Therefore, mostly black people in addition to other ignored groups such as teachers and government employees, religious ministers, and housewives played

the leadership roles in these movements. The institutions of social reform tried to provide a common ground for different groups on the basis neighborhood issues. Nevertheless, two distinct groups of community organization emerged. The first group was composed of black neighborhood associations, which were led by well-educated professionals, ministers, and bureaucrats. They relied on government agencies and churches through their extensive protest activities that tended to cover economic, social and political demands. The second group was composed of neighborhood associations, tenants unions, welfare rights organizations, and civic associations, which included white businessmen, clerks and skilled workers. They were hard to mobilize and their basic concerns were the betterment of housing and public services. They tended to claim participation in the institutions rather than political power (Castells, 1983).

The two major forms of social mobilization were the black people dominated group that claimed overall social protest, and the moderate-income white people dominated group that was against urban decay. Their actions were stimulated through three factors. The first factor was the disruptive effects of urban renewal programs (Goodman, 1971), high levels of migration of black people from southern rural to northern urban and lack of adequate housing opportunities for them in addition to the changing patterns of job structures. The second factor was the establishment of social network through churches, voluntary associations and governmentally supported neighborhood units. The third factor was the influence of the leadership, which was carried out by the educated segment of the disadvantaged groups, the ethnic minority or the poor (Castells, 1983).

The social movements in United States were initiated by the disadvantaged groups as a reaction against the inequities in the social life. Although different range of stimulating factors played role, the movements' common ground was the problems of the urban life, basically in neighborhood scale (Goodman, 1971). However, in England the situation was different because of the Prince of Wales factor, which began to be influential in early 1980s by criticizing the modern architecture and leading the reactions from then on. His influence was based on criticizing the practices of architecture and planning, which were disregarding the

user dimension. Therefore, his major impact was on the development of user-oriented methods in England, especially after 1984 (Wates and Knevitt, 1987).

Nevertheless, the widespread community action of 1960s and early 1970s in England was a response to the prevailing techniques of urban planning and architecture. Comprehensive re-housing and redevelopment programs of central and local government resulted in the wholesale destruction of existing communities. Many forms of voluntary organizations occurred including tenants' associations, residents' groups, and traders' associations in order to protest the situation and defend their homes, their environment. They were sometimes accompanied by some young professionals or architecture students. Occasionally, through their direct action and media manipulation, they were able to halt the bulldozers. Nevertheless, mostly they failed and were ignored. Even in the occasions they succeeded, they were not able to deal with the subsequent events and to prevent the destruction totally (Wates and Knevitt, 1987)

Both in England and in United States the grassroots movements were based on the spatial developments in urban environment which were disregarding them. The high production level of post-war era initiated the conditions of urban renewal activities through the suburban movement of middle-income groups leaving the inner cities to the low-income and disadvantaged groups. In additions to isolation and formation of ghettos in transition areas and in inner cities, because of the lack of personal fulfillment and possession of dwelling activity in these housing environments, the social destruction increased. Therefore, social movements began in 1960s to try to manipulate the environment they are living in. Realizing these problems in society, reactions against the existing method of practice in planning and architecture emerged within the professions as well.

4.3. CRISIS IN PLANNING AND ARCHITECTURE

In the late 1950s and early 1960s first signals of a crisis in architecture and planning began. In United States the crisis was marked by the urban renewal projects, suburban sprawl, the protests of architecture students and the

destruction of Pruitt-Igoe in 1972,which was awarded by National AIA in 1955 for its architectural success (Ellin, 1996).

In Western Europe the crisis was apparent in the massive amount of post-war rebuilding (especially Les Halles in central Paris) and new construction in addition to the closing of Ecole Nationale Superieure des Beaux-Arts (ENSBA) in 1968, which was one of the leading schools of architectural education together with Bauhaus (Ellin, 1996).

On the other hand, with 1960s, planners' intention to understand the city in terms of mathematical models and solve the problems through comprehensive methods began to face counter arguments. These arguments emphasized the importance of revalorization of history, vernacular design, urbanity, mixture of functions, and community with less authoritarian and less ambitious attitudes (Ellin, 1996).

Planners had seen the city as a collection of neat functions in rigid physical dimensions concentrating on the urban form as an abstraction. They ignored the relation of the form of the city to the lives, especially of the black people, the single person, the aged, the divorced, the widowed, in short the disadvantaged (Kaplan, 1973). The generalization of the society, disregarding the differences and minorities became the major mainstream attitude in planning.

However, planners were aware of the urban problems even in the pre-war era and declared these problems publicly. Yet, their awareness and consequently point of criticism, were mainly concentrated on the declining economic function, housing obsolescence, traffic congestion and the deterioration of municipal services. Thus, planners' failure was not to realize that the breakdown was also in social and political forms, specifically in terms of race and poverty. Within their limited power of influence, they dealt with physical problems rather than the people (Erber, 1970).

Jacobs (1961) criticized the practice of planning stating that its result made the built environment composed of low-income projects that became worse centers of vandalism and high crime rates than the slums they were supposed to replace.

Moreover, it created middle-income housing environments that were away from the vitality of city life. She claimed that by solving the traffic problems of the city, the major problems would not be solved by themselves. "Cities have much more intricate economic and social concerns than automobile traffic" (Jacobs, 1961: 7).

Just as indicated by the destruction of Pruitt-Igoe, which was an architectural award winner, due to inevitable social decline and consequently increasing vacancy rate, city planning had practices of rebuilding the slum areas that resulted in worse conditions of living. Furthermore, as it was in architecture, in planning there had been dogmas, which were being implemented independent of the specific local conditions. As Jacobs (1961) mentioned North End in Boston was a clear example of the failure that was generated through the ever-lasting principles of planning. North End was one of the biggest so-called slum areas. Although the conditions of living and physical appearance were gradually improved by the personal attempts and financial support of the inhabitants, and the social statistics proved that the social discrepancies were lower than the overall city rates, the area was designated to be demolished as soon as possible in the late 1950s. The neighborhood was one of the major examples of the city life with all its livelihoodness (Jacobs, 1961). Planning practices ignored the lives of the people living in the projects. Therefore, they failed to promote better conditions of living and social life within the existing method of practice. In 1960s, the emergence of new approaches that were based on involving the inhabitants in the planning became inevitable.

Disregarding human dimension in the built environment was not exclusive for planning practices. All the disciplines dealing with the production of the built environment were facing serious conflicts. While planning practices had increasing amount of failing examples, architecture was also on the edge. The conventional way of practicing architectural profession needed to be re-examined due to serious failures like Pruitt-Igoe and the other resembling examples in United States and Western Europe.

There are several ways to interpret the position of the architect in the failure of Pruitt-Igoe. First, it is possible to condemn the architect for serving the housing

policies and anonymous high-rise building production implied in the policies. Second point of view may see the architecture as a powerless profession, which did best in a situation where misguiding policies were determinant. He was translating public policy into physical form. Third, architect did not know better. The idea of asking the preferences of the prospective users or involving them in the design process "was just not part of the impersonal, patronizing public housing process" (Davis, 1995: 16).

In large- scale projects, the client, who paid for the project and who was often a government agency, was not the client, who would become the actual user. Therefore, the differentiation of paying- client and user- client resulted in the unawareness of the architect about the characteristics of the real users of the projects (Brolin, 1976). Until the late nineteenth century, architectural design was intuitive art, which then replaced by functionalist interpretations of building form. Since 1920s, these interpretations have been labeled as 'architectural determinism', which 'assumes a linear relationship between design of buildings and activities contained therein' (Lawrence, 1987). Between 1919 and 1961 many housing manuals were published, which explain the standard layouts for 'unknown user' (Lawrence, 1987). Therefore, impersonal forms, which were assuming that everyone has the same basic social and physical needs, were accepted (Brolin, 1976).

With the extension of architecture to include housing for all social classes, the users of architect-designed buildings were no longer limited to the clients (or patrons) of architecture. The adaptation of mass production techniques by architecture profession began reshaping the urban environment, ways of life, and ways of thinking, as the mass production of automobile did half a century earlier. However, standardized products of mass production techniques limited both the visual varieties of the built environment and the consumers' choices. Moreover, since the mass production relied upon mass consumption, the preferences, needs and tastes of the consumers were manipulated by the advertising campaigns and financial arrangements (Ellin, 1996).

Furthermore, the adaptation of industrial production in construction industry decreased the autonomy of architecture on the building. The process of construction was divided into more specialization requiring parts, which took the control of the architect in terms of inhibition and innovation. Therefore, it is possible to claim that the industrial production methods were helpful for improvement of the overall standard of living but by sacrificing the freedom of users' choice and architects' expression (Ellin, 1996).

The crisis was also apparent in the protests and manifestations of the students of architecture. They were mostly against the practices or concepts that accept architecture to be work of art. The protests of 1963 in Yale, the manifesto of the students of Columbia University in 1967 were followed by the ENSBA students in 1968 through protesting the architectural practices that were serving the public institutions' and private market's interests. They criticized the existing system of architecture to be totally non-rational and non-scientific. They declared the necessity of social responsiveness and responsibility. In both United States and France the new formations of curriculums were based on the removal of traditional boundaries of disciplines and creation of an interdisciplinary approach including urban sociology, anthropology, environmental studies and cultural geography (Ellin, 1996).

Therefore, Ellin (1996) claims that the crisis in architecture and planning was based on the threat of the industrial production of the built environment. Indeed, for architecture, it was based on the conflicts that while machine was being supported for economic considerations, the style fashion was being kept alive and while a social and political agenda was accepted, architects were still trying to be artists. On the other hand, planning was dealing with the physical issues of the environment, while the problems were rising from the social conflicts.

4.4. CONCLUSION: CONSEQUENCES OF THE CRISIS

The housing production level kept increasing after the war ignoring the importance of human dimension in creation of housing environments. Although the housing production method of the first half of the twentieth century was well

organized and working efficiently, the lack of consideration of social issues led to the crisis.

The population shifts, namely movement of middle-income groups to the suburbs and the low-income groups to the inner cities stimulated the occurrence of the declining conditions, which was represented with high rates of crime. The social destruction became so evident that the housing environments, which caused these social problems, were demolished after the unsuccessful rehabilitation efforts of the governments. The problems were related to the inability of adaptation of rural migrants, who were the assigned inhabitants of these projects, to the new life-styles of the high-rise housing. Consequently lack of possession occurred in these isolated environments of living. On the other hand, commodification and uniformity which were the basic characteristics of housing were identified as problems generating the lack of possession as well.

Although the middle class living in suburbs was not concerned with the declining conditions of the low-income housing (Ellin, 1996), the problem of uniformity and commodification was also relevant for suburban settlements. The dissatisfaction of people in suburbs was not due to the social conditions. Instead, the problem was the incompatibility of uniform housing units produced for average consumer of the subject income level. The housing units did not provide the necessary variation or flexibility for the changing preferences of the individuals. However, these problems of suburban settlements did not generate serious reaction within the middle class.

Therefore, the participants of the inner-city revolts were mostly the low-income, disadvantaged and minority groups. The aims of these revolts varied from community to community. Yet, the common ground was the problems of their living environments in neighborhood scale. Nevertheless, without being organized their achievements seemed to be limited. Thus, only after organizing around the emerging revolutionary approaches in planning and architecture, were new methods of housing production and rehabilitation achieved to incorporate the human dimension into the process.

CHAPTER 5

USER-ORIENTED APPROACHES FOR HOUSING PRODUCTION

After having an overview on the housing production methods of the last two centuries and the problems they generated, it is important to realize that user oriented methods emerged as solutions to social problems. They followed the grassroots movements, which are statements of active citizens willing to participate in the decision-making processes determining their future. Although these movements in different countries concentrated on different issues, it is possible to claim that they effected the attitudes of some planners and architects in addition to the governments. In terms of neighborhood problems, it is possible to generalize these movements as reactions against the missing criteria in the conventional housing production methods: user involvement. Therefore, user oriented methods aimed at reducing the social conflicts by empowering the users.

Following the social movements and criticisms for the methods of practicing planning and architecture, in early 1960s, user oriented methods emerged. These approaches have been labeled by different names in various countries. In addition to the differences in labeling the approach, techniques for involving the user differentiated as well as the scales of the relevant projects. Moreover, the degree and the level of participation caused variations within the user oriented approaches.

The variations in labeling, techniques, or implementation scales prove that the user-oriented methods succeeded as an alternative to the conventional methods

of housing production. Since their success is defined in terms of user satisfaction and improving social conditions, the examples in this chapter are evaluated according to the achievements that these various implementation processes provided with coordination of public institutions, planners and architects, and construction industry.

This chapter is composed of four sections. In the first section the emergence of user-oriented methods is explained in order to put the method in the context of housing production methods. Because of the different origins in different countries, the user-oriented methods were labeled different. Therefore, the explanation of used terminology is necessary to clarify the methods. Furthermore, the legislation covering these issues, which also varied in different countries, is examined in the first section. In the second, third and fourth sections the application of methods in different scales and in numerous countries with various techniques are emphasized as processes.

5.1. EMERGENCE OF USER ORIENTED APPROACHES

Although, during the progress, different stimulators initialized new techniques, the emergence of the user-oriented methods was based on the grassroots movements in 1960s, which are explained in the previous chapter. In the United Sates and Western Europe, the protests needed to be organized in order to achieve the objectives. Some architects, planners and sociologists worked with the communities to organize them, either individually or by being involved in a non-profit organization. Due to the success of pioneering examples, soon they achieved governmental support.

The policies to ease the participation of the local citizens either provided financial support or legitimized the community groups' existence. The legislation in two influential countries, the United States and England, are mentioned for their impact on the growing number of implementations of user-oriented methods in both countries.

Because of the high dependency of the methods on the specific local, economic, and administrative circumstances there are various approaches and labels to categorize the existing practices. Before examining the examples it is necessary to have an overview on the terminology in order to clarify the processes in the examples.

5.1.1. ORIGINS OF USER ORIENTED APPROACHES

In the United Sates, the community-based struggles of 1960s were related to civil rights movement, rise of women liberation, and challenges of alternative cultures. Before the formation of social reform known as War on Poverty and legitimization by the provision of the Community Action Program, these social movements were not organized. Later on, even though the neighborhood units of these grassroots organizations emerged, they did not share common goals. Therefore, their achievements were limited. However, Alinsky model of community organization tried to organize urban protest (Castells, 1983).

Saul Alinsky, a sociologist, started his career as a neighborhood organizer in Chicago in 1936. During the thirties, he tried to organize meatpacking workers in order to help them to improve their living conditions. In addition to living conditions, Alinsky also aimed at increasing the influence of labor unions among them. He was funded by the Catholic Church. After his successful contributions in organizing the Mexican-American labor movement in California, he started a private institute of his own in mid-fifties in Chicago: Industrial Areas Foundation (IAF). Until his death in 1972, he tested his method by using IAF as an organizational tool (Castells, 1983).

Alinsky (1971) claimed that his viewpoint was based on the belief that people have the desire to change the world. In order to achieve this aim the only way was to be organized. He mentioned that his book, Rules for Radicals, was for the people who shared this belief. For him, the power of the poor and disadvantaged people lied in their standing and organizational capacity. "Alinsky believed in pluralism, government accountability, local autonomy and widespread citizen participation" (Sanoff, 2000: 2). The main problem of the existing system was the

lack of interest of public institutions in people's preferences due to bureaucratization, centralization and manipulation of information.

In Alinsky's model, the organizer should be called, invited and paid by the community. The organizer should leave the community as soon as the organization and the leadership were established. Since the organizer was a facilitator and educator in a self-help effort, he/she should not be a part of the movement (Sanoff, 2000). In Alinsky's experiences the church, as a traditional form of popular organization in the United States, was the initiator of the activities (Sanoff, 2000, Castells, 1983).

The most important weakness of the Alinsky-inspired community organizations was that in some instances community control was not achieved because they could not be multi-ethnic. When they were multi-ethnic, the different ethic groups fought each other. Moreover, most of these organizations were not able to achieve community control. Instead, they were absorbed into the management programs they were supposed to control. However, these organizations successfully represented the diversity of neighborhood interests (Sanoff, 2000, Castells, 1983).

While Alinsky model was dealing directly with working with communities, Davidoff questioned the planning practices, which failed to provide the formulation of alternatives by the interest groups that will be eventually effected by the completed plans. He stated that the grassroots movements proved the necessity of planning practices involving all groups in society, particularly low-income families to discuss the political and social values (Davidoff, 1965). Being a planner and a lawyer, he challenged planners to become advocates of participatory democracy in order to overcome poverty and racism (Sanoff, 2000).

Influenced by Davidoff's advocacy planning model, design and planning professionals questioned the conventional practices. The practitioners who aimed at fighting against urban redevelopment and advocating for the rights of poor citizens established Community Design Centers. These design centers aimed at providing planning, architecture and development services to emerging civic

organizations or established community based development corporations. The services provided by Community Design Centers can be grouped in three (Sanoff, 2000: 5):

- "comprehensive, participatory and strategic planning
- technical assistance in selection and financing of development projects, and
- advocacy and support for acquisition and management of housing and community facilities"

Community Design Centers that were representatives of community economic development movement moved from grassroots activities to serving for community building and development. Due to the economic and political pressures of 1980s, most of these design centers remained project based. These non-profit corporations are organized by an administrator through a local AIA chapter and supported by Community Development Block Grants in addition to sources of funding to facilitate voluntarism. There were more comprehensible community design practices, which were carried out by centers promoting community-based control of local projects (Sanoff, 2000).

Although the Community Design Centers were providing assistance, the community should be asking for help. Therefore, the idea of "community building" that states the necessity for residents to take the control of their destiny and that of their communities was important. The primary objective was building social capital with the central role of residents in decision-making processes. Due to their central role they would feel that they own the process and they would move away from being dependent. It was believed that residents were more realistic in problem definition and solution recommendation than the professionals. Since the process required face-to-face interaction among the residents, community building had to take place at neighborhood level (Sanoff, 2000).

Following the grassroots movements of 1960s, Alinsky model, Davidoff's advocacy planning proposal and emergence of Community Design Centers with

community building efforts, in United States, the user oriented approaches were seeded. On the other hand, in England, the emergence of community architecture followed the developments in the United States after the riots of 1960s, in terms of objections from both within and outside the professions against the consequences of the dominant type of interventions on the built environment. According to Wates and Knevitt (1987), in the sixties, when communities began to protest about the destruction of their environments outside of their control, the movement started in England. It was accepted that "the environment works better if the people who live, work and play in it are actively involved in its creation and management" (Wates and Knevitt, 1987: 18). In the seventies, these protesting groups began to establish links with professionals, who were willing to provide technical assistance in order to transform protests into positive proposals. New enabling schemes were initiated by professional institutes and voluntary organizations. Because of the increasing number of successful practices in early eighties the movement gained confidence. In the mid-eighties politicians and financial institutions empowered the movement with their support. Decentralization programs by local authorities and a variety of partnership programs involving the public sector with developers and financial institutions were established and activated (Wates and Knevitt, 1987).

Although the occurrence of professional organizations providing technical aid to the communities resembles to the formation of Community Design Centers, and the struggles against dominant professional viewpoints and housing policies were similar to the ones in the United States, the movement was influenced by a different power in England. Namely, support from Prince Charles for community architecture and his objection against modern architecture was a strong impact on the empowerment of the movement.

In 1984, Prince Charles stated his disappointment in the practices of architecture and planning, which "ignored the feelings and wishes of the mass ordinary people" in the 150th anniversary celebrations of the Royal Institute of British Architects (Wates and Knevitt, 1987: 19). He emphasized his hope for the future developments based on community architecture. Moreover, he continued his support by visiting more than a dozen community architecture projects and

inviting community architects to private dinners. Soon, the community architecture projects began to find funding and approval form authorities easier. The most able politician and propagandist architect of the movement, Rod Hackney, became the member of Royal Institute of British Architects to be its next president (Wates and Knevitt, 1987). This was the declaration of the success of the community architecture movement in England.

Therefore, the concept of providing technical assistance to people in order to make them in control of the developments in their environment emerged following the social protests and social decline in 1960s in United States and in England. On the other hand, in the Netherlands, Habraken's criticisms on mass housing led to the development of user involvement in housing production. The singular situation of the Netherlands, with 85 percent of the housing subsidized and 60 percent of all housing rented, increased the absence of user-control in housing production (Carp, 1984). Within this highly subsidized structure of housing production, the high-density row houses and apartment blocks were built for a few categories of people, such as single workers, families of different sizes, the elderly, and the students (Van der Werf, 1984). However, the objections did not come from the grassroots. On the contrary, establishment of SAR (Stichting Architecten Research) in 1965 by Habraken, an architect, aiming at returning the user control on housing design and production influenced many architects in the Netherlands to accept the importance of user control (Hatch, 1984).

SAR's emphasis was on the design of prefabricated in-fill components and the new forms of high-density residential structures, which would satisfy the preferences of heterogeneous populations with its endless variety (Hatch, 1984). Habraken (1961) proposed "support structures" as an alternative to the conventional mass housing production method. He distinguished the realm of the community and the realm of the individual. Support structure was the realm of the community, composed of the slabs and staircases. The in-fills were the realm of individuals, who would come up with different houses for their own in-fill space in the support structure. He proposed that the construction of the support structure was the responsibility of the public authorities, whereas the construction of each in-fill space was the responsibility of the individuals, who were assumed to hire

different architects for their own in-fill spaces (Habraken, 1961). However, during application processes, instead of hiring different architects, individual in-fill spaces were filled by the users themselves or the same architect who designed the support structure with participating prospective users.

Although Habraken had already proposed a framework in his book, it needed to be specified. Images were produced to see what buildings would look like when their initiation, design and production involved users. Subdivision of a support structure into different dwelling types to suit future occupants and creation of individuals' own floor plans needed to be clarified in order to provide desired flexibility. A number of studies were carried out and the final method was called SAR 65. With the involvement of builders, material suppliers, developers, planners and consulting engineers in SAR, it found wide range of implementation. Later on, in 1973, members of SAR wanted to involve urban scale as well as building. "Like the dwelling plan giving the form for the rooms and the Support plan giving the form for the group of dwellings, the (urban) tissue plan gives form to the housing site and the city district" (Carp, 1984: 25). Despite several implementations of principles of SAR in urban scale, it was not as influential as it was in building scale.

Both Habraken and Turner applied participation principles in their proposals for establishing the relationship between the built environment and its users. However, Habraken believed that user participation helps designers to serve public efficiently. Turner searched for means by which governments, NGO's and building industry enabled people to plan, build and manage their own environment (Hamdi, 1991).

An organized approach to housing the poor has been referred to as self-build. As one of the advocates of self-determination, Turner (1972) stated that people having control on design decisions, construction and management of their housing was influential on their social well being. "When people have no control over nor responsibility for key decisions in the housing process, dwelling environments may became a barrier to personal fulfillment and a burden on economy" (Fichter, Turner and Grenell, 1972: 241). Because of the institutional

attitudes imposing standard housing plans for all types of users, alternative housing systems emerged in many parts of the world. They covered wide range of applications, changing from well-constructed middle-income housing to poor-constructed low-income housing (Sanoff, 2000). Two notable routes can be traced originated from self-build production of housing concept. One of them is the cohousing approach, originally appeared in Denmark and later applied in the Netherlands and Sweden. The other is self-build rehabilitation projects.

As a part of communal living experiences, however, inspired by practical rather than religious or ideological concerns, cohousing began as a grassroots movement due to people's dissatisfaction with existing housing choices. Other communal living experiences such as the one in Kibbutz, and Cristiania in Denmark were based on religious and ideological concerns. Cohousing experiences were initiated in Denmark as a form of cooperative movement (Sanoff, 2000). Originally, cohousing communities, as a representation of late twentieth century life, were formed in private dwellings for households, who shared the common facilities. The cohousing concept emerged as a desire of some middle-income groups to share the responsibility of raising children and the difficulties of working parents (McCamant and Durrett, 1988). In most of the cohousing developments, despite the technical assistance of an architect the sites were built by the community itself.

On the other hand, self-build developments also found applications in rehabilitation and rebuilding projects. The communities, which were subjects of the urban renewal or redevelopment projects, were organized to come up with the solutions to prevent the destruction of their housing environments and the displacement. Their activities were based on self-build rehabilitation of their housing environments.

Excluding the emergence of SAR in the Netherlands, in general, the user-oriented approaches were initiated following the grassroots movements in different countries. However, the support of the legislative activities also played an important role in the spread of the use of these methods.

5.1.2. SUPPORTING HOUSING POLICIES

Although the user-oriented methods were initiated mostly through grassroots movements, their continuation and wide-range implementation became possible through the related legislation and funds provided by them. The tow countries, the United States and England are mentioned for their legislation processes because of their influence on the implementation processes of user-oriented methods, which are exemplified in the next section.

In the United States, federal programs of the 1960s, such as Community Action Program and Model Cities, encouraged the participation of citizens in improvement programs. With these programs, people, outside the professions were allowed to make decisions about the planning and financing (Sanoff, 2000). With the Model Cities Program of 1967-1973, citizens were given the right to participate in policy making (Hamdi, 1991). Indeed, this program was activated by the Demonstration Cities and Metropolitan Development Act of 1966. The act authorized grants and technical assistance to help communities to participate in the planning and implementation processes (Rice, 1979)

However, citizen participation was being supported since the Administrative Procedures Act of 1946, when "minimum standards for openness in decision making process in federal agencies" were set (Shirvani, 1985: 54). The Freedom of Information Act of 1966 and the National Environmental Policy Act of 1969 extended this intention (Davis, 1995, Shirvani, 1985). Moreover, the stimulus of the Office of Neighborhood Development as a part of Department of Housing and Urban Development in addition to the passage of Economic Opportunity Act in 1964 enhanced the role of grassroots organization and advocacy networks in economic terms (Sanoff, 2000).

The grassroots organizations pioneered some successful implementations of the concept. Architectural Renewal Committee in Harlem in 1963 fought a proposal of freeway passing through Manhattan. Asian Neighborhood Design, founded in 1973, still provides professional architectural and planning service for housing

and community development with about $4 million annual budget in Chinatown of San Francisco (Sanoff, 2000).

In England, participation was institutionalized first in 1956, primitively. After the Second World War, the attempts to involve people in planning decisions led to the formation of legislation in 1956, which ensured the public hearings of the plans. However, practically, public hearings were available to the middle class and educated. The problem of these public hearings was that it was necessary to use telephones and typewriters. Moreover, it required free time in working hours. Besides, when people have time, education and access to the plans, their objections were treated in a way that they were the ones in trial. Mostly, they were not taken into account (Hamdi, 1991).

In 1968 the Town and Country Planning Act brought the requirement that before the approval of the plans, the public must be adequately informed and consulted. In the following year, world's first government report on public participation was prepared under the name of Skeffington Report: People and Planning. The report advocated more public participation in the whole planning process (Wates and Knevitt, 1987).

The real change in England came with the Housing Act of 1969, which enable people to be involved in the process before the final plans were prepared (Hamdi, 1991, Wates and Knevitt, 1987). The act was stimulated by the influence of the urban protests and by the tendency to shift from redevelopment to rehabilitation policies because of the increasing amount of socially destructive high-rise estates produced by using failing industrialized building systems (Hamdi, 1991). This act encouraged the rehabilitation activities, in which participation was easier, rather than wholesale demolition and replacement (Wates and Knevitt, 1987). In 1974, the government designated several improvement areas (General Improvement and Housing Action Areas) and funded these improvement programs, by making it available to also individual owners (Hamdi, 1991, Wates and Knevitt, 1987). For the local authorities it was impossible to ignore the residents in these projects. Consequently, numerous projects, in which architects and planners worked with people, and financial support was provided by the local authorities, were

successfully implemented. The pioneering projects of improvement programs were the Project Assist (1972) in Glasgow, Covent Garden in London, and the Black Road general improvement area No.1 in Macclesfield (1968-1975) (Hamdi, 1991).

During 1970s, in England, a growth in official public participation was observed. In 1970, following Ralph Erskine's Byker project and Walter Segal's timber frame houses, Lewisham Council accepted to experiment with a number of self-build houses. PSSHAK projects in Satmford Hill in 1972, and in Adelide Road in 1978 were the two of the famous examples of official public participation. Moreover, in 1978, Bromley Council allocated tenants their own architects to design houses (Hamdi, 1991).

After having an overview on the origins of the user-oriented methods and the supportive legislation it is obvious that the terminology used in countries varied in addition to different labels used for the same concept in the same country. Moreover, the techniques to involve human dimension in housing production process have a wide-range of variations. Therefore, it is necessary to distinguish the different concepts and classify them according to their viewpoints.

5.1.3. THE TERMINOLOGY AND CLASSIFICATION

The classifications of techniques to involve human dimension in the formation process of built environment are done concerning two grounds of differentiation. The first type of classification is based on the interplay between the user and the designer. The second is the scale of the applied technique. In this study, both types are considered in order to clarify the applications of user-oriented methods.

In his classification Hamdi (1991) defines two paradigms to distinguish all the user-oriented methods form the conventional ones. For him, all the user-oriented approaches used in housing production are covered with the label support paradigm, while the conventional type of housing production is implied by provider paradigm. Therefore, the classification of user-oriented methods is under the support paradigm.

Sanoff (2000: ix) claims that the term "community design" is an umbrella term covering community planning, community architecture, social architecture, community development, and community participation, all of which emphasize the involvement of local people in the social and physical development of the environment they are living in. Similarly, Francis (1983: 14) defines "community design" receiving different labels such as social architecture, social design and architecture for people, yet meaning the same concept.

However, Wates and Knevitt (1987: 17) state that the term "community architecture" embraces community planning, community design, community development and other forms of community technical aid. For them, community architecture is the name used in England, while social architecture is used for the same concept in the United States. For Hatch (1984: 7) "social architecture", in a broad sense, aims to create critical consciousness among citizens. Furthermore, Hamdi (1991: 75) claims that "community participation" is the term covering all the scales and techniques, which refer to the processes involving professionals, families, community groups, government officials in shaping the environment. Therefore, the most comprehensive terms covering all the user-oriented approaches are community design, community architecture, social architecture, and community participation.

Shirvani (1985) distinguishes the two types of approaches in the overall scheme: facilitation approaches and political activist roles. For him, facilitation approaches use participatory methods for both problem definition and design solution generation through design assistance techniques. Sanoff (2000: 38) defines facilitation as "a means of bringing people together to determine what they wish to do and helping them find ways to work together in deciding how to do it". In Wulz's (1986) continuum, which is composed of seven stages of participation ranging between full autonomy of the professionals and the full autonomy of the users, facilitation approach term, as it is defined by Shirvani (1985) and Sanoff (2000), covers the fourth, fifth, sixth and the seventh stages.

The stages of Wulz's (1986) continuum are representation, questionnaire, regionalism, dialogue, alternative, co-decision, and self-decision. In the

representation architecture, the architect reflects his personal and subjective interpretation of user and there is no participation in this stage.

Second, in questionnaire architecture, statistical data for population's requirements is gathered in order to state the general characteristics of anonymous user (Wulz, 1986). Thus, in this stage there is passive participation through questionnaires.

The third stage, regionalism, puts an emphasis on the historical and cultural heritages of the specific localities and collects data from the local population about inhabitants' preferences on architectural expression, symbols, forms, and spatial behavior (Wulz, 1986). Regarding the second stage, regionalism is more open to participation because it deals with the local population, not the whole.

The fourth form of participation, dialogue, is based on the informal conversations between the architect and the users. In dialogue, there are two types of information flow: from architect to users about his/her proposal and from users to architects about their recommendations on the proposal in an early stage of the design (Wulz, 1986). Since the architect keeps the final decision making to himself/herself, participation in dialogue is limited.

The fifth stage, alternative participation gives the local residents the chance to choose among the alternatives prepared by the architect in a fixed frame. The participation level, although increased compared to the previous stages, is still limited (Wulz, 1986). Since the architects are the ones who prepare the alternatives, all the alternatives may be wrong in users' perspectives. Moreover, because of the voting system, the minorities are left out of the choices from the beginning.

In the sixth stage, participation as co-decision aims at achieving direct and active involvement of users through the whole design process. In the previous five stages the architect has decisive influence in the design process. Different from them, in this stage, the users are allowed to involve actively in the design process as decision-makers (Wulz, 1986).

The participation scale is full in the seventh stage, self-decision, in which the user controls the whole design and construction processes. The architect influences the choice of site, structural and service system (Wulz, 1986).

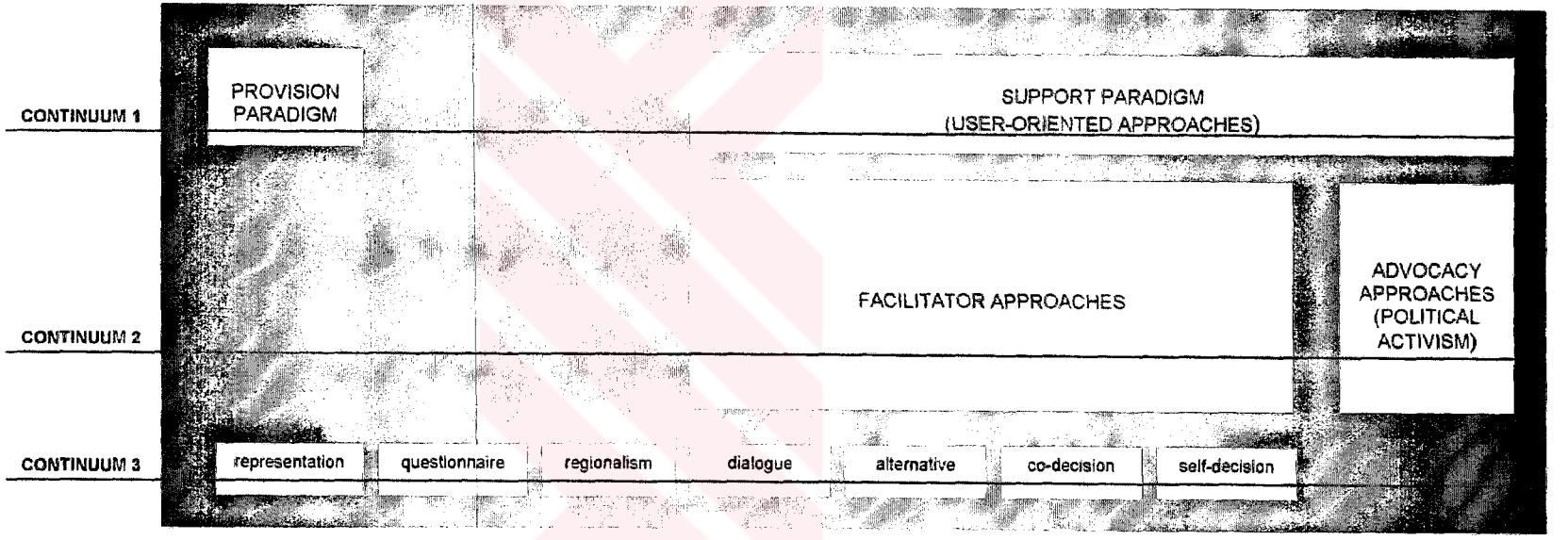
The facilitator approach covers the fourth, fifth, sixth and the seventh stages of Wulz's continuum. In Facilitator approach the aim is to make the users aware of the alternatives by using different techniques such as questionnaire and rating mechanisms, training and use of graphic communication, and use of various simulation techniques. The extent that architect is involved, in facilitation approach, varies according to the specific situations. This definition of facilitation approach also matches with the social architecture definition of Hatch (1984). He claims that social architecture is in-between. It avoids the idealistic utopias and encourages the generation of alternatives by using the information received from the user.

As the second distinction in the overall scheme, political activist role is explained as advocacy approach by Shirvani (1985). Since the aim is to organize, and politically activate the disadvantaged groups in society in order to involve them in the planning process, it is possible to locate Alinsky model in advocacy approach. Moreover, Davidoff's advocacy planning approaches fit in this context as well. Although the explanations of Sanoff and Francis for the term "community design" overlaps, their historical roots explanations differ. Different from Sanoff, Francis (1983) claims that "community design" emerged in the 1980s, while "participatory design" has its historical roots in the civil rights and advocacy planning era of 1960s. On the other hand, Sanoff (2000) states that "community design" has its roots from the grassroots protests of 1960s. Therefore, Francis' definition of "participatory design" stands under advocacy approaches of Shirvani and "community design" can be located under facilitation approaches. However, for Sanoff, "community design" is the term covering both types: facilitation and advocacy approaches.

Because of the variety of labels and different explanations for the same labels, in this study the term user-oriented methods are preferred in order to cover all techniques and scales of design approaches involving human dimension. Three

continuums are used to explain the differences among the approaches. The first continuum, which is based on the classification of Hamdi, has provision paradigm on the one extreme and the support paradigm on the other. Support paradigms are labeled as user-oriented approaches and the second continuum, which is based on the definition of Shirvani, is defined under this heading. Through this continuum the two ends are determined as the facilitator approaches and the advocacy approaches. The third continuum, is Wulz' explanation of interplay between the users and the designer. The user participation level increases through out the continuum from representation, which is also the extreme end of provision paradigm, to the self-decision stage. By superimposing the different classifications of the approaches a final categorization is obtained explaining the positions of the user-oriented approaches, which are exemplified in the following sections (Table 1).

Table 1. Categorization of different approaches to user-oriented methods.



5.2. INVOLVING HUMAN DIMENSION IN DWELLING UNIT DESIGN

The first scale of user-oriented methods to be discussed in housing production is the group of techniques applied during the production of individual dwelling units. Although in the examined techniques the units are always a part of housing projects, the reason that they are classified as dwelling unit design is the user participation takes place in the dwelling unit design level.

In dwelling unit scale, three types are examined. These three categories, namely the adaptable housing production process, the SAR-inspired processes, and the self-build production process of housing are formed regarding the technique to involve users in the design and construction processes.

5.2.1. ADAPTABLE HOUSING PRODUCTION PROCESS

In the first type, labeled as adaptable housing production technique, the dwelling units are designed and constructed before the dwellers were determined. However, the flexible design of the dwellings enables the users to modify the interior and designate the needed functions to different spaces by manipulating the movable walls or to some degree by enlarging the unit. Therefore, in adaptable housing, the interaction between the user and the dwelling starts after the user moves in.

Herman Hertzberger (1984) argues that the architects are obliged to serve for the establishment of the reciprocal possession between the dwelling and its user. For him, the most important thing is to eliminate the alienation of people from their environments and from each other. In order to increase the interaction between the dweller and the dwelling, the dwellers should be allowed to possess their dwelling. This may be possible only when they are involved in the creation of their living environment. Since he claims that the form is less important than the interior for possession, it is the interior that users shape by using the flexible elements of the house designed by the architect. According to Hatch (1984), Hertzberger's viewpoint is against involving the users directly in the design process.

One of the best examples of adaptable housing was built in Delft, the Netherlands in 1974 as Diagoon Houses. Hertzberger implemented his views about flexibility of housing in this project as an experiment. The houses were designed as an attempt to get away from the stereotypes that dominated the housing production. In principle, the houses are always incomplete because they provided freedom in terms of possibilities that could be exploited when the user began to use them (Hertzberger, 1984).

The houses were located as low-rise, row housing groups (Figure 35). Each Diagoon house consisted of two fixed cores, with a number of floors differing in height by half a storey forming the living units. The floors were designed to provide the opportunity of being divisible (Figure 36). All the rooms were located to form a balcony looking to the common living hall, which had the whole unit's height (Figure 37). There were gardens and terraces to be personalized by the dwellers (Figure 38). Moreover, neighborhood relations were based on these exterior parts and remained to the preference of the dwellers (Hertzberger, 1984).

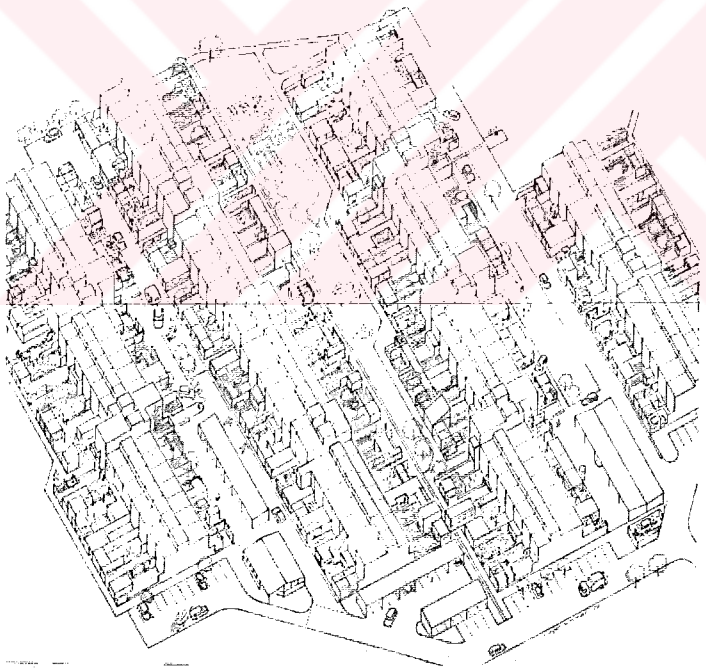


Figure 35. Diagoon houses: axonometric view (Hatch, 1984: 12).

Figure 36. Diagoon houses: alternate uses of various levels (Hatch, 1984: 15).

Figure 37. Diagoon houses: an interior view (Hatch, 1984: 16).

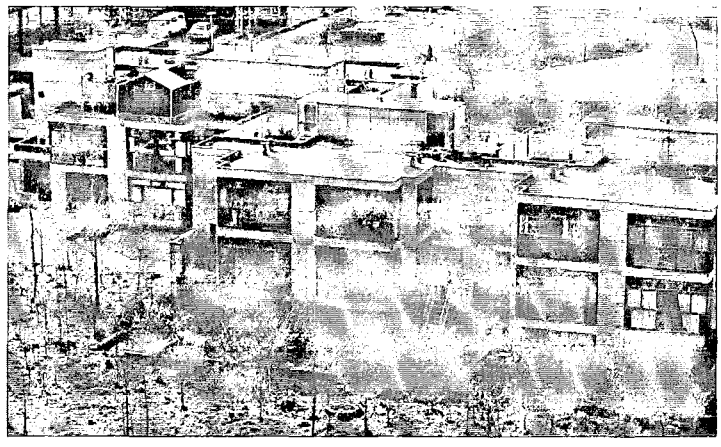


Figure 38. Diagoon houses: a view after occupancy (Hatch, 1984: 18).

The dwellers stated in an interview done by one of the national newspapers after ten years of occupation that in general they were satisfied with the project. However, the project was criticized because of its high building costs. The families who bought houses in this project were all above the moderate-income level. Furthermore, the number of houses was not sufficient to make generalizations out of this project. Nevertheless, Hertzberger (1984) claimed that Diagoon Houses Project was a successful experiment as an alternative to the conventional housing production methods.

5.2.2. SAR-INSPIRED HOUSING PRODUCTION PROCESS

The second technique for involving users in dwelling unit design and construction processes is the SAR-inspired housing production. The origins of SAR have already been explained in section 5.1.1 as an organization encouraging in-fill for the individual dwelling design units in a comprehensive support structure. The support structure has been interpreted in several ways, such as neighborhood clusters, terrace housing groups but mostly high-rise buildings. Compared to the adaptable housing, the role of the architect is different in SAR-inspired projects. Although the position of the architect varies in different applications, in general throughout the in-fill process of each individual dwelling unit, architect and the user is in interaction in order to design the unit. However, in adaptable housing the designer provides flexibility for the future users' preferences by designing the whole unit without any interaction with the user.

As the initiator of the SAR, Habraken stated that one of the best implementations of the SAR principles is the Molenvliet housing complex in Papendrecht (Figure 39), the Netherlands, built by Frans van der Werf, and completed in 1978 (Hatch, 1984). Similar to the attempt of Hertzberger explained in the previous example, in this project, the architect Van der Werf aimed to provide an alternative method for housing production in the Netherlands. In Molenvliet project, four levels were defined based on SAR principles of urban tissue. The first level was the overall plan determining the building sites, the major circulation system and the green areas. In the second level, the building zones and open spaces were planned. The third level was planning of the Supports themselves. In the fourth part the in-

fill units, mechanical equipment, and facade elements were designed with the prospective dwellers (Van der Werf, 1984).

Figure 39. Molenvliet housing complex: architect's original rendering (Hatch, 1984: 28).

The concept of the Support was established as duplex apartments stacked up to the four-storey height (which was the maximum permission of local building laws) with small gardens for ground floor units and large terraces for those above, and pitched roofs meaning home in the Netherlands (Figure 40). Moreover, the material to be used in Support was decided. Since the remaining design principles for individual dwellings were left to be generated with the dwellers, only the prefabricated elements were brought to the site as in-fill assembly kit (Van der Werf, 1984). Van der Werf worked personally with each prospective tenant family on the interior planning (Figure 41) (Hatch, 1984).

Figure 40. Molenvliet housing complex. Left: the "support"; Right: the preparation of "in-fill kits" (Hatch, 1984: 333).

Figure 41. Molenvliet housing complex: architect participating with prospective users in the design process (Hatch, 1984: 34).

In order to fulfill the requirements of the subsidy and to maximize it, the architect prepared all the plans of individual dwelling units showing the economically optimal organizations of the dwellings. However these plans were not implemented because of the nature of the project, which was based on the principle of user participation in the design and construction process. Therefore, the fourth level, in-fill, was designed by the dwellers (Van der Werf, 1984).

Since the project was subsidized, the government, basing on the need and the length of time on the waiting list, determined the prospective users. Although the users were all tenants they were the ones who designed their dwellings following the first meetings about the general principles of the project rents, services and management (Van der Werf, 1984). After the project was inhabited by the dwellers (Figure 42), according to the sociologist Ans Gotink (1984), the success was obvious in the high-levels of satisfaction of the users.

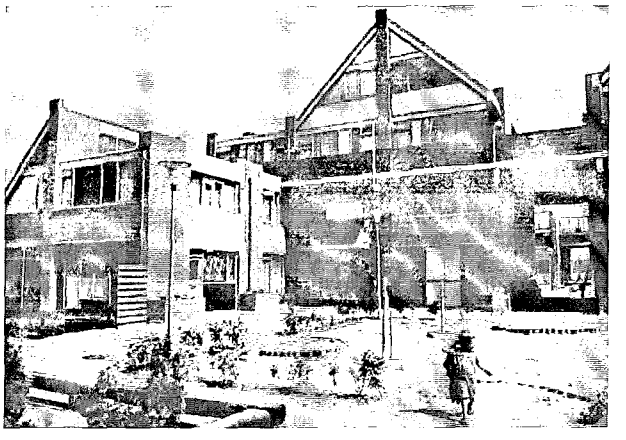


Figure 42. Molenvliet housing complex: after occupation (Hatch, 1984: 37).

Being one of the most famous examples of SAR-inspired methods, Adelaide Road-PSSHAK (Primary Support Structures and Housing Assembly Kits) Project built in 1979 in London needs to be explained.

PSSHAK was originally a thesis project of Nabeel Hamdi and Nick Wilkinson at the Architectural Association School of Architecture in London. Hamdi took the principles of SAR, namely permanent support structure and prefabricated in-fill parts kit to the Greater Council of London. In spite of the bureaucratic constraints of the Greater London Council, Hamdi was able to provide freedom to the prospective users to participate in the design of their individual units (Hatch, 1984).

In the PSSHAK-Adelaide Road Project, consisting of 45-units, the intention was to test the principles of SAR. The principles of the PSSHAK were based on "the separation of the building structure from the internal space dividing elements of the dwelling units" (Hamdi, 1984: 51). The failure or the success of the test was dependent of the degree of active participation of the prospective users.

Participation occurred in two levels clarifying the limits. The prospective users were invited in 12-people groups. The principles of the project were explained and the basic management issues such as heating system, parking, and pets were decided. Since in principle, support structure was supposed to be under public control, the users' preferences were not directly implemented. However, on the second level, the tenants were handed out handbooks and manuals (Figure

43) to help them in drawing the plans. After two weeks tenants submitted their plans (Figure 44) and these plans were checked against the practical criteria: the location of bathrooms, service elements and mostly the scale (Figure 45). Workshops, done by a team of the architect, kit manufacturer, and the representative of the Housing Department of Greater London Council, with each family followed this submission in order to clarify the plans. After these site workshops, tenants were given about a month to change their minds about the issues in the dwelling plans. Then, the final plans were drawn up on the basis, which kits were calculated and ordered (Figure 46). Soon the in-fills were constructed (Figure 47) (Hamdi, 1984).

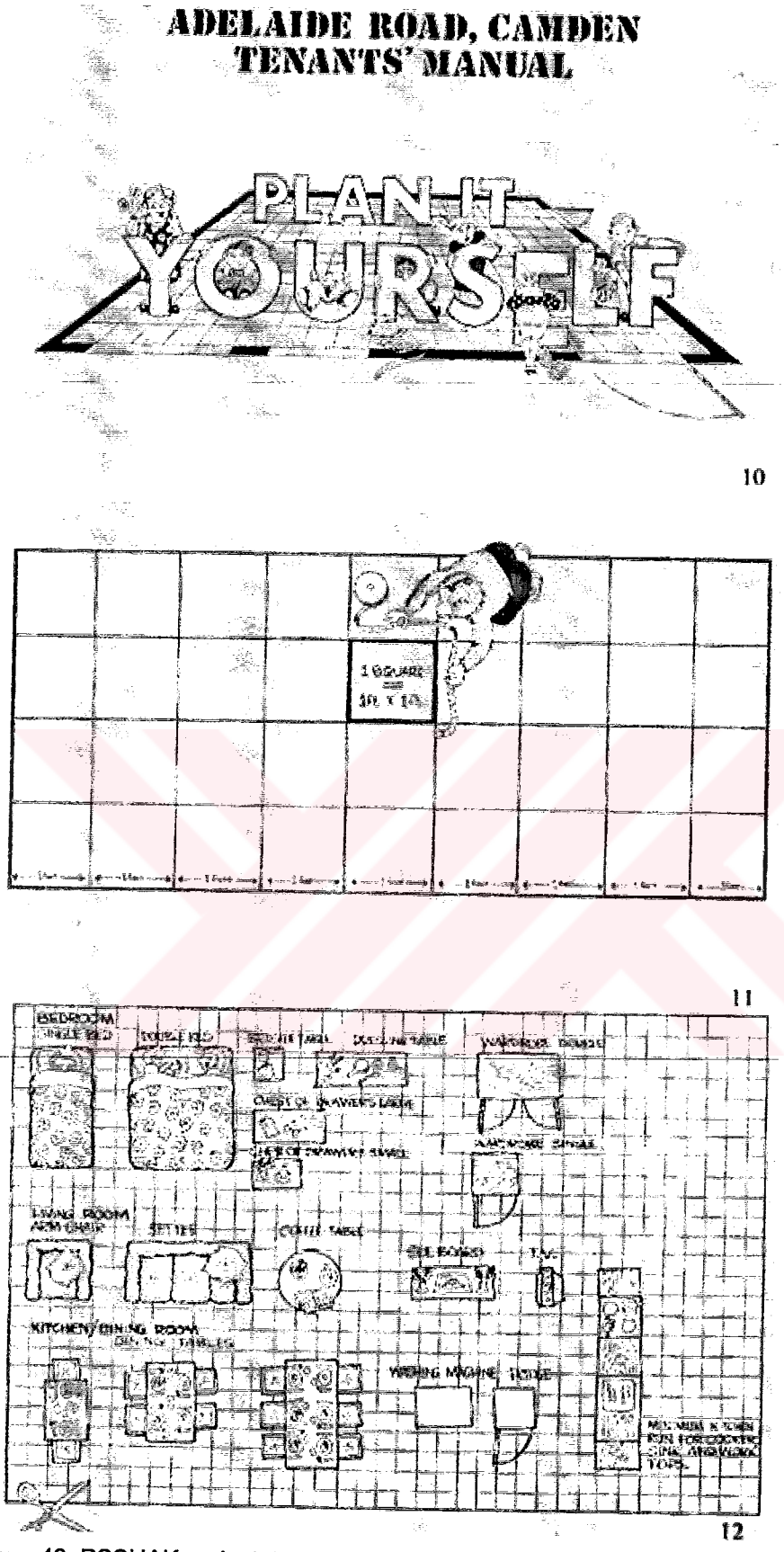


Figure 43. PSSHAK project: tenants' manual. (Hatch, 1984: 56).

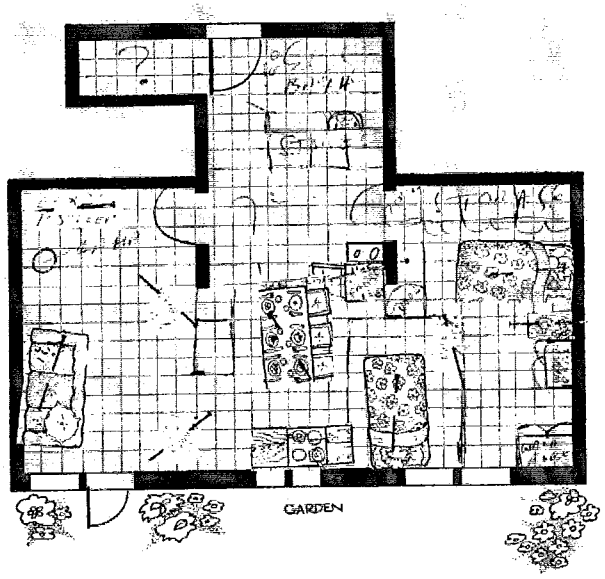


Figure 44. PSSHAK project: an example of a preliminary layout prepared by prospective users (Hatch, 1984: 57).

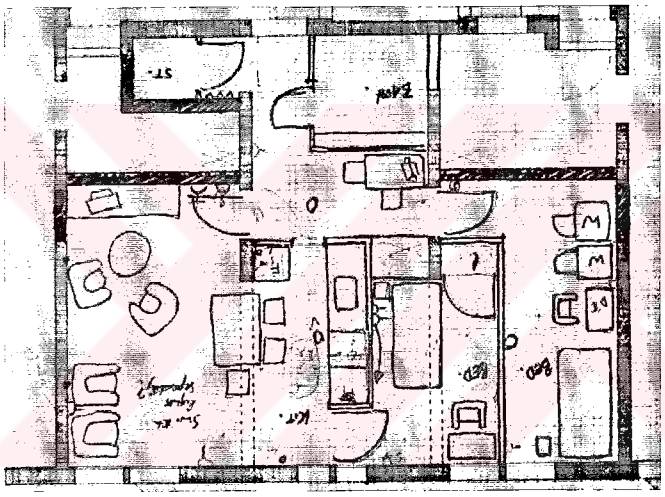


Figure 45. PSSHAK project: refined version of the previous layout in figure 44, after the meeting with the architect (Hatch, 1984: 59).

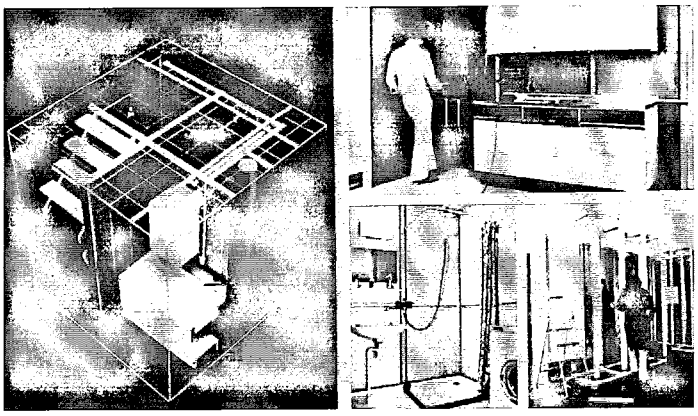


Figure 46. PSSHAK project: elements of the "assembly kit" (Hatch, 1984: 54).

Figure 47. PSSHAK project: after occupation (Hatch, 1984: 53).

Similar to Molenvliet Project, in PSSHAK-Adelaide Road project, the architect had drawn fake plans before the process of interaction between the architect and the tenants began in order to maximize the subsidy. Moreover, since the project was subsidized, the tenants were selected from the waiting list of the Greater London Council. After the inhabitation, the users were all more satisfied with their dwelling units compared to the previous Council Housing units (Hamdi, 1984). However, during the participation process, most of the problems were generated because of the lack of familiarity of the users with the architectural drawing and the scale. Therefore, the families, who were involved in design of their dwelling

units after the first group moved in and the support completed, were more conscious about the scale of the space they needed and drew in the plan. Besides, the architect of the project, Hamdi criticizes the process for being concerned with the technical aspects of prefabricated assembly kit rather than dealing with social organization in the project (Hatch, 1984).

The last example of the SAR-inspired method of housing production is from France in order to emphasize that the success or failure of the implementation of these principles are highly dependent on the context, the country. Although the Les Marelles Project was also based on the principles of SAR, the interpretations varied about its success in France.

Les Marelles Project was designed by its architect, Georges Maurios, in 1974 as a shell to be sold by square meter (Figure 48) (Hatch, 1984), based on the hypotheses that the future inhabitants were capable of making concrete plans of their dwellings with the support and the technical assistance of the architect (Maurios, 1984).

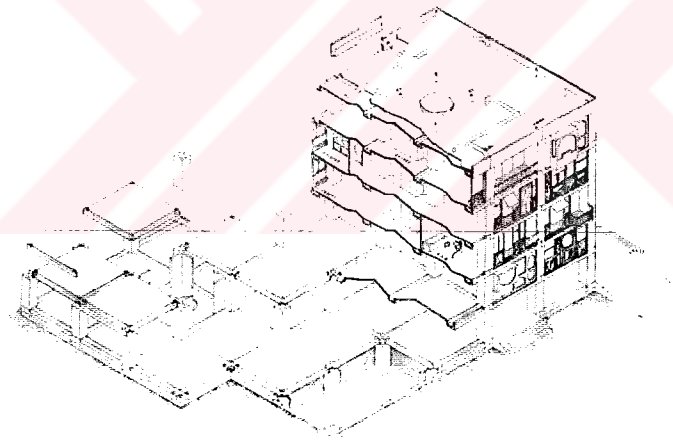


Figure 48. Les Marelles project: axonometric rendering (Hatch, 1984: 64).

Les Marelles project was located in one of the suburban settlements of Paris as a condominium of three and four-storeys height. There were 33 terraces for upper levels and private gardens for all ground levels. The floor space to be constructed was for the range of dwellings between 70 and 104 m2s, which would be

determined in time by the preferences of the users for their individual dwellings' floor space (Figure 49) (Maurios, 1984).

Figure 49. Les Marelles project: the "support" (Hatch, 1984: 67).

The financial support was provided by the special interest rates offered by a state-supported housing bank, Credit Foncier. There were two constraints of the financial support of the project. First, the overall cost of the project, including the

participatory levels, should be within the cost guidelines of the bank. Second, in order to take advantage of this special loan interest of the bank, the purchasers of the units had to be in a certain income level, which in return excluded poor and wealthy people in the project. Therefore, the sizes of the dwelling units were very similar due to the similar purchasing power of the inhabitants (Maurios, 1984).

In addition to financial constraints, there were problems about the legal structure of the condominium housing production. The unit was not completely sold until the construction was finished. Thus, it was possible for the participants to leave the project at any level they wanted before the payment was done, without any responsibility of the sections already constructed for them (Maurios, 1984).

Although the project was finished (Figure 50) and the inhabitants stated their satisfaction with the dwelling units of which they felt all the responsibility, there were several failures of the project. The experimentation of providing freedom to the users in order to achieve variety did not work. The users were out of the constraints of architects or builders, yet their design choices resembled the regular apartment unit plans (Maurios, 1984). The reason of this failure may be the similar income ranges of the families and the resembling experiences of the previous dwellings of the inhabitants.

Figure 50. Les Marelles project: after occupation (Hatch, 1984: 70).

Moreover, as Coit (1984) mentioned, this experiment-project was not an attempt for the housing problem of France. On the contrary the working class of the country would not prefer to be agglomerated in the suburban areas within condominiums. Therefore, it is possible to claim that SAR-inspired projects may

be successful in the relevant contexts. This is also the reason why SAR-inspired projects had not been implemented in the United States.

Furthermore, the participation of the prospective dwellers in the design of the dwelling unit needs to be clarified in terms of the ownership of the interchangeable parts. In the applications of rental form of housing, it is confusing for the financial supporter, public authorities, and the tenants. Besides, Wasserman (1984) claims that regarding the experimental projects such as Molenvliet, PSSHAK-Adelaide and Les Marselles, it is not possible to generalize the conclusions because all the projects were small scale and their budgets were higher than the average. Therefore, it is possible that the high levels of satisfaction of the users are not related to the use of industrialized building techniques and materials. Simply, it may be because of the better quality of living in these projects because of their high budgets. Nevertheless, these three projects are the pioneering examples of SAR-inspired methods. It is obvious that in countries, where legislation and financial structure are convenient, the applications can reach a higher variety of income levels, and the method can become a serious alternative for the conventional production method of housing.

5.2.3. SELF-BUILD HOUSING PRODUCTION PROCESS

The principles of SAR were also criticized by John F. C. Turner (1984), who is an advocate of self-build production of housing units. His argument is that personal responsibility of the users cannot be achieved unless they are actively involved in the construction process, not only the design process. Besides, the problem of SAR-inspired projects, lack of choice for the location is eliminated in self-build projects.

In this section the self-build technique for involving users in dwelling unit design and construction processes is classified under two headings: rehabilitation projects and re-use projects. The well-known example of rehabilitation carried by users is the Black Road Project in Macclesfield, England. The re-use projects through self-build are exemplified by the Harlem Project in New York as an example in the United Sates.

The Black Road project in Macclesfield was initiated by the inhabitants as an opposition to the decision of the local government to demolish the existing houses for a large-scale redevelopment project in 1972 (Hatch, 1984, Wates and Knevitt, 1987). Three hundred red-brick terraced houses were built in the nineteenth century for textile workers and their conditions were out of the standards, namely the bathrooms were not proper, many were in poor state of repair (Figure 51) (Wates and Knevitt, 1987). The inhabitants asked one of the residents an architect, Rod Hackney, for assistance (Hatch, 1984). After the inhabitants submitted a technical report proving that some of the properties were still in good conditions and the social argument cannot be ignored, they convinced the local Council to be involved in the General Improvement Area in order to be funded by the government. One of the most important of their standing point was the existence of 1969 Housing Act, which encouraged the cooperation between the residents and local authority (Hackney, 1984).

Figure 51. The Black Road project: a view from the project area prior to rehabilitation (Hatch, 1984: 96).

With the support of the local authority sufficient financial support was provided for different groups of residents in the area. The inhabitants shared the work, which had to be done for rehabilitation with the assistance of Rod Hackney, the resident architect.

Sixty-one homes were rehabilitated in the next three years. By 1985 Black Road had become a prestigious place for academics, professionals, politicians, and community groups (Figure 52) (Wates and Knevitt, 1987). After Black Road Project, Rod Hackney has organized similar improvement schemes in other parts

of Macclesfield, and in Birmingham, Cleator Moor, Millom, and Carlisle in England. Soon he became the president of Royal Institute of British Architects.

Figure 52. The Black Road project: views from the site after rehabilitation (Hatch, 1984: 101).

Despite its success, Hackney's approach was criticized claiming that it aimed at preserving status quo and helping the poor to administer their own property. Moreover, it was stated that generalizing the experiences of Hackney was impossible (Hatch, 1984) considering the special conditions of legislation and local governments' positive attitude for user involvement in England.

After the self-build project of rehabilitation, the re-use approach is exemplified by the Harlem project, in New York. In the project a group of residents in Harlem acquired a pair of abandoned tenements and turned them into individualized apartments, collective services, and a mosque, finished in 1978 (Figure 53) (Hatch, 1984). It took over four years from project conception to initial occupancy. The project was funded by two local government agencies in addition to three different bank institutions. Moreover, in several ways, five other support organizations were involved. However, only fourteen units were created in this project (Laven, 1984). The high dependency on the government loans is the most important problem of self-build projects because the tendency to provide loans for self-build housing production has been decreasing. Furthermore due to the complexity of financial support structure, it is not possible to generalize this project in different countries.

Figure 53. Harlem project, New York: the self-build construction process (Hatch, 1984: 109).

The three types of techniques to involve users in the various or all stages of dwelling unit design and construction in housing production, namely the

adaptable housing production, the SAR-inspired techniques and the self-build techniques are mostly concentrated on the individual families and their satisfaction. However, in the next scale the concentration is mostly on participation of people as a community in the production of their clusters or multi-unit structures.

5.3. INVOLVING HUMAN DIMENSION IN DESIGN OF CLUSTERS AND MULTI-UNIT STRUCTURES

In this scale the structures for multi-unit dwellings and clusters are discussed. Different from the previous scale, the dwelling unit, the primary aim is to involve the users as communities in the design and sometimes construction processes, so that their preferences become realized not only in their individual dwelling units but also in the communal spaces of the projects. Therefore, in this scale the role of architect in creating a community is crucial. Yet, sometimes already established communities ask for such assistance as well. On the other hand, in some examples, the involvement of the whole community in the design process is required by the local authorities. It is possible to claim that in this scale the participation is in community level in small clusters and in multi-unit structures.

5.3.1. COMMUNAL HOUSING PRODUCTION PROCESS

Community housing is mostly known as cohousing and therefore the majority of the explanation is based on cohousing principles. However, there are groups of people looking for different lifestyles than they have in big cites, just as in definition of cohousing, yet do not call themselves as parts of cohousing movement. It is known as self-managed housing. Therefore, communal housing examples are grouped in two: cohousing, and self-managed housing,

In cohousing developments people are intended to share common facilities, such as a kitchen, a dining hall, children's playrooms, workshops, guestrooms, and laundry facilities. In Denmark, they range in size from six to forty households, with the majority between 15 and 33 dwelling units. Because of their success, the

number of cohousing applications increased and in 1993 more than 140 communities had been built in Denmark (McCamant and Durrett, 1988).

There are four common characteristics of cohousing developments: the participatory process, the intentional neighborhood relations' design, the extensive common facilities, and the complete resident management. In cohousing, residents participate from the earliest planning stages through construction. Because of the desire to live in a cohousing community, residents want to be involved in the construction and the projects are mostly initiated by the communities. The number of participants in the planning and development processes varies from project to project. Often, a core group of six to twelve families initiates the process by establishing the development plan, finding the site and hiring the architect. Then this group seeks other interested people. Sometimes, a larger group initiates the process. Yet, through the development process some families leave the projects. It is typical for cohousing developments to have all the units rented or sold before the project finished. Although in most of the examples the community is actively involved in the construction process, in some cases, the resident group collaborates with a non-profit housing association or a private developer. However, even in those projects, the residents make all the major decisions (McCamant and Durrett, 1988).

Neighborhood atmosphere is achieved through physical characteristics, which lead to the creation of casual meetings, such as pedestrian oriented environment including tables and benches around (Figure 54). Common facilities take place in the communal house, which consists of different facilities depending on the special interests of the residents. However, a big kitchen and nursery or children's playrooms are common features in communal houses (Figure 55). Resident management is one of the crucial characteristics of the cohousing developments (McCamant and Durrett, 1988).

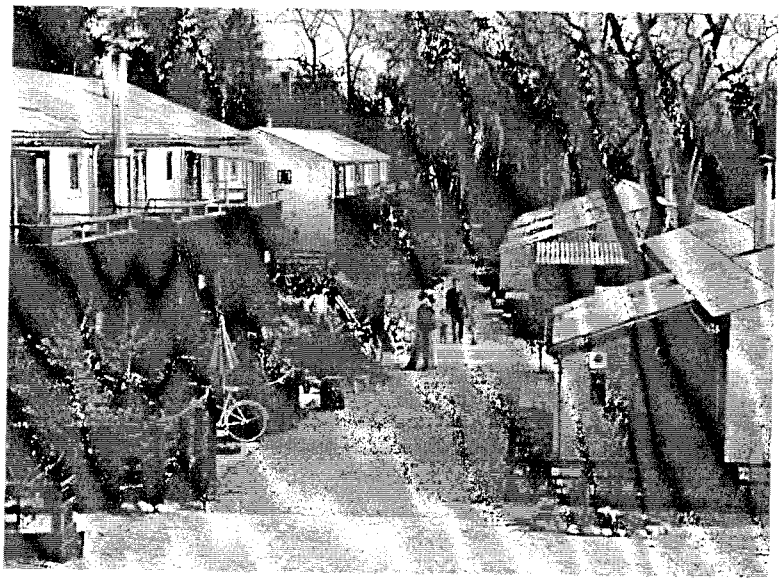


Figure 54. A pedestrian alley view from a typical cohousing project (McCamant and Durrett, 1988: 41).

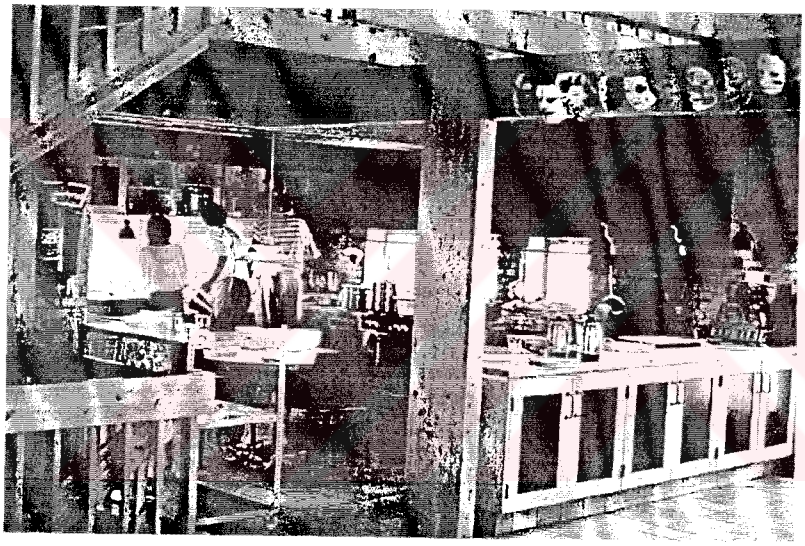


Figure 55. A typical communal kitchen in a cohousing project (McCamant and Durrett, 1988: 43).

Locations of the cohousing developments are determined by the availability of the affordable sites. Most of the developments take place just outside the metropolitan areas because of their convenience in being within a reasonable distance from the schools, jobs and urban attractions. However, there are a few applications of cohousing also in rural areas and in inner-cities (McCamant and Durrett, 1988).

Although different types of financing and ownership, such as privately owned condominiums, limited equity cooperatives, and rentals owned by nonprofit organizations, occur in cohousing developments, different from cooperatives or condominiums, cohousing is not defined based on the ownership types. On the contrary, the basic claim is the alternative life style (McCamant and Durrett, 1988).

The unconventional nature of the cohousing developments causes several problems. Oppositions of planning commissions and neighborhood associations because of the prejudices about cohousing movement, assuming that the project would decrease the value of the property by attracting different people is a typical problem. Moreover, zoning laws and building codes create problems, due to the characteristics of the communal house, which is inevitable in a cohousing project. On the other hand, usually the regulations of banks about housing loans are suspicious about the cohousing developments (McCamant and Durrett, 1988).

The first cohousing community was built in 1972 in Denmark by a group of families who wanted a greater sense of community than they had in suburban or apartment units. This group met with architect Jan Gudmand-Hoyer to discuss the advantages of living together. Few of them agreed to buy a site and implement their ideal living style. They decided that the development should be designed to encourage community activities. In spite of many difficulties they experienced about site and financing, they succeeded to build 33 individually owned houses and a community center in an area named Skraplanet near Copenhagen. The similar individual units and the communal building were built on the south slope of the site. Direct access to each unit from the common areas, paths and open squares was provided. Moreover, the living room of the each unit was located to have a view of the communal areas to encourage the spontaneous meeting within the community. The community center contained a nursery school, a hobby workshop, a bar, a meeting room, and an arrangement for the school-age children (Sanoff, 2000).

The first implementation of cohousing principles was followed by variety of developments in Denmark, France, Germany, Sweden, and the United States.

The first American cohousing development was finished in 1991 in Davis, California: Arlington Farm carrying all the characteristics of Danish cohousing developments, such as low-rise attached housing clustered, a centrally located separate common house, and parking at the periphery of the site (Figure 56) (Sanoff, 2000).

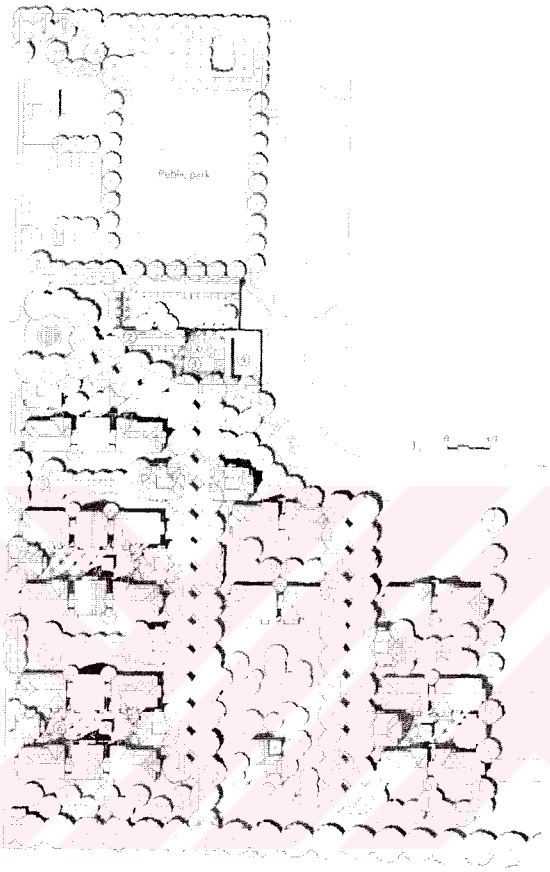


Figure 56. Arlington Farm cohousing project: site plan (Davis, 1995: 42).

As the second type of communal housing, self-managed housing applications resemble the cohousing developments in essence. However, self-managed housing emerged independently. The movement started in 1977 at a national meeting organized by a group of students and architects at the school of architecture in Nantes. There were six groups that had already built housing for themselves. After their second meeting in 1978 they formally established MHGA (Mouvement de l'Habitat Groupe Autogere). The aim was to take control of the design and management of the collective habitat (Prinz, 1984).

As a part of MHGA, Le Dumeril group found the appropriate land with buildings (Figure 57) and fixed the number of the families. There were two graphic designers and an architect in the group of residents. After finding a bank, which would provide loan with the same interest rate to every family independent of their income, the site with several constructions on it was purchased. Then the families were asked for lists of their needs and expectations. Because of the financial difficulties, it was decided to keep the limits of the project within the existing construction on the site. The facade and individual dwelling interiors were discussed among the group in detail to come up with final decisions. At the end of long wait for the building permit, in 1979 the contractor began the work in the way that the group designed. The contractor built the plumbing, kitchens, bathrooms, heat and electricity in addition to the common facilities. The rest was finished by the members of the group for their individual dwellings (Figure 58) (Prinz, 1984).

Figure 57. Le Dumeril project: a view from the initial conditions of the purchased site (Hatch, 1984: 146).

Figure 58. Le Dumeril project: construction by tenants (Hatch, 1984: 149).

Both cohousing and self-managed housing were formed to create physical environments to support an alternative lifestyle, which was against the individualism and alienation in the big cities. Besides the construction of the dwellings, its planning and management in a common sense helped the empowerment of sense of community. Therefore, it is important to mention that in the applications of this scale individuals are aware of the importance of

community and their choices are to live a common life. The assistance of architects in the project was not only technical but also social.

5.3.2. PRODUCTION PROCESS OF MULTI-UNIT STRUCTURES FOR COMMUNITIES

The last type of techniques to involve users in the design of a community-shared environment is practiced in multi-unit structures. Two examples are examined for this type in order to clarify the various roles of architects in design and construction processes of multi-unit structures for communities. In both examples the communities were already formed. However, in the first example, Ralph Erskine's Byker Project, the implementation of the process involved architect in a relatively dominant scale. Some of the major decisions were made by Ralph Erskine excluding the participants. The second project, Lucien Kroll's UCL Zone Sociale Project, was based on higher degree of user involvement.

Byker Project, in Newcastle-upon-Tyne, is one of the most famous examples of community involvement in the design process in public housing. The success of the project mainly comes from the positive conditions generated due to the exceptional political circumstances, which occurred in England at that time (Wates and Knevitt, 1987). In 1968 Ralph Erskine, an Anglo-Swedish architect, was asked to rebuild a slum neighborhood of over two thousand dwellings in the district of Byker (Wates and Knevitt, 1987, Hatch, 1984). Erskine's first respond to the Newcastle-upon-Tyne Metropolitan District Housing Committee was that he would review the situation in the district and prepare a plan proposal (plan of intent). If the residents of Byker district approved the intentions in this plan and agreed to replace the city to be his primary client, he would proceed. The plan of intent, including several principles based on user participation to maintain traditional values, and to build an integrated environment with pedestrian connections, was accepted by the community (Hatch, 1984). Vernon Gracie, an architect who had worked with Erskine in earlier projects and agreed to live in Byker joined the project team. All components of the design team, including several other architects and landscape architects, together with representatives of Housing Committee worked on site in an office, an unused funeral parlor

(Figure 59) (Rowe, 1993, Hatch, 1984). With its perfectly open character, soon the office became a part of daily life in the district. The architects convinced the public authority to allocate dwelling units before they were designed so that families would be involved in the whole design process (Hatch, 1984). The population in Byker consisted of typical working class people, working in the surrounding industries standing there since the nineteenth century (Figure 60) (Rowe, 1993, Hatch, 1984, Gracie, 1984).

Figure 59. Byker project: the old funeral parlor used as an office by the design team (Rowe, 1993: 237).

Figure 60. Byker area before the implementation of project (Hatch, 1984: 188).

An important issue in this project was a planned motorway passing by the site (Figure 61). In order to prevent the disturbance of the motorway, “the wall” idea was brought by Erskine, which became one of the major design principles. Although the motorway was never built, and replaced by a subway, “the wall” idea was implemented (Rowe, 1993, Hatch, 1984). The project was composed of three major forms: predominant low-rise development, perimeter block and the link blocks between the two types (Figure 62). “The wall” became the perimeter block with its 3000 feet length, constituting 15 percent of the project’s dwelling units. The eight-storey perimeter block appears from the subway side as a continuous curvilinear wall with small windows of bathrooms, kitchens, and stairways (Figure 63). However, the other side, with generous balconies and use of level differences, becomes the part of the site (Figure 64) (Rowe, 1993).

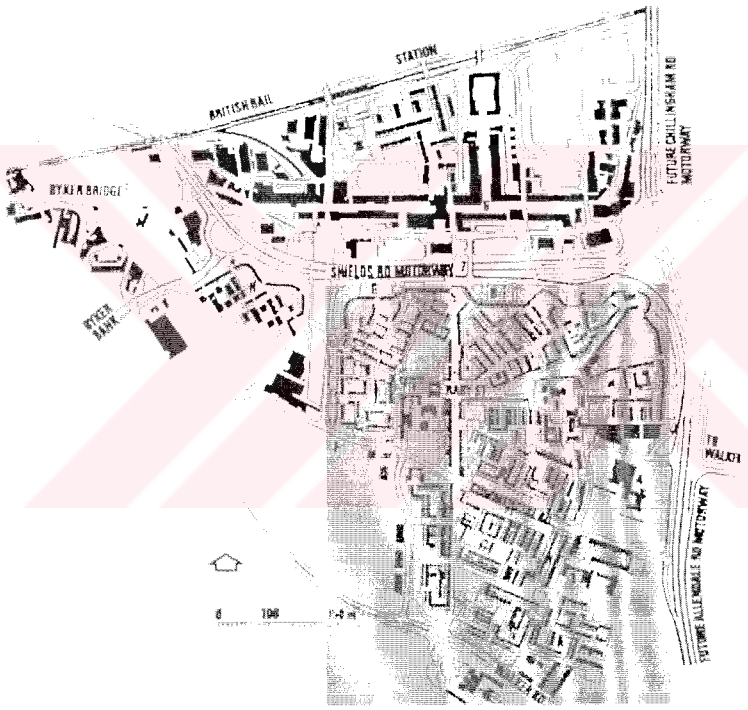


Figure 61. An early plan of Byker project, also showing the proposed motorway (Rowe, 1993: 235). The shaded area depicts the project site.

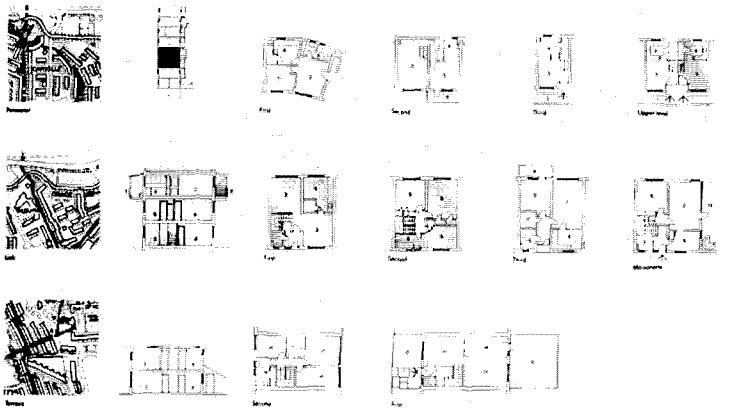


Figure 62. Byker project: house types (Rowe, 1993: 239).

Figure 63. Byker project: the perimeter block from the subway side (Hatch, 1984: 190).

Figure 64. Byker project: a view from the perimeter block's inner side elevation (Hatch, 1984: 191).

The low-rise housing was arranged in linear rows of dwellings terraced into the steeper slopes and grouped around courtyards on flatter areas (Rowe, 1993). The orientation of housing rows was planned according to the preferences of the

residents in Byker. During the interaction between the residents and the architects it became obvious that they had problems with the existing housing in the district because of their northerly orientation and location by the steep slopes. Therefore, the design team considered southerly orientation for solar advantages and tried to eliminate steep slopes for ease of pedestrian circulation (Erskine, 1984).

The four- and five-storey link blocks were located in an area, where the low-rise units ended and the perimeter block started (Figure 65). They shared the circulation with the perimeter block through stairs, bridges and elevators and helped to reduce the high-rise effect of the block by providing gradual decrease in the height and linkages to the open spaces from the block. The facades resemble the block's facade in terms of irregular appearance (Figure 66) (Rowe, 1993).

Figure 65. Byker project: an axonometric view of perimeter block and link blocks (Rowe, 1993: 239).

Figure 66. Byker project: a view from the link blocks (Rowe, 1993: 242).

According to the evaluations, 90 percent of the residents are satisfied with their housing units and the outdoor spaces. However, some management problems occurred due to low rate of ownership, which was six percent. Moreover, decisions about allocation of elderly people, who constitute a considerable amount of the population, caused dissatisfaction among them because of being agglomerated in certain locations (Gracie, 1984). However, in general, Byker Project is a success story.

Although the overall scheme was developed on the principle of participation of the residents and in most of the phases this aim was achieved, some of the major design principles were brought by the design team, such as "the wall". The next example, Lucien Kroll's Zone Sociale Project, in Brussels, put an emphasis on the dominant character of user decision about the design.

Zone Sociale Project was initiated in 1968 as a dormitory and a metro station project of Catholic University of Louvain Medical School. Before Lucien Kroll was asked by the students to carry out the project, it was planned to be a dormitory following the dominating character of the medical school building, which was extremely ordered. After the opposition of students against the proposal that classified the students and agglomerated them in groups in formal geometry, the university officials approved the architect they found, Lucien Kroll, who would emphasize the participants' control over the design (Hatch, 1984).

Kroll (1984: 167) claims “a great number of diverse intentions could come together to create an urban landscape, which is more like a growing thing- spontaneous, colorful, involved- than any formal geometry”. With his overt intention he began working with students either in organized meetings or in informal conversations. The university officials fired Kroll, when the initial implementations began to appear, accusing him to be anarchist (Figure 67) (Hatch, 1984). Kroll (1984: 167) calls his anti-authoritarian, anarchical architecture as “anarchitecture”. However, the officials of the university were compelled to hire Kroll again due to the protests among students.

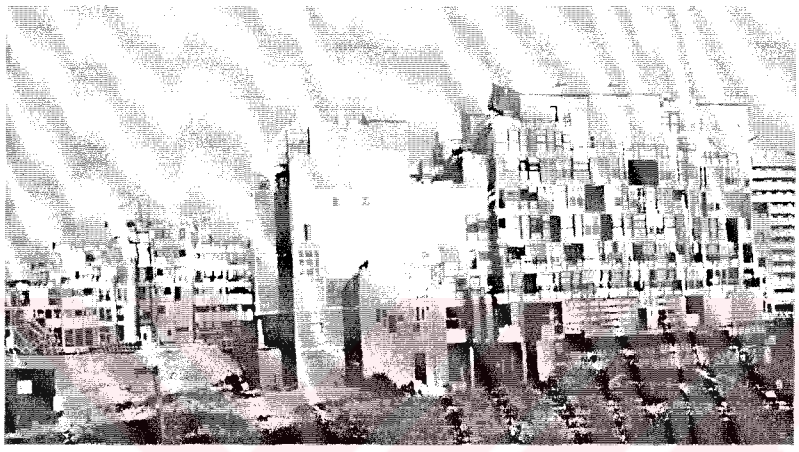


Figure 67. Zone Sociale project: completed buildings (Hatch, 1984: 181).

Although the project did not exceed the budget, there were problems with engineers, who were confused with Kroll’s disordered columns (Figure 68). However, this did not prevent the construction in an experimental sense (Kroll, 1984). In the project it is possible to track the influence of SAR because basically he proposed a structure resembling the logic of support structure of SAR and let the students to fill the spaces with prefabricated kit parts according to their preferences, like the in-fill of support structure (Hatch, 1984). Yet, totally avoiding order in the support and letting the students build the in-fills themselves were the two differentiating aspects (Figure 69). The colorful diversity and possession of the units declare the success of the project.

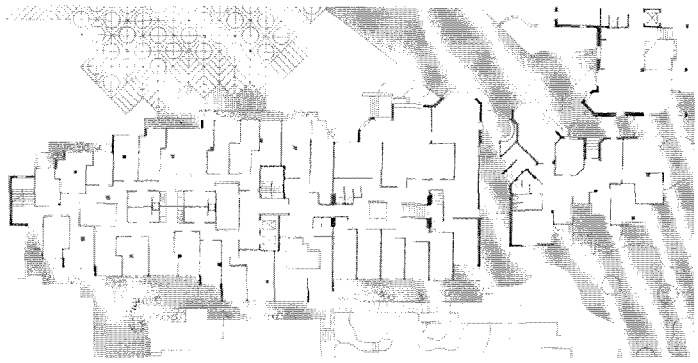


Figure 68. Zone Sociale project: plan of a building. Note the disordered columns (Hatch, 1984: 176).

Figure 69. Zone Sociale project: Students working in the construction of "in-fill" (Hatch, 1984: 172).

Both projects, Byker and Zone Sociale, are the successful implementations of the idea that involving communities in the design and construction processes is essential to create satisfactory, lively and functioning living environments. The position of the architect and the participation level of the residents vary, yet, the success of the idea remains the same.

The importance of the variations in the intermediary scale, the clusters and multi-unit structures, is that they have the most important common property: they are initiated by the communities sharing them. As the scale approaches the city and the neighborhood, this aspect becomes more important.

5.4. INVOLVING HUMAN DIMENSION IN NEIGHBORHOOD AND CITY SCALE DESIGN

In this scale the involvement of the users are not limited with their preferences about the dwelling unit, site and orientation as they are in the previous two scales. Therefore, the concentration of the examples in this section is not merely housing production or rehabilitation. These examples are mostly related to the influences of politically active citizens, who were enabled to participate. The two groups in this section are organized regarding the initiative power in the participatory process. Moreover, in this scale the roles of the architects and planners are recessive and oriented towards activating people, if they have not been yet.

5.4.1. GRASSROOTS ORIGINATED PROCESSES

The first type of participatory process in neighborhood and city scale is composed of the grassroots originated examples. Since they are grassroots originated, they are initiated as reactions against a plan or policy favoring private or public profits and disregarding the residents. In the following examples it is obvious that these grassroots movements needed to be legitimized in order to achieve their primary aims. Although the processes for becoming active, and achieving the aim vary, they are mostly supported by the architects and planners whom they choose. The first example is Weller Street Co-op in England as a representative of many Liverpool cooperatives, which succeeded after their legitimization. The second and third examples are from Boston, experiencing struggles in different scales.

Weller Street Co-op was organized by eight young homemakers, who initialized the opportunity for Weller Street residents to leave their deteriorated housing, and yet to maintain the social networks they established through several generations. Soon, the number of member families increased to sixty-one including pensioners as well as families with children (Sanoff, 2000). These working class families living in the worst housing conditions in Europe fought bureaucracy and political inertia and achieved sufficient public money to buy land and to build new houses designed according to their own preferences (Wates and Knevitt, 1987). Although

they had difficulties about legislation, they established sub-committees and working parties for responsibilities about site and space planning, fundraising, education, and information flow. They achieved a position, in which they were not only receiving information but also actually participating in the negotiations with City Council, Housing Corporation, and Department of Environment (Sanoff, 2000). They frequently visited the site and managed to have control on every step of the design and construction process. "The manager of the company, which constructed the houses, announced that it was the first time he had ever worked on a housing project where he knew the first names of everyone who was to live there, including the children" (Wates and Knevitt, 1987: 77).

The Weller Street example was followed by others in Liverpool. The tenants living in slum clearance areas or deteriorating tenements organized themselves into groups ranging from 20 families to 150 families. With the assistance of one of the Liverpool's cooperative development agencies, they registered as a housing cooperative and negotiated to buy a site. After they selected an architect, examining the options, they submitted a design scheme to Liverpool City Council or the Housing Corporation in order to maintain funding. When the approvals were obtained, a private builder constructed the houses and co-op members began to live in them not only by paying fair rents but also by becoming collective landlords, who were responsible for maintenance and management (Wates and Knevitt, 1987).

The second example is Mission Park in Boston, Massachusetts, which represents another type of grassroots movement initiated by Harvard Medical School's invasion of the surrounding housing areas for new buildings of the campus (Figure 70). Harvard's real estate agents were buying houses around the campus and in 1968 the residents of 182 apartments received eviction notices stating that their houses would be torn down by 1971 without any replacement. The student strike at Harvard in 1969 publicized the threat on the community and asked the university officials to change the plan (Sharratt, 1984).

Figure 70. Mission Park Project: Harvard Medical School overlooking the district (Hatch, 1984: 203).

Since it was built in 1899, the neighborhood had been inhabited by Irish Catholics and Germans in addition to black and Spanish-speaking families that moved in later. The residents were moderate-income people who were working in the manual traders or small businesses. In most of the dwellings two or three families resided, and the owner lived in one floor. The members of the community were the people who grew up there (Sharratt, 1984).

Following the student strike, the architect, Sharratt, was asked to come to a community meeting and to outline the possible development options. Although the Housing Committee had good intentions, it remained powerless. The decision makers were the Harvard Corporation and the high-level administrators. After one year of struggle, the residents began more effective propagandas in public media with frustration. Moreover, they invited the dean to visit the site and they were able to obtain the support of the staff, students and public. In 1970, the president of Harvard changed and the new president agreed to negotiate with the residents and to cancel the initial plan. At the end of five years long negotiations the residents achieved what they desired in the beginning, such as low rents and rehabilitation of deteriorated buildings (Sharratt, 1984).

The last example of grassroots originated participatory processes is the Southwest Corridor Project in Boston. It is the largest single construction project in the history of Boston. Therefore, the participating groups, professionals and

institutions were numerous. There were public committees and private committees, Section Planning Councils, and Station Area Task Forces in addition to ad-hoc groups of all kinds asking for educational facilities, better playgrounds, and low-cost housing. They worked with over 30 consulting firms- geologists, engineers, architects, urban designers, and traffic planners. A group of four architects were responsible for citizen participation in this complex project by generating techniques for informing and involving people in the Corridor (Figure 71). The project initiated as a plan to build another link to the interstate system and after 15 years it ended up as a development including mass transit, job development, community revitalization, and an extension of Boston's parks. Because of its original intention, the transformation in the implementation process was influenced by the highway protests of 1960s and by the advocacy groups such as Urban Planning Aid, which organized these protests (Hatch, 1984).

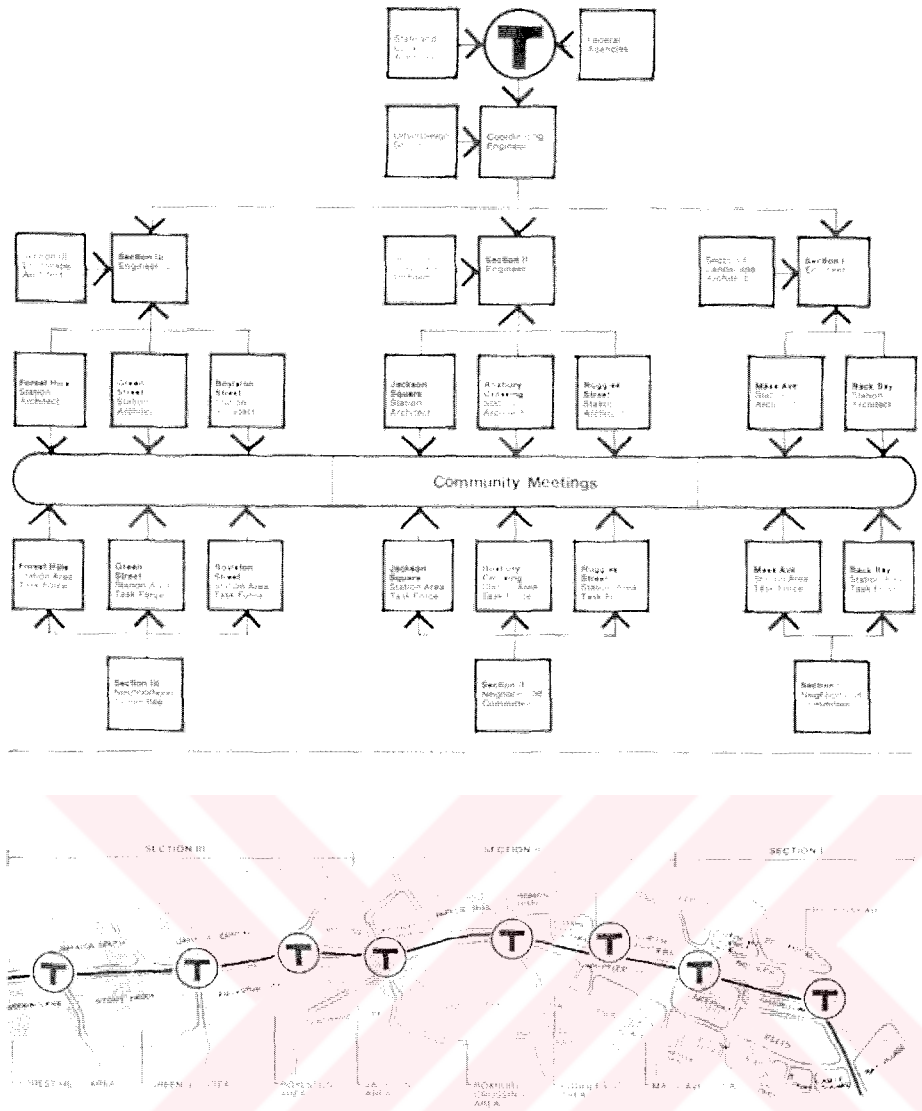


Figure 71. Southwest Corridor Project: Communication structure in the participatory process, linked to the station locations and sectional divisions (Hatch, 1984: 314).

The highway proposal and the destruction of neighborhoods, as a part of the initial plan activated the community action. The urban and suburban residents formed new groups or joined already established ones, such as “Save Our Cities” and “Operation Stop”. Community participation in this early stage was concentrated on preventing the highway and organized citywide meetings to develop strategies. These groups were able to achieve public attention and involvement effectively so that, in 1970, the Governor agreed to re-examine the transportation needs and to generate alternatives. In 1972 the highway plan was cancelled. Since there were already cleaned areas, it was decided that a new

rapid transit line should pass through these areas. It took two years to obtain the funding from federal government to build a transportation mode other than highway. Since the project was federally funded Environmental Impact Statement became necessary. The communities played an important role in the environmental review process. The Southwest Corridor Coordinator's office held numerous meetings and legally required public hearings to discuss the major issues in the project. Neighborhood committees were created for each station point, Community Task Forces, to participate in temporary and permanent re-use of community land and design of the transit system. In 1973, Memorandum of Agreement was declared clarifying the local, state and federal officials commitment to community participation by guaranteeing review of every plan by the communities before their adoption, and allocation of 10 percent of the budget for community participation processes and technical assistance. Several community participation techniques were generated such as newsletters, SATF (Station Area task Force) Notebooks, handouts, wall graphics, slides, and models (Figures 72 and 73) (Wallace, Floyd, Ellenzweig, Moore, 1984).

Figure 72. Southwest Corridor project: an example of the newsletter used as a communication tool in the participatory process (Hatch, 1984: 316).

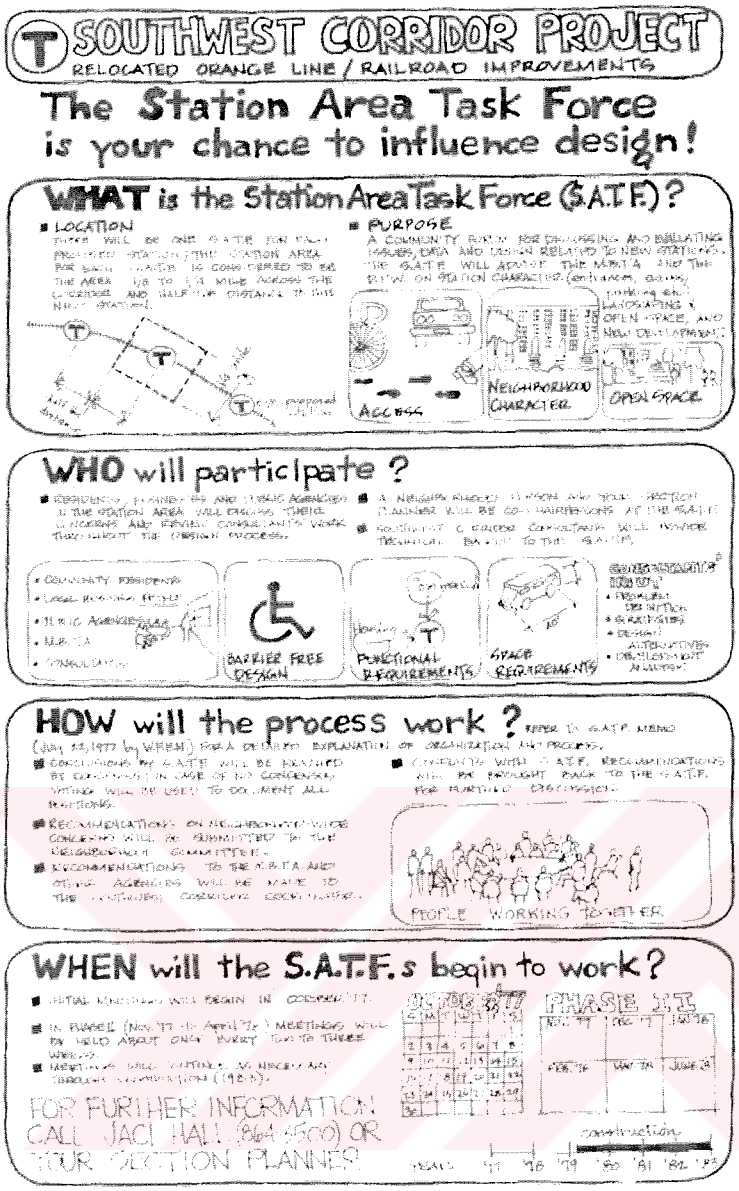


Figure 73. Southwest Corridor projects: an example of the flyers that were used to describe aspects of the project (Hatch, 1984: 317).

The project changed its character from being concentrated on highway construction to being a community based development, mostly as a result of the influence of self-organized grassroots movements. The protests and meetings in addition to publicizing the problems had been organized by the citizen groups. The active involvement and support of non-profit organizations followed mainly the legal cancellation of the highway project. Therefore, despite the support of non-profit organizations, this example is categorized under the grassroots originated processes.

However, in Southwest Corridor Project of Boston, the most notable success was in participatory organization, which worked sufficiently after the legitimization of the new phase of the project with its complex structure. It is possible to claim that this example is an important story of the possible achievements that grassroots movements lead to when they are intentionally organized. The next type of community involvement in neighborhood and city scale design is based on the examples, in which the non-profit assistance groups, such as community design centers, organize the communities, helping them to achieve their aims.

5.4.2. NON-PROFIT ASSISTANCE GROUPS ORGANIZED PROCESSES

The processes followed by the non-profit assistance groups vary in terms of their stimulation. Different cases of economic and legal conditions cause these variations. Since the early 1960s, community design centers have been providing design services, guidance through bureaucratic conflicts, economic development information, and inspiration to the urban neighborhoods of the people for whom these services are not available in the existing system (Sanoff, 2000, Hatch, 1984). They work when the communities asked for their help in an early stage of their problems. Therefore, community design centers organize the activities and legal attempts together with the communities. On the other hand, there are non-profit organizations, which work with the communities about the developments within the community area before the problems generate the protests. The first project, Northside Neighborhood Project in the Williamsburg section of Brooklyn exemplifies the process that the Pratt Center, a community design center, experienced with the community after the problems caused residents' objections. Second example, Richmond Neighborhood Charrette clarifies the process, in which the non-profit organization involved the community before the development took place.

Northside neighborhood, a Polish community, in Brooklyn was threatened by the plan of expansion of a local manufacturing plant. They opposed the implementation because it required demolition of their homes without replacement. Therefore, in 1971, they asked Pratt Center if they could help to prevent this implementation. After examining the situation the center explained

that it would be impossible for the plant to expand without demolishing the adjacent residential area. Therefore, the Center organized numerous meetings with local authorities and neighborhood residents to discuss the possibilities. After these meetings the residents would allow the plant to expand and destruct their houses if they agreed to construct new housing in the immediate vicinity at rents each family could afford. The City reluctantly approved the proposal due to the violent confrontations with the residents and the support from the press. The compromise meant some serious changes in City policies dealing with relocation, replacement housing, and mixed-use residential zoning. Therefore, the City tried very hard to prevent the approval of the residents' desires. During the struggle between the City and the residents, the argument of the City was that the residents were racists opposing jobs for black and Hispanic people. The Center connecting with the local authorities made sure that this dividing tactic did not work. Indeed, because of the support of the press, many different racial and ethnic groups joined the solidarity of Northside residents by sending protest letters and telegrams to the Mayor (Shiffman, 1984).

The other type of process carried by non-profit assistance organizations is exemplified by the Richmond Neighborhood Charrette Project. It is necessary to explain what charrette process implies in order to clarify the position of the organization in this example.

The charrette process refers to the rapid pace at which the design is finalized with a guiding principal: consensus. Therefore, charrette operates both as a product and as a process, which maximizes participation over three-to-five-day framework. In charrette process the schedule is structured and participatory process is open. There are three mechanisms in the process. The first, idea generation is based on knowledge transfer among all affected parties. The second, decision making is a dialogic discourse about the ideas presented. The last, is problem solving in order to come up with recommendations and proposals as the outcome of the process (Sanoff, 2000).

Highland Park is a low-income neighborhood in Richmond, Virginia. As a non-profit community based corporation, the Highland Park Restoration and

Preservation Program, works to create and design model neighborhood programs. For future development a model was proposed by the corporation, the revitalization of a nine-block "Adopt-a-Block" incubator and the adjacent commercial strip (Sanoff, 2000).

The aim of the charrette process was to involve resident in addition to architects and planners in order to share the ideas regarding the community development. In a planned one-day session the neighborhood residents identified the key issues, goals and strategies for implementation. The professionals participated as resources ensuring the residents that informed decisions would be made. In an initial meeting, local leaders, project coordinator, Jeff Levine, and invited design consultant, Henry Sanoff, identified four areas and related strategies for discussion about determining the priorities by the community. The aim of the initial charrette event was to allow each participant to determine three most important goals and to select one of them to participate in. Groups of 20 to 40 people with a trained facilitator keeping the discussion focused were handed out lists of strategies (Figure 74). The aim was to make people discuss the goals and strategies, to match them and to develop action plans for achieving these goals following the relevant strategies in a defined time framework (Figure 75). In the following six years after the first charrette event, there had been significant achievements. With the support of the local financing about 30 houses have been rehabilitated in addition to creation of crime-watch program, a periodic neighborhood cleanup, and a landscape improvement program through the Adopt-a-Block model (Sanoff, 2000).

Figure 74. Richmond Neighborhood Charrette: major development areas and strategies (Sanoff, 2000: 225).

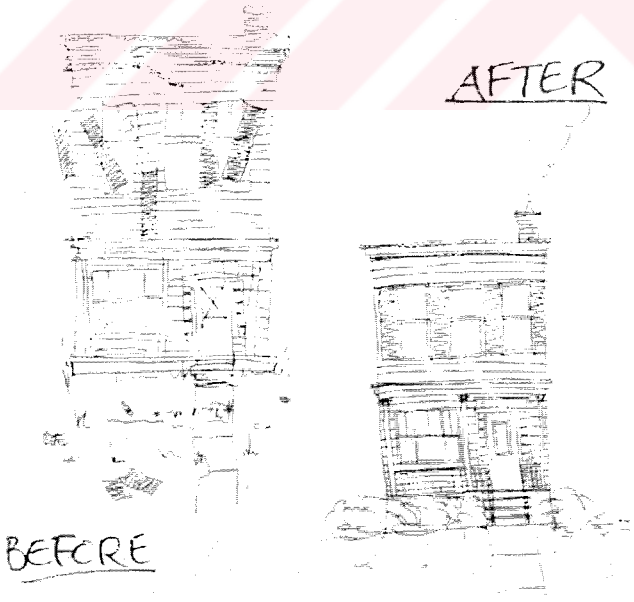


Figure 75. Sketches used for communication with the public during the charrette (Sanoff, 2000: 228).

There are different methods used in community participation processes to increase the awareness of the residents about their decisions. For example Housing Trade-offs make people to decide which aspect is important for them in a house design to be built in a given budget (Figure 76), while Housing Image Exercise reveals clues about the values residents put on the images considering the life they imply (Figures 77 and 78). On the other hand, House Model Game provides each resident to clarify his/her preferences about the housing layout. In order to engage people with the planning process, Planning For Real method is proposed, which gives people to decide with awareness of the problems and possibilities as a whole. A kit composed of cutout buildings, neighborhood facilities, information cards, and case histories is handed out to the participants to place them on a big site model, which is also produced by the participants (Figure 79) (Sanoff, 2000).

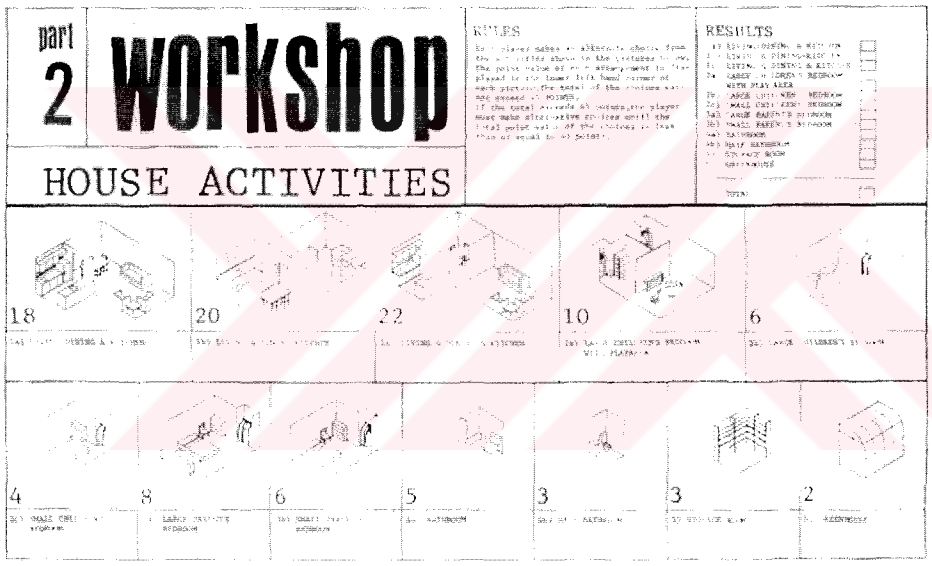


Figure 76. An example of the tools used to define the house activities in trade-off game (Sanoff, 2000: 214).

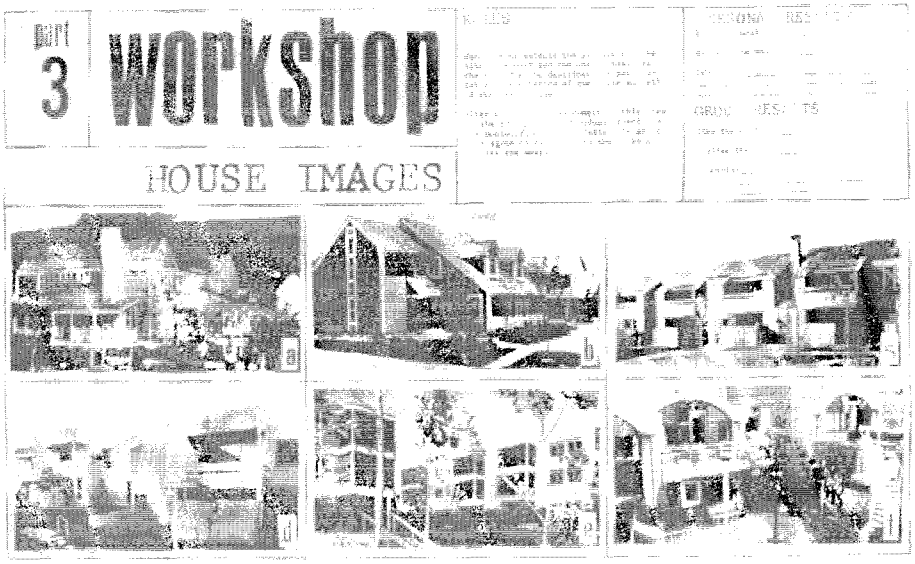


Figure 77. An example of the tools used in the housing image exercise (Sanoff, 2000: 215).

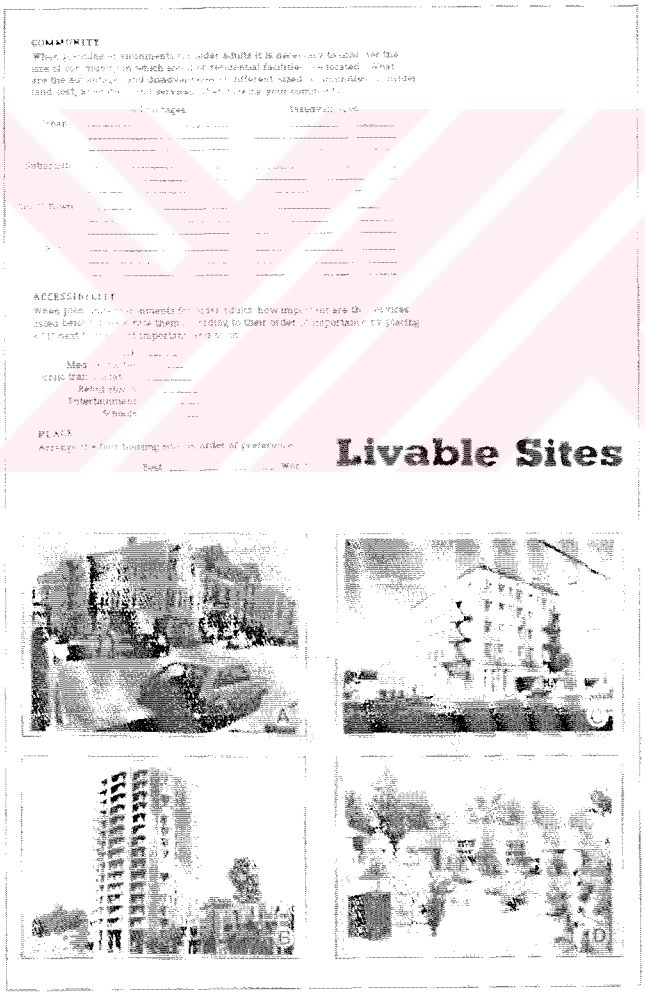


Figure 78. An example of a housing density score sheet (Sanoff, 2000: 217).

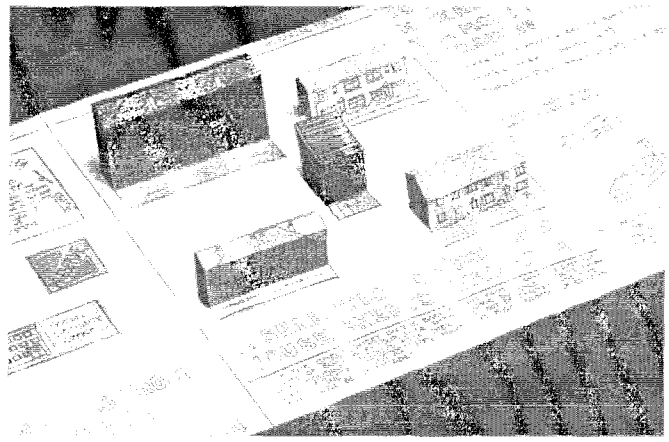


Figure 79. The "kit" for planning for real method (Sanoff, 2000: 219).

R/UDAT (Regional and Urban Design Assistance Team) was established by American Institute of Architects- the Regional Planning Committee and the Urban Planning and Design Committee. The program was based on an invited interdisciplinary team of professionals addressing problems in urban or regional scale and on recommending development schemes working with local supporters. During the several months before the assistance team arrives the specific location, site visits to community are done and collection of relevant information is completed to determine the appropriate team. R/UDAT process usually takes four days. The first day is for the meetings with official representatives, such as the elected officials, community leaders, planning and zoning boards, banking and special interest groups in addition to a walking or driving tour of the study area. In the second day, a community meeting is held in order to gather information from the neighborhood organizations, block groups, and ethnic and minority representatives. The third day is used for team members problem-solving planning work sessions consist of conceptualizing, writing and drawing. A final report is prepared and made available on the evening of the fourth day in the second and last community meeting of the process. After the R/UDAT Charrette, several visits are made by some of the team members to help the community continue with the recommendations and develop strategies (Sanoff, 2000).

One of the recent examples of this process took place in Salisbury, North Carolina in 1995. The North Carolina AIA Urban Design Assistance Team (UDAT) consisted of eleven architects and landscape architects was invited by

the community concerning the developments on the most historically significant traffic artery of the city. After a one-week work of site visits, interviews with officials, community and developers strategies were recommended to prevent further degradation. There are over 100 successfully implemented R/UDAT projects in the United States (Sanoff, 2000).

The methods to involve communities in decision making processes about the developments those will effect them are various and influential. The examples of grassroots originated processes and the non-profit assistance groups organized processes reflect this variety. Their implementation depends on the scale and the stimulating power.

5.5. CONCLUSION: AN OVERALL EVALUATION OF THE EXAMPLES

The user-oriented methods originated as alternative production methods of the physical environment. With the urban protests of 1960s, the increasing statements of dwellers for their dissatisfaction, and the increasing social problems, such as high crime rates, the unsuccessful implementations of urban renewal policies accumulated the negative impression among the society about the conventional methods of housing production. The problem was the exclusion of the residents from decision-making processes, which eventually effect their lives. Therefore, mostly, the protests and objections were not only related to housing conditions. However, fighting for decent but still low-cost housing has been an important part of the protests.

Citizens were fighting standard design and planning processes declaring the importance of local and individual preferences. Some professionals from planning and architecture supported these grassroots movements and several methods organizing the protests to empower the users were implemented. Some others realized the problems of disregarding user preferences in housing design and established methods to overcome this problem.

It is important to emphasize that the alternative housing production methods, which are labeled as user-oriented methods in this study, have the three

constituent component as well as the housing production methods of the nineteenth century and the first half of the twentieth century. These are, namely, the construction industry, the housing policies and the role of architects and planners. However, the functions changed with the involvement of an additional element: human dimension. Involving human dimension into design and construction processes of housing production varied depending on the scale of projects implemented in numerous countries.

While examining the examples the processes are explained to clarify the three constituent elements. In general it is possible to claim that the user-oriented methods are the consequences of social movements. However, the roles of the architects and planners, even though their determining characters have changed, are notable. The advocates of these methods in planning and architecture were more influential compared to the previous two methods of housing production, explained in chapters 2 and 3. They provided technical assistance and support in legal issues, while, on the other hand, they also helped the use of industrial construction techniques for the better applications of user-oriented methods. Therefore, construction industry is also involved in this production method in various ways, either providing the assembly kits in SAR-inspired applications or decreasing the cost in self-build rehabilitation and re-use processes. Lastly, the housing policies positive influence on the increasing number of user-oriented methods' applications is noticeable. Although the relevant legislation was brought into effect mainly in England and in the United States and partly in the Netherlands, it is obvious that without their attitudes to ease the public participation in production of housing, many projects would not be implemented in any of these countries.

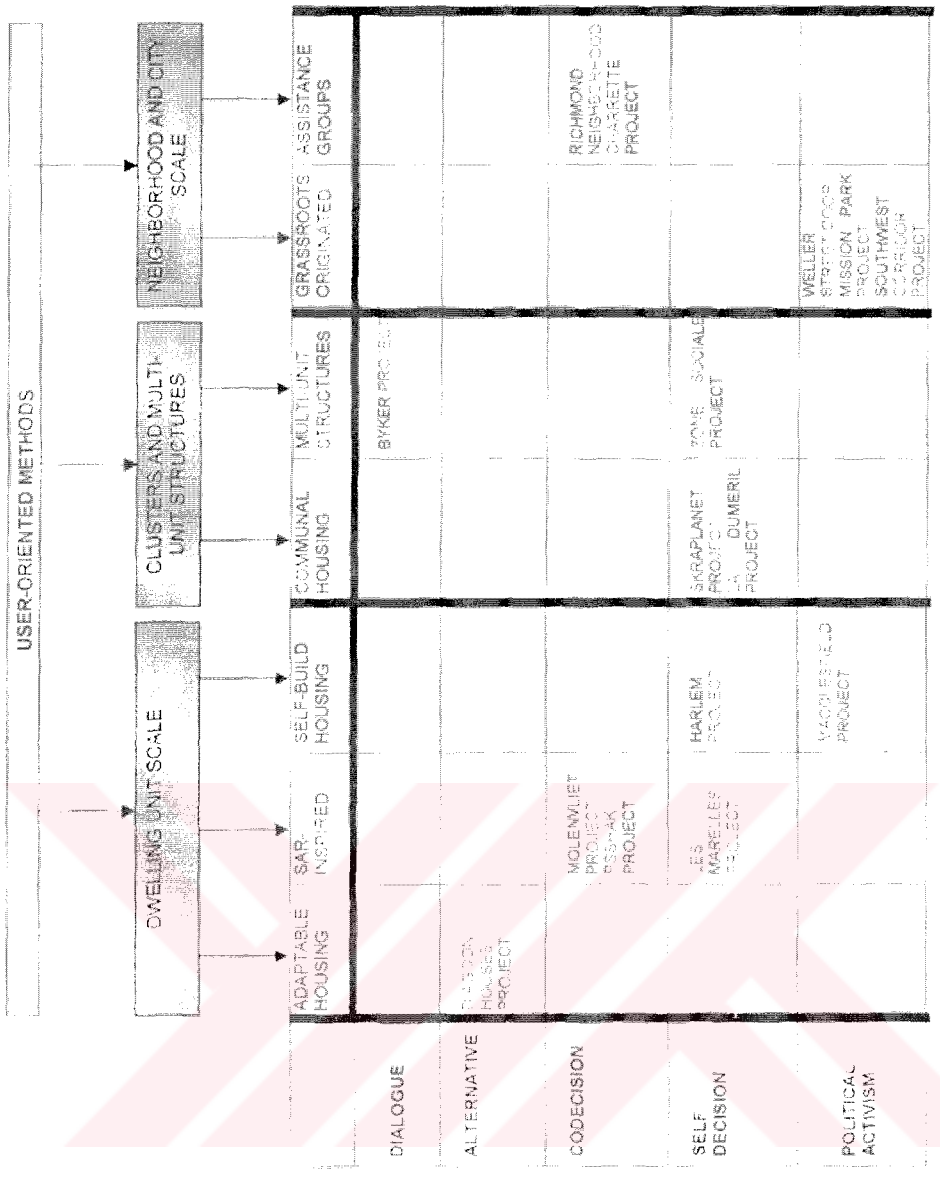
Nevertheless, because of the nature of the user-oriented methods, their success is highly dependent on the context of the locality. Thus, each technique to involve the users in design and/or construction processes should be specific for the local political, administrative and social conditions. The failure of SAR-inspired techniques in France (Les Marelles) because of the social formation and the legal procedures about finance and ownership is a clear example of this argument.

Similarly, the lack of SAR applications in the United States also confirms the argument.

Moreover, the financial and administrative problems are important in user-oriented processes. Among the given examples, the rental projects, the Byker, the Molenvliet, the PSSHAK, the Macclesfield, the Weller Street Co-op, and the Mission Park, involvement of the users in different levels varied in terms of financial difficulties. In all these examples, the financial support was provided by the public institutions. Therefore, the participant tenants were subjects to change all through the processes as well as after the construction ended. On the other hand, the owner occupied examples, such as the Diagoon, the Les Marelles, the Harlem, the Skraplanet, and the La Dumeril, the hardest parts of the projects were to find financial support apart from the governmental institutions because of the natures of the projects. The cohousing examples faced the difficulties of being different from the conventional communities. SAR-inspired project had to deal with the ownership definition of the banks to obtain loans. Lastly, in the Harlem project the participants were able to find the sufficient amount of financial support through several sources.

Furthermore, the interplay between the designer and the users is another important issue in user-oriented methods' applications. After overlapping the classification of user-oriented methods, explained in section 5.1.3 and the scale based classification used while examining the examples, the roles of the professionals and users become clear (Table 2).

Table 2. Overlapping the two types of classification.



In the Byker Project, the interaction between the design team and the prospective users are in a dialogue level, in Wulz' continuum, explained in section 5.1.3. Therefore, it is possible to claim that although the design team was located in the site and asked for the opinions of the prospective users, and considered the comments, the final decisions were given by the designers. Thus, the users were accepted by the design team as the real clients of the project and they became an important part of the process. Yet, the participation level was still limited.

Diagoon Houses, the adaptable housing project, may be classified in alternative participation stage in the same continuum. Although the whole design process was carried out by the architect, the flexibility of the elements provided the alternatives for the users to possess the houses in the form that was most appropriate for their specific conditions. Since the alternatives were limited with the fixed frame of the architect's design, the process did not allow the users to participate. They were able to adapt the houses after the occupation.

On the other hand, the Molenvliet and PSSHAK projects as examples of SAR-inspired methods in addition to the Richmond Neighborhood Charrette project can be grouped in co-decision stage in the continuum. In these projects the users were allowed to participate in the design process including the initial stages and the final decisions. The designers were not only providing technical assistance, but also enabling the prospective users to decide the major issues in the design and the construction processes.

The Les Marelles, Harlem, Skraplanet, La Dumeril and Zone Sociale Projects may be grouped in the seventh stage of the continuum, self-decision. In these projects the users were involved in the design and construction processes as a whole. Mostly, the projects were initiated by the prospective users with their desire to form an alternative lifestyle. The design and construction processes became an important part of their community in terms of their cohesiveness.

The projects as examples of political activism are the Macclesfield Project, the Weller Strret Co-op, Mission Park Project, Southwest Corridor Project and the Brooklyn Project. The common concept of these projects was that they were all initiated as objections to the decisions of the public authorities about their community area. They asked and achieved a chance to determine their future as communities.

Some of the user-oriented methods have been criticized for being time-consuming, and causing the increase of the cost of the projects. For example, the Diagoon Houses, Molenvliet, and PSHHAK projects faced these difficulties. Therefore, during the progress of user-oriented methods, following the pioneering

examples new techniques to involve all the effected parties and to shorten the time necessary for participation and therefore not to be burden on the budgets of the projects are implemented. The charrette process has been used in many projects as a feature to shorten the time necessary for participation. Moreover, the techniques to involve all the participants have been implemented. The use of the advanced technology equipment such as Internet began to be influential. Thus, these methods are becoming serious alternatives for the housing production in terms of their efficiency and social responsiveness.

CHAPTER 6

CONCLUSION

In this study, the housing production methods are described through three areas of change and progress covering the nineteenth and the twentieth centuries: the housing policies, the building industry and the roles of planners and architects. These three complementary and constituent areas caused the formation of housing environments, which have been evolving since the beginning of the nineteenth century. In 1960s, accumulated reactions about the problems, which were the consequences of these conventional methods of housing production, triggered the grassroots movements. Following the grassroots movements the three complementary areas experienced alterations to some extent. Some professional architects and planners advocated these disadvantaged people in the society. Alternative methods of housing production were proposed and implemented in the United Sates and Western Europe. Also a few governments responded to these social movements and supported the implementation of the alternative methods. Moreover, the industrialized building techniques played an important role in the application of these methods.

The concentration of alternative methods is empowering people as the users of the built environment in order to enable them to actively participate in decision-making processes. Therefore, in this study, they are labeled as user-oriented methods covering all the scales and implementation techniques. Various examples of different methods, in several countries are examined in three scales. Their evaluations are made regarding the user satisfaction after occupancy and

the relevancy with the social, administrative, political and financial structure of the specific locality.

In order to clarify the advantages of the user-oriented methods compared to the conventional ones, it is necessary to state the roles of housing policies, architects, planners, and the construction industry in user-oriented methods. Since housing production methods are explained by emphasizing these roles, the differences caused by user-oriented methods in these three areas are crucial.

6.1. THE ROLES OF PUBLIC INSTITUTIONS

Until the mid-nineteenth century, housing problem of the working class was not the concern of the public institutions. Although a few reports were prepared about the epidemics in the first half of the century, the first regulation was brought in 1848 in England. The United States and other countries of Western Europe followed England even later. When the worst living conditions in working class housing began to influence the efficiency of market and the safety of wealthy groups, the public intervention began. However, until the First World War, interventions were limited with health and safety regulations. Basically, the aim was to prevent counter consequences of unhealthy living conditions of the working class. Speculative builders were the dominant characters in housing production.

On the other hand there were reformists and philanthropists, who had been working to improve the conditions of living for low-income people since the beginning of the nineteenth century. Their activities were in a limited scale because there was no supporting legislation until the end of the First World War. They became influential with the increasing legal support on housing problems in the inter-war period.

After the First World War, the first subsidization policies emerged in a limited scale. It was after the Second World War that governments became the major financial providers in addition to being direct providers of housing. There was a balance between the private and public sector in housing production. When the

production levels decreased due to the adverse economic conditions, public institutions' financial support and direct provision increased. The speculative builders carried the majority of housing production when the production levels were sufficed by public sector.

Because of the population shifts, especially after the Second World War, namely the high levels of suburban developments for middle- and high-income groups, inner cities were left to the disadvantaged, low-income people, who were mostly ethnic and racial minority. Therefore, the urban renewal and redevelopment policies' implementations increased in 1950s. Urban renewal and redevelopment policies were implemented by both private and public sector causing the destruction of communities by dislocating them. The main concern of the governments was to provide or subsidize a sufficient number of housing units independent of the specific conditions of the localities or the income groups. Thus, dealing with merely the quantity and disregarding the quality of the housing environment, both in physical and social terms, caused formation of uniform and isolating environments with increasing problems of social deficiency.

In 1960s the problem generated by housing policies was that the users of housing projects were classified according to their income levels and were agglomerated in isolated uniform environments, which mostly did not fit to the lifestyles they were accustomed to. The consequences of these standardized production methods, which were carried by both the public and the private sector, were the low-occupancy rates, increasing crime rates, high-levels of drug addiction and infant mortality rates in low-income housing areas. The social deficiency in these areas reached at a point that many high-rise housing projects ended up with being dynamited. On the other hand, the middle-income groups were dissatisfied with the inflexibility and uniformity of their housing environments, which were mostly suburban settlements, especially in the United States. Therefore, the major problem was disregarding the specific conditions of different individuals, groups or income levels in the housing production process.

Although the original reasons for urban riots of 1960s were not merely the housing conditions, their common ground became the neighborhood problems

discussed in neighborhood organizations. Soon these organizations were legitimized and supported by financial and administrative opportunities with the passage of relevant acts, especially in the United States and England. People, who were dissatisfied with future plans of their environment, were organized in different scales and succeeded to change the planned developments. However, the implementation of user-oriented methods in countries, where administrative and financial structures were not prepared, was questioned in terms of their efficiency.

Therefore, it is possible to claim that in the conventional methods of housing production public institutions' intervention began with a provision of unimplemented regulations in the nineteenth century, and turned out to be direct provision and/or subsidization in order to come up with the necessary amount of housing in the twentieth century.

With the user-oriented methods, public institutions became the bodies, which were supporting housing production by legitimizing the already formed local neighborhood organizations, and helping them financially to achieve their aims. This position of the public institutions in the user-oriented methods solved problems in two ways. First, since the environments created by direct participation of users became possessed areas in which social deficiency problems were ended. Therefore, the demolition of the unsuccessful implementations of public housing, and their burden on economy had been prevented, when the user-oriented methods were applied. Second, the individual and social satisfaction with the living environment caused increasing responsibility of the inhabitants about the management of their neighborhoods.

6.2. THE ROLE OF CONSTRUCTION INDUSTRY

Although the most influential inventions in construction industry initiated in the nineteenth century, their implementations in housing production process began in the early twentieth century. The speculative builders in the nineteenth century were using local and traditional techniques in housing construction. With the turn of the century, the use of industrial production techniques began to be favored in

all types of design professions. The aim was to increase the efficiency and quantity of the whole production process by producing standardized elements of the objects. The original implementations were based on creation of variety by using standardized elements. However, the use of industrial production techniques in housing production process began as applications of prefabricated housing, which soon became the tool for construction of uniform housing environments in large quantities. Industrialized construction techniques seemed to be the best way to eliminate the differences and to achieve the pure uniformity.

On the other hand, industrialized construction techniques were favored by public authorities as well. Since public bodies were concentrated on production of maximum possible amount of housing with a fixed budget, the most important issue was cost minimization for them. Industrialized construction techniques provided the opportunity to construct cheaply and fast, which in return brought the opportunity to produce more dwelling units in shorter time with less amount of budget. Moreover, after the both world wars, the housing schemes prepared by using industrial production techniques implied new life styles leaving the chaotic days of the wars behind. Therefore, these housing projects were promoted by the public authorities after the two world wars.

However, there were problems of poor construction especially in the high-rise blocks, which created serious safety problems. Furthermore, management problems of these housing environments caused quick deterioration of the buildings. It is possible to claim that industrialized construction techniques were abused during their implementations in hosing projects by private and public sector. Thus, they became the major reasons for poor quality housing production independent of the conditions of locality and community, in which low-income people were agglomerated and isolated.

In the implementations of user-oriented methods, the advantages of construction industry were used. Especially in SAR-inspired projects, the original concept was constructing a rigid structure with in-fill spaces to be filled by using the prefabricated elements. The opportunity to construct in-fills separate and independent from each other after the construction of the support structure

provided prospective users to come up with the most appropriate designs for their individual dwelling units. Besides, the self-build projects of cohousing and self-managed movements in addition to self-build rehabilitation projects used the cost decreasing advantage of industrial construction techniques as well.

6.3. THE ROLES OF ARCHITECTS AND PLANNERS

In the nineteenth century the architects were almost totally out of the housing production process. Although a few architects were working with reformists and philanthropists, in general they were not dealing with housing issues because housing was assumed to be a non-architectural problem. Speculative builders were the ones to decide the location, site plan, and the physical features of the dwelling units in the nineteenth century. Because of the worsening conditions of living in the working class housing environments, some utopists proposed alternative environments for better conditions. However, there were very few implementations of the utopias in the nineteenth century.

Some new concepts were brought during the last decade of the nineteenth century, which were followed by the others in the first two decades of the twentieth century. It is important to distinguish the influences of the famous architects, such as Le Corbusier, Gropius and Frank Lloyd Wright, who encouraged the use of industrial production techniques in housing construction, and the architects who influenced the public policies by working for the governments. Therefore, architects were involved in housing production process in two ways. First, the concepts of new settlement types and industrialized construction techniques were proposed. Second, a number of architects worked for the governments in the preparation of the housing policies. Although the percentage of these architects was low, their impacts on the formation of housing policies were not negligible.

One of the most influential concepts was Howard's Garden City, which then found its place in regional planning concept of Geddes. Lewis Mumford, Catherine Bauer, Clarence Stein, and Henry Wright followed these concepts and influenced the housing policies in the United States by working for the

government during the preparations of the housing acts and schemes. Their attitudes, being against the inner-city developments encouraged the suburban settlements and urban renewal activities. On the other hand, in England the garden city movement was implemented not only as suburban settlements but also as new towns, which emerged as emergency solutions after the First World War in order to decentralize the industry and population, accumulated in London. Tudor Walter was one of the most influential architects in England due to his work with the government. On the other hand, H. P. Berlage, and J. J. P. Oud were the ones in the Netherlands implementing garden city concepts in the projects they designed for the government. In Germany, numerous projects, carrying the principles of garden city, were built by Ernst May while he was working for the local government in Frankfurt.

High-rise blocks in the middle of big green spaces was another proposed scheme for new developments, which also found many implementations especially in public housing projects for low-income families. Although the concept of Le Corbusier had its origins in the garden city movement, yet with higher density, the principle of having large green spaces among the high-rise blocks was eliminated in the projects. The urban renewal and redevelopment policies implemented uniform high-rise housing blocks for large amount of low-income population. These projects were mostly favored in architectural arena. However, the social problems that occurred in these high-rise blocks were publicized with the dynamiting of Puitt-Igoe, which was awarded for its architectural performance nearly twenty years before its destruction.

Although the intention of the proposed concepts was to provide an alternative urban development for the industrial city of the nineteenth century and its chaotic life, the outcomes turned out to be creation of environments, which caused worse conditions than the ones they were trying to eliminate. The problem was the loss of communication between the users and designers due to the increasing amount of the dwelling units in projects. Moreover, financial suppliers, private or public market, became the client in these projects. Generalizing the population with standard designs in uniform environments caused a lack of possession and

isolation, which in return made these places of high crime rates in addition to many implications of social deficiency.

In the user-oriented methods the users and the designers began communicating. Although the roles were redefined in the user-oriented methods, providing opportunities to participate in design and/or construction processes, and decreasing the impact of dominant character of the designer, the architects and planners were involved in the processes as the organizers, facilitators or technical assistants. People participating in the formation of their housing environment were more satisfied.

6.4. THE USER-ORIENTED METHODS: SHORTCOMINGS AND FUTURE PROSPECTS

The problems of the conventional housing production methods in terms of three complementary fields and the solutions provided by the user-oriented methods are convincing about the validity of the alternative methods of housing production. However, there are problems about the user-oriented methods, preventing them to be the major method of housing production. First of all, in all the scales, the problem of being time consuming still stands in two aspects. If the aim is to carry on the project by making everyone participate in every process of the production, the time range for the project increases. Consequently the time that people have to spend in the participation process increases. Although there are techniques used to shorten the necessary time, in most of the exemplified methods, it was impossible to implement these time shortening techniques because of the natures of the methods, such as cohousing, self-managed housing, adaptable housing, and self-build housing. In large-scale projects, structured organizations, which also cause higher budgets, are needed, in order to provide the opportunity for everyone to participate.

Nevertheless, recent studies for use of digital technology continue, especially in the United States, in order to increase the efficiency of the user-oriented methods in terms of cost and time. For example, in University of Illinois at Chicago, a study is being carried out for using the World Wide Web in community planning. The

planners and designers of the university are invited to be a part of participatory planning process in Pilsen, a community near the Campus, which consists of dominantly Mexican-American and Mexican immigrant people with an approximate population of 50,000. Community leaders decided to experience the participatory planning process in order to clarify the viewpoint of the community for the future developments. Instead of using traditional survey methods and manual mapping techniques, the design team of the university decided to use Internet technology to communicate with the public and GIS technology to analyze the collected data (Figure 80) (Al-Kodmany, 2000). Although this technique provides solutions for time and budget problem, it also generates another problem: the multiple entrees to the survey in order to dominate a single problem. Therefore, the project is still in progress to overcome this problem. Moreover, due to the income level of the community, the access to the Internet is limited. This is the most important problem of this technique. Temporarily, the participants are using the computer laboratories in the university. In spite of the several problems, the progress in this technique may provide an efficient solution to the criticized aspects of the user-oriented methods. One of these criticisms is based on the desire of the users to participate in the processes. The assumption of the user-oriented methods is that people want to participate in the process. However, sometimes for different reasons people may not share the same desire to participate in the decision-making, planning, designing or construction processes. Since this technique individualizes the participatory process, only the willing people will be involved.

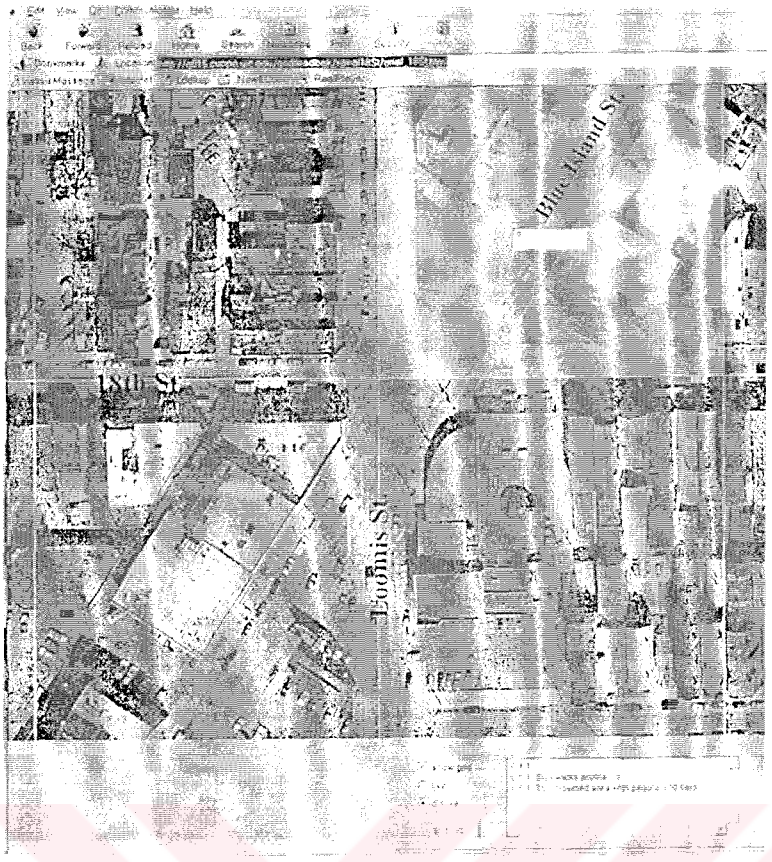


Figure 80. The use of World Wide Web in participatory planning: a web page view (Al-Kodmany, 2000: 83).

On the other hand, individualizing the process may not be the best solution for the problems of the user-oriented methods. The use of CU-SeeMe (Figure 81), a real time video-conferencing program, developed at Cornell University, is another technique, using the digital technology while allowing the individual and multiple users to participate with sites at different locations from a desktop computer. One of the major principles of the user-oriented methods is the sense of community and sharing the responsibility. Therefore, encouragement of community participation by using the digital technology seems to be more compatible. The Vision Dome may be used to experience the proposal plan implications three-dimensionally and to make comments on them in a group of public officials, planners and the community walking though the simulated environment in the Vision Dome (Sanoff, 2000).

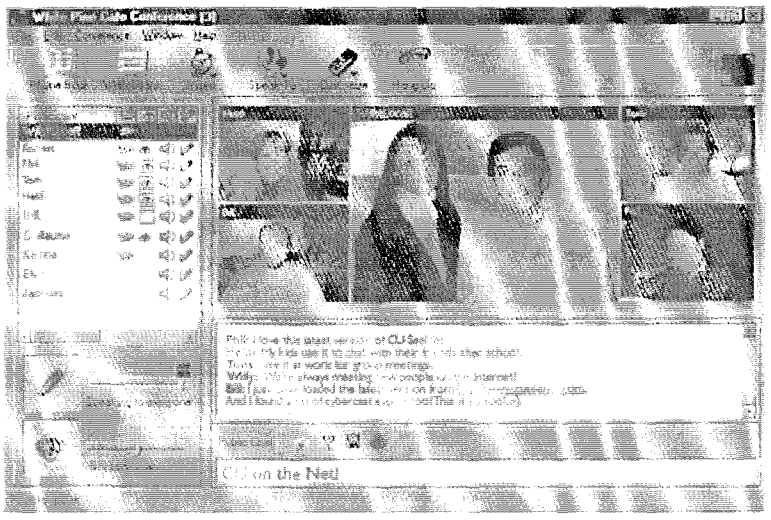


Figure 81. CU-SeeMe software: a desktop image (Sanoff, 2000: 74).

In spite of the progress in the application techniques of user-oriented methods, they are dependent on the social, political, administrative and financial structure of the localities. Thus, they may be alternative methods for housing production with the progressing techniques and the adjustment of the legal settings of countries.

6.5. CONCLUDING REMARKS AND QUESTIONS ABOUT THE PROSPECTS OF USER-ORIENTED METHODS IN TURKEY

It will be appropriate to finish this study with some concluding remarks and questions about Turkey, since the main purpose of undertaking such a study on development of user-oriented methods in the United States and Western Europe is to prepare a background for an eventual study of their applicability in Turkey.

The housing production method in Turkey is different from the conventional methods in the United States and Western Europe. Due to the context of the country, the urban protests, objecting to the housing conditions did not emerge following the developments in Western Europe and United States in the historical process. Despite the limited number of examples, the importance of user satisfaction in housing projects has been realized and some studies were done in order to provide proposals for the design and construction processes of the projects, aiming at increasing user satisfaction in housing environments.

However, since the political, administrative, social and financial aspects have not become sufficient yet, the application of user-oriented methods in Turkey is limited.

Several issues are crucial for application of the user-oriented methods. Since these methods are based on the voluntary cooperation of individuals to participate in the design and/or construction processes, existence of willing individuals is essential. Most of these methods imply unconventional life styles, which also necessitates voluntarism to be involved in the process. Moreover, technical assistance of design teams is another requirement in the application of the user-oriented methods. Therefore, non-profit voluntary organizations working for disadvantaged groups should exist to facilitate these application processes. On the other hand, financial structure and property regulations are important because of the partial construction and common ownership pattern in the different methods of user-oriented approaches. A number of questions can be asked to examine future prospects of the user-oriented methods in Turkey. Since the methods are examined under seven subheadings in the study the questions about Turkey are also stated under these subheadings:

Adaptable Housing:

> Do voluntary groups exist to purchase and reside in flexible/adaptable housing projects?
>
> Do voluntary architects exist to be involved in the process of adaptable housing production?

SAR-Inspired Projects:

> Is the ownership structure in cooperatives suitable for SAR-Inspired projects?
>
> Is it possible to reconsider the process of organization in cooperatives for application of SAR-Inspired methods?

Self-build Projects:

Is it possible to provide financial support to low-income groups for self-build housing production?

Is it possible to separate this process from squatter settlements?

Communal Housing Projects:

Do voluntary groups exist to form the necessary social organization for cohousing developments?

Is it possible to adapt the social and financial structure of cooperatives to cohousing developments?

Multi-unit Structures:

Do voluntary architects exist to be involved in production processes of multi-unit structures for communities?

Grassroots Originated Projects:

Is the political power of individuals sufficient to be effective in renewal and redevelopment projects?

Assistance Groups Organized Processes:

Do voluntary groups exist to advocate the disadvantaged groups actively in both political arena and design issues?

After having an overview on the housing production methods of the last two centuries with their criticisms, and examining various approaches of the user-oriented methods as alternatives to the conventional ones, it is possible to claim that the applications of user-oriented methods in the United States and Western

Europe have brought solutions to the problems of the conventional methods. However, it is also important to mention that they became solutions in terms of the problems in three complementary fields (housing policies, roles of architects and planners, and the use of construction industry) while they were generating new problems in their new contexts. The progress in the application techniques of the principles of user-oriented methods is promising. Therefore, with their current progress, the user-oriented methods seem to be eligible to replace the conventional ones and eliminate the problems generated in the past two centuries, in other countries besides United States and Western Europe, if the necessary legislation and financial systems are provided by governments of these countries, and if the citizens are willing to participate in shaping their environment.

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