REVISITING CONSTANTINOS DOXIADIS'S ENTOPIA AS A PLACE THEORY

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ABSTRACT

REVISITING CONSTANTINOS DOXIADIS'S ENTOPIA AS A PLACE THEORY

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The thesis makes an analysis of Constantinos Doxiadis's "Entopia" (in-place), which was suggested as a building system to counter the dystopian conditions of the 1960s. Since Entopia was raised as a new concept for the "betterment" of human settlements, the thesis aims to examine its historical and spatial context by investigating its "uniqueness" among its contemporaries. The study will re-open a discussion of Ekistics (the Science of Human Settlements) that dates back to the 1940s that dealt with Entopia "as" a place theory.

Embodying the criticism of the architectural and urban trends of the day, Entopia was coined as a practicable concept between the "unbuildable" utopia and the "existing" dystopia by Doxiadis in 1966 as a complementary term among Ekistics. It was his intention in this regard to prepare for the oncoming world city – Ecumenopolis – with Entopia referring to a "place" that is both buildable and livable with applicable principles.

Entopia suggests a Dynapolis (dynamic city) model, with a grid plan and urban tissues that are based on the human scale for future settlements, sharing the Modernist environment of the war-veteran European cities. In this context, four historical facts are discussed as mediums for the building of the historical context of Entopia: the Athens Charter, as an example of published modernist principles in

urbanism; the grid plan and linear city, as the examples of Entopia's dynamic-city model; modernist utopias, as examples for other "…topia" projections; and the place theories of the 1960s, to interpret the contemporary debates of Entopia. This is followed by an examination of the architectural appearances of Entopia in the works of Doxiadis.

Keywords: Constantinos Doxiadis, Entopia, Ecumenopolis, Ekistics, Dynapolis.

ÖZ

CONSTANTİNOS DOXİADİS'İN ENTOPYA'SININ YER KURAMI OLARAK YENİDEN DEĞERLENDİRİLMESİ

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Bu tez Constantinos Doxiadis'in, 1960'lı yılların "distopik" koşullarına karşı bir inşa sistemi olarak geliştirdiği Entopya'sı (var olabilir yer) ile ilgilidir. Entopya, insan yerleşkelerinin iyileştirilmesi için yeni bir kavram olarak ortaya atıldığı için, bu çalışma; Entopya'nın tarihsel ve mekânsal bağlamını inceleyerek diğer çağdaşları arasındaki "benzersizliğini" sorgulamayı amaçlamaktadır. Çalışmanın diğer amacı, Entopya'yı bir "yer teorisi olarak" ele alarak kökenleri 1940'lara dayanan Ekistiks (İnsan Yerleşkeleri Bilimi) tartışmasını yeniden açmaktır.

Entopya, 1966 yılında, Constantinos Doxiadis tarafından, "inşa edilemez" olan ütopya ve "mevcut" distopya kavramları arasında, Ekistiks tartışmasını bütünleyici bir terim olarak; yaklaşmakta olan dünya şehri, Ekümenopolis'e hazırlık yapabilmek amacıyla türetilmiştir. Entopya kendi zamanının mimari ve kentsel eğilimlerinin eleştirisini barındırmaktadır ve inşa edilebilir ilkelere dayanan bir yaşanabilir "yer" tanımlamaktadır.

Entopya dina-polis (dinamik şehir) modeli, ızgara planı ve insan ölçeğine dayalı kent dokuları önermektedir ve dönem olarak "savaş gazisi" Avrupa şehirlerinin modernist ortamını paylaşmaktadır. Bu bağlamda, dört tarihsel olay Entopya'nın tarihi bağlamını kurmak için aracı olarak incelenmektedir. Sırasıyla; yayımlanmış modern şehircilik ilkelerine örnek olarak Atina Anlaşması, Entopya'nın dina-polis modeline

örnek olarak doğrusal kent ile ızgara kent planı, diğer "…topya" öngörülerine örnek olarak modernist ütopyalar ve 1960'ların güncel tartışmalarını anlayabilmek için bu yılların yer teorileri incelenmektedir. Sonrasında Entopya'nın mimari karşılıkları, Constantinos Doxiadis'in kendi çalışmaları aracılığıyla incelenmektedir.

Anahtar Kelimeler: Constantinos Doxiadis, Var Olabilir-Yer, Dünya-Şehri, Dinamik Şehir, İnsan Yerleşkeleri Bilimi.

To my brother

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INTRODUCTION

1.1 Aims and Objectives

The subject of this thesis is Constantinos Doxiadis's Entopia which was projected as a buildable and livable "place" during the 1960s. In investigating Entopia's uniqueness among its contemporaries, the primary objective of the thesis is to determine the places of Constantinos Doxiadis and Entopia in the modern architecture of the 20th century, for which a comparison is made between Entopia's principles and the Athens Charter, the linear city and dynapolis, modernist utopias and Entopia, the place theories of the 1960s and place definitions of Doxiadis. As a secondary objective, Entopia is revisited as a place theory with an analysis of its spatial appearances based on Doxiadis's writings, illustrations and projects.

The 20th century witnessed a number of unique but also problematic discussions in architecture, with exciting developments in technology, two world wars, and changing demands in urbanism as a result of changing social and economic systems. Doxiadis was one architect who was part of this exciting "world" of new technological means. He was not the only one to develop radical and also creative solutions for the relatively "new" urban order of the 20th century, and so the works of Constantinos Doxiadis can be examined either as a "single" fact, or as "a part" of a historical period.

The reason for the selection of four particular elements for study from among many other historical issues is based on the unique basic features of Entopia. Firstly, Entopia was designed to be materialized in ten parts with five systems. The building process of Entopia was clearly defined in basic principles that stemmed from the

constructional to the administrative period. Raised in 1966, Entopia is compared to the Athens Charter of 1943,[1] which was a ninety-four-point document suggesting clear principals for planning in that both Entopia and the Athens Charter were "observations" of an existing situation. This comparison is not based on the content of two documents, but is rather is intended to determine the historical importance of Entopia. Secondly, representations of Entopia contain a grid system with a dynamically growing city center referred to as a dynapolis, bearing obvious resemblances to Le Corbusier's grid in his utopian projects. Likewise, the dynapolis model can be compared to the linear city of "modern times" as a solution to the uncontrolled growth of metropolises. Thirdly, Entopia is a concept that offers a "topos" or a place, just as "utopia" offers a "good" but "non-existent" place and "dystopia" defines a "bad" place. For this reason, a comparison is made between Entopia and the urban utopias of Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier. Through this comparison, it is intended to understand how Entopia differs from the other "topos" projects of the 20th century. Fourthly, critical theories related to "place" and phenomenology are proposed as examples of contemporaries of Entopia. Since the term Entopia was first used in 1966, when post-modernism was on the agenda, the place theories against anti-traditional modernism are the mediums adopted to present the motivations of Doxiadis.

Doxiadis touched upon the issue of the dystopian conditions of human settlements almost 70 years ago, and generated theories in order to recover cities from the domination of the machines – in particular, the automobile. Besides forming the new discipline of Ekistics – the Science of Human Settlements – he also defended the importance of human scale with the sublimation of the human being. After undertaking a great deal of projects in various cities and publishing numerous

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[1] The charter took shape in the fourth CIAM, 1933.

writings, Doxiadis suggested a new term 45 years ago to highlight the need for a radical change in current trends – entopia – adopted from the Greek word meaning "in place". This concept was more realistic than utopia, and was a response to dystopia; but was not as sensual as "topophilia" or "topophobia."

Doxiadis worked on ancient Greek cities during his doctorate studies, and took their architectural elements as the basis for his future studies. Not surprisingly, many of the terms he coined, such as Dynapolis, Ecumenopolis, Anthropopolis, Entopia and Ekistics, were based on Greek words with references to ancient Greek architecture. Although entopia was a new term, proposed by a Hellenic architect with Hellenic references, it also belonged to the European environment of a specific period: the 1960s. For this reason, it may be possible to refer to Doxiadis's Entopia as a "place theory" with references to space and place discussions during this period. Since the essence of the 1960s derived from criticisms of Modernism, which had resulted in the mechanization of buildings and the exclusion of traditional values, the early 20th century warrants significant attention when making general overview of Entopia's historical context.

In 1928, the La Sarraz Declaration was signed by twenty-four architects highlighting the problems of "new" architecture and suggesting possible solutions. The new architecture of the early 20th century contained both traditional elements and new forms as a result of the advent of industrialized materials and techniques. This binary state led architects to design problematic buildings and as Hans Poelzig states in "Fermentation in Architecture" the way out of this dichotomy is not to adopt traditional ornamentation methods with excluding "tectonic" solutions, as "Flight from everything historical can no more bring salvation than a purely decorative

return to forms from the past."[2] In contrast to the reconciliatory manner of Poelzig, Adolf Loos's purist view against traditional ornamentation methods is clear. Thus, the architectural "tectonic"[3] entered a new period with the Industrial Revolution and CIAM was one of the subjects of debate in this changing environment.

The La Sarraz Declaration brought a general system to the economy, town planning and architecture with principles to rationalize and standardize buildings for "minimum working effort" and "maximum economic efficiency." In this context, simple methods were to be used "abandoning outmoded conceptions", so as to organize buildings and towns in the most rational way. Moreover, public awareness was to be raised about the new system. The third CIAM culminated in two different viewpoints, being "*constatations*" and "resolutions". "*Constatations*" is translated as "observations" by Eric Mumford, and refers to the preliminary work of the Athens Charter.[4]

The Athens Charter observed that settlements have four functions: Dwelling, Work, Leisure and Circulation, which were taken as the basis in Le Corbusier's İzmir Plan. The charter was based on taking advantage of three-dimensional urbanism in order to have wider "leisure" areas for the physical and mental health of the public. In this context, the preservation of historical elements would interrupt and block the new urbanization, and the existing urban tissue should be re-built rather than protecting historical monuments.

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[2] Hans Poelzig. "Fermentation in Architecture." In *Programs and Manifestoes on 20th-Century Architecture*, by Ulrich Conrads, 14-17. London: Lund Humphries, 1970.
[3] With reference to Kenneth Frampton. *Studies in Tectonic Culture: The Poetics of Construction in Nineteenth and Twentieth Century Architecture.* Cambridge, London: The MIT Press, 1995.
[4] Eric Mumford. *The CIAM Discourse on Urbanism, 1928 - 1960.* Cambridge, Mass.: MIT Press, 2000, p.90.

In the İzmir Master Plan, Le Corbusier proposed a "Green Industry" that was based on the principles of "Three Human Settlements", published by ASCORAL. For Le Corbusier, to ensure maximum efficiency, industry was to be built "around" the transportation axes following a model that was based on a linear industrial city in which existing city centers are connected, while the agricultural production unit would be located "between" the three industrial settlements.[5] In his utopian Contemporary City and Radiant City projects, the settlements were also built on gridiron plans, with different regions assigned for different functions.

CIAM's zoning technique and its exclusion of traditional design insights were subjected to criticisms in the 1960s with Yona Friedman, for instance, stating that the organic development of settlements should be preserved without disconnecting the working group from the city center. For him, isolated workplaces would become automated with the advent of the standardized industrial system.[6]

The entire system of Entopia is based on five sub-systems: Nature, Anthropos, Society, Shells, and Networks, which would be mentioned as the radical difference between Entopia and the Athens Charter, in that the charter does not mention "human" and "nature", but rather the transportation system between the working and living areas. The natural areas were taken both as the grounds of human settlements and wild areas that needed to be preserved, and for this reason, the environment is divided into four parts: Natural areas that are preserved, cultivation areas, human areas that are built-up and industrial areas with the other four systems located within this arrangement. Nature is the "prevailing element" of human settlements, which

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[5] Cânâ Bilsel. "Le Corbusier'nin İzmir Nazım Planı ve "Yeşil Endüstri Sitesi" Önerisi." *Ege Mimarlık*, 1999: 13-17.
[6] Yona Friedman. "The Ten Principles of Space Town Planning." In *Programs and Manifestoes on 20th-Century Architecture*, by Ulrich Conrads, 183-184. London: Lund Humphries, 1970.

was not created by man, and Doxiadis argues that since human achievement comes from its organization, nature has to be organized in a system.[7]

1.2 Entopia

If one considers the "*anthropo*-cosmos", or built environment as a composition of layers, the first layer would be the land, namely, nature,[8] the second layer would be the ground-building, a man-made layer that comprises processed materials such as granite or asphalt, the third layer would be the human itself, as the driving force and ground zero of the settlements; the fourth layer, the "shells", overlay the anthropos; and the topmost layer would be the sky.

The action of constructing the shells is performed by the human layer; however, when the capillaries and the arteries – the networks – that connect all the layers begin to form, the shells externalize the human body due to "space-time"[9] compression. The system, which goes beyond the human scale, creates its own scale in that the system develops "apparatuses"[10] for itself that fit the flow rate of the human to the flow rate of the artery. This "organism", formed by the planes, formulates human behavior with these agents and creates its own system. This is an artificial structure, and a symbiotic relationship exists between this organism and the human. The "human layer" constructs the shells by itself, but at the same time, seeks to change it. "Utopia" is the desired outcome, while the most feared would be "dystopia". Beyond these, if the human succeeds in building its desires and dreams, that place's name would be "entopia."

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[7] Constantinos Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975.
[8] For Ekistics, there are five main elements of settlements: Anthropos, nature, shells, networks and society. Constantinos Doxiadis. *Ekistics: An Introduction to the Science of Human Settlements.* New York: Oxford University Press, 1968.
[9] This concept of "space-time compression" refers to David Harvey, "The Condition of Postmodernity."
[10] Louis Althusser. *Lenin and Philosophy and Other Essays* . Monthly Review Press , 2001.

Decisions are made about large-scale urban lands, and then small-scale shells are built. At the end of the construction period, the shells begin to be loaded down with the humans – that is, the citizens. These people act as a mass; they move like a radio wave, as Baudelaire says; they fluctuate in stations, concentrate in the city center and disperse in the evening; they enter underground holes like scuttling-away rats. Perhaps the most surprising thing is that each individual has its own individual genetic code and imagination within this moving mass; yet, these dreams are beyond those that are cultivated by the system; they are unprocessed and they belong to the "raw" consciousness.[11]

A utopia lies in each consciousness, and the dreams of the "bodies without organs"[12] are hidden somewhere. Utopia belongs to the human, whereas the dystopia belongs to the organism – namely, the man-made shells. In this case, it can be said that entopia is impossible, unlike; the delusion of a utopia, which can be imposed on people by composing hegemony, since there is no such thing as a common dream. That said, humans do not have individual cosmoses, and live in collective settlements, and this is why the entire concept of the "human" constitutes a single plane.

The concept of "entopia" stands between the collective dream – which is practically impossible – and the urban utopia. Likewise, taking the "human" and the urban settlement as its origin, Ekistics lies between the "individual human" and communal settlements. For Doxiadis, we need to "act" rather than create utopias, and offers

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[11] This concept refers to Gilles Deleuze, Felix Guattari. *Capitalism and Schizophrenia, A Thousand Plateaus.* University of Minnesota Press, 1987.
[12] Ibid.

eleven feasible proposals in order to attain to "healthy and clean human settlements".[13]

1.3 Structure of the Thesis

Like other space and place theories in the 20th century, ekistics was a debate in the fields of architecture and urban planning. Adopting a scientific method as a newly-formed science, ekistics set down place descriptions, such as ecumenopolis: the world city; dynapolis: the dynamic city; and entopia: the practicable place. This study concentrates mainly on the historical background of these concepts, and the possibility of using them to resolve the problems of today's cities.

In re-starting a historical discussion, this study can be deemed significant in its dealing with the entopia concept, which is a relatively uncommon subject in recent academic research in Turkey. Entopia and ekistics issues were contemporaries in the 1960s, although, the same problems of human settlements are still of concern today. By offering rational solutions to the unhealthy conditions of settlements, the entopia concept is a valuable theory that is worthy of more attention in the present day.

Doxiadis belongs to a specific historical period, and entopia in itself is a historical concept. His active working life coincides with the periods of late-modernism and early post-modernism, meaning that the writings and projects of Doxiadis cannot be distinguished from these historical periods. In this context, the related place theories associated with entopia are dealt with by means of a comparison method.

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[13]Constantinos A. Doxiadis. *Action for Human Settlements.* Athens and Toronto: Athens Center of Ekistics, 1976. The eleven proposals are: 1. Twelve Global Zones, 2. Ownership of Global Spaces, 3. Human Space, 4. Human Scale, 5. Equal Choices and Rights, 6. Territorial Organization, 7. Housing for Everybody, 8. Community Services, 9. LANWAIR Systems, 10. Utilities and Movement Corridors, 11. Living Human Settlements.

This study comprises six subchapters, the first three of which are based on modernism, and investigate entopia from a historical perspective. The following three subchapters focus on discussions of place and space and are based on the post-modernism approach.

The first subchapter provides a general overview of modernism. As the declaration of the Fourth CIAM Congress, the Athens Charter is highly significant for this study. This part concentrates mainly on the more recent period of modernism, corresponding to the period between the 1920s and the 1960s. Through an analysis of written documents, it is intended to identify the historical background in which entopia was shaped. In other words, the intellectual basis of Doxiadis is revealed.

The second subchapter analyzes the visual representations of entopia using urban references. Based on Doxiadis's own graphical plotting, the intention is to introduce this new place theory with its basic properties. To be investigated deeper in the last chapter, this part calls forth the basic urban elements that are involved in entopia. The historical framework also comprises two historical urban forms: the Gridiron plan and the Linear City. As the third subchapter, this part makes a survey of the urban elements that are illustrated in the definition of entopia. Although the two urban forms belong to different historical contexts, they are dealt with as close examples as far as possible. For instance, Le Corbusier's grid plans are taken as examples of the ancient grid-iron urban tissue using the terms that Le Corbusier deals with the discussions in the first chapter. As the earliest examples of linear cities date from the late-19th century, the historical background of this urban tissue is taken as a whole, rather than specific examples being provided.

The fourth subchapter investigates the other "…topia" fictions, providing related historical examples in order to identify its uniqueness among the other place theories,

as well as its similarities. This chapter shares its name with the title of Doxiadis's book: "Between Dystopia and Utopia",[14] in which he explains the point of origin of entopia as being the need for a "practicable utopia" against the dystopian condition of cities. In the light of this information, the "urban utopias of the 20th century"[15] could be considered as relevant examples of entopia's historical context. The Garden Cities of Ebenezer Howard, Broadacre City of Frank Lloyd Wright and Radiant City of Le Corbusier are analyzed in this chapter, in which the intention is to assert the difference between entopia and utopia, using relevant examples of entopia's historical context. In this context, the 20th century utopias can be considered the most suitable examples in their modernist vision and their relative contemporariness with Doxiadis's works.

The fifth subchapter represents the transitional period between modernism and postmodernism. As the entopia theory grew to maturity in the 1970s with the publication of Doxiadis's book "Building Entopia",[16] entopia's historical context can no longer be limited to modernist discourses. It is thus the intention in this part to investigate this period from the perspective of the architectural phenomenology that was formed during the 1970s.

Finally, the last part is a comprehensive reading of the book "Building Entopia",[17] which was published in 1975 and was one of the last books penned by Doxiadis. The book contains details of almost all of the projects of Doxiadis Associates, which for the purpose of this thesis are handled as appearances of "entopian places" and constitute material appearances of this place theory.

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[14] Constantinos Doxiadis. *Between Dystopia and Utopia.* London: Faber and Faber Limited, 1966.
[15] Fishman. *Urban Utopias in the Twentieth Century.* Cambridge, Massachusetts, London: MIT Press, 1994.
[16] Constantinos Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975.
[17] Ibid.

CHAPTER 2

ENTOPIA AS A HISTORICAL CONCEPT IN MODERN ARCHITECTURE

Theories of Constantinos Doxiadis and Doxiadis himself have a specific place in the intricate history of modern urbanism and architecture; in that, the active study years of Doxiadis coincide with the 20th century modernism – specifically the 1950s and the 1960s – and the transitional period of the "Rise of the Postmodern."[18] On the purpose of investigating the historical context of study of Constantinos Doxiadis and comprehending the period that the word "entopia" was coined, initially the CIAM organization and the Modern Movement during the 20th century and are to be examined.

> Other immediate continuations of CIAM-like activities were the efforts of the Greek architect and United Nations consultant Constantinos Doxiadis, who organized symposia and published a journal, *Ekistics*, on the science of human settlements" with the assistance of Jaqueline Tyrwhitt.[19]

As Eric Mumford remarks, the discourse of Constantinos Doxiadis had a remarkable place on the debates of the International Congress of Modern Architecture and namely the Modern Movement. After the dissolution of CIAM, Constantinos Doxiadis organized the Delos Symposium once a year between 1962 and 1974. With

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[18] By reference to Jorge Otero-Pailos' book *Architecture's Historical Turn: Phenomenology and the Rise of the Postmodern*. University of Minnesota Press, 2010.
[19] Eric Mumford. *The CIAM Discourse on Urbanism, 1928 - 1960.* Cambridge, Mass.: MIT Press, 2000.

the awareness of that the issues of the "journal" ekistics, the influence of Patrick Geddes on Jacqueline Tyrwhitt and thus on ekistics discourse, large-scaled urban plans of C. A. Doxiadis and Doxiadis's other place theories should not be put away; the historical events that would directly be related to entopia concept are aimed to be examined in this chapter. For this reason, the historical context of this study is limited to a general outlook of Modernist vision on urban architecture during the 20th century.

After examining its historical context, this chapter aims to make a survey on the principles of entopia as a new theory of this historical period. In this regard, the urban planning methods of Constantinos Doxiadis and the spatial responses of entopia in urban scale are questioned. In order to locate entopia as a place theory among its contemporaries; a long standing settlement plan which is the grid-iron plan and a relatively newer urban system, "linear city" are examined. By re-examining the theory of "entopia" and the related issue of "Modern Architecture", this chapter is about to survey, a half-century-old discussion on scientific urbanism.

2.1 The Athens Charter and Modern Architecture

"Modern" is explained as the distinction between the ancients and the "new" ones by Jürgen Habermas. For him, the trends are the results of transitional periods and Modernity is not an independent fact from the previous periods. Likewise, post-modernity is the natural continuity of Modernity, but not an anti-modern movement: "With varying content, the term 'modern' again and again expresses the consciousness of an epoch that relates itself to the past antiquity, in order to view itself as the result of a transition from the old to the new."[20] In the light of this assumption, it can be said that the "modern one" belongs to a natural development

[20] Jürgen Habermas. "Modernity - An Incomplete Project." *New German Critique*, 1981: 3-14.

process which cannot be denied. Moreover, every period in history had a "modern" attitude and in time, "newer" attitudes took the place of the moderns so that it became the ancient one. This is how "evolution" works. Post-modernity is a process in which Modernity became exhausted in time.

Industrialization and modern architecture are bound together within historical context. Basically, independent – or relatively dependent – inventors created technological instruments with the idea of reign of human over the nature. In architecture, new materials, new methods and new instruments made new forms possible to apply. Namely, modern architecture appeared as the reflection of the Industrial Revolution and with the changing technological means, modern architecture was a natural part of this transitional period of civilization.

Modern movement in architecture can be traced back through three periods in history, as Leonardo Benevolo explained it. That is to say, the Industrial Revolution with its influences over technical means, social and cultural relationships led to a new approach in architectural environment. Called as modern architecture, this new approach arose "beyond the traditional limits" with constructing its own social order. This radical change is first period of modern architecture. The second period was the emergence of architectural – or spatial – responses to the first period as Benevolo states: "When the single elements had emerged with sufficient clarity, there arose the need for their mutual integration."[21]

The third period of modern architecture began with the "modern movement" after the clarification of the "problem" of how to integrate industrial means with architecture. The Modern Movement was the "practical response" of the Industrial Revolution

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[21] Leonardo Benevolo. *History of Modern Architecture, Vol.1*. Cambridge, Massachusetts: The MIT Press, 1971, p.xi.

with a method of filling the "gaps" between "theory and practice", as Leonardo Benevolo follows. Benevolo strictly marks the beginning of the modern movement as the opening of Bauhaus school by Walter Gropius. This historical event was the achievement of modern architecture with reaching to a consistency.[22]

Technical progresses changed the way of building methods of ordinary buildings with the usage of new materials such as glass, roof tiles, and cast iron. However, the transformation did not only happen in building scale. Furthermore, the organization and the structure of human settlements have constantly changed with new social order of industrialization period. Naturally, this radical change led the urban planners and architects work through valid solutions in order to "cure" and re-organize the human settlements with rational proposals. The CIAM congresses would constitute early examples for modern movement's discursive environment. Constantinos Doxiadis would be mentioned as another name who worked through the chaotic results of industrialization over urbanism.

One may say that the history of architecture is relatively simple in terms of technical instruments or materials: With the invention of new forms – such as dome – or with gathering different materials together – such as reinforced concrete–the possibility of creating different forms was basically in question in history. More, the innovative forms and different behaviors in architectural history can be relatively classified as periods, movements or geographical regions. However, the history of architecture and urbanism became more complicated with industrialization and the appearance of new technical means, as Le Corbusier stated in the Fourth CIAM Congress.[23]

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[22] Ibid.
[23] Le Corbusier. *Athens Charter.* New York: Grossman Publishers, 1973.

Before the CIAM, Modern Movement was already in practice with the *Deutcher Werkbund* by German architects thanks to Germany's stance over "tradition". The mediator generation between the "classical" and the "modern" consisted of architects Walter Gropius, Mies van der Rohe, and Bruno Taut.[24] However, the simplicity of modernism was not represented by the "monumental posturing and dramatic harshness" of Peter Behrens' designs. Rather, Gropius succeeded in designing and constructing the Fagus Factory in the most economical way for the most practical usage.[25]

The First World War led to a certain change in architecture and urbanism. Held in 1933, the fourth CIAM congress dealt with the necessary changes in urbanism and Le Corbusier published those discussions under the title of "The Athens Charter." The first CIAM meeting was organized in 1928 and the goals were:

a) To formulate the contemporary program of architecture.
b) To advocate the idea of modern architecture.
c) To forcefully introduce this idea into technical, economic and social circles.
d) To see to the resolution of architectural problems.[26]

Respectively, following CIAM congresses brought forward the issues of "Low Cost Dwelling", "Rational Housing Development", "The Functional City", and "Dwelling and Leisure" between 1927 and 1937. These titles are important for a study which is based on Constantinos Doxiadis's entopia on the grounds that entopia's initial concern is based on housings, to be discussed in the last chapter.

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[24] Leonardo Benevolo. *History of Modern Architecture, Vol.2*. London: Routledge & Kegan Paul, 1971, p.381.
[25] Ibid, p.386.
[26] Giedion to Van Eesteren, July 10, 1928, quoted in Eric Mumford. *The CIAM Discourse on Urbanism, 1928 - 1960.* Cambridge, Mass.: MIT Press, 2000.

"The Functional City" or the fourth CIAM meeting determined the basic problems of contemporary cities. The observations and solutions were listed in 95 items. The first item is a harsh criticism over the zoned city centers with excluding the geographical data and disconnecting itself from the region. Another observation is about the social relations of the city that cannot achieve the balance between the "collective" and the "individual." Namely, a human should not be isolated from the society in order to protect from "illness, violence, and hunger" and the settlement should provide such an interaction. Those physiological and biological needs are also affected from the environment in terms of settlement's geographical location, its economical circumstances, and its administrative system. In the fifth item, the political condition of a settlement was described as it should be a dynamic system with a more consistent nature: "There is no administrative framework that can lay claim to immutability."[27]

As it was stated in the Athens Charter, the mechanical means changed the order of cities permanently. This change was handled as a chaos and impasse and solutions were suggested in four units of a human life: habitation, leisure, work, and traffic. The most criticized item of contemporary habitations was the formation of suburbs with spontaneously located transportation systems and the lack of public services. The Garden City plan of Ebenezer Howard was also blamed to be irrational and delusive. In this context, all the human settlements should be located in the best locations in terms of topography, climate, and the exposure of sunlight.[28]

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[27] Le Corbusier, op. cit, p.46.
[28] Ibid, p.60.

Figure 2.1 Scene from the movie Modern Times, Charlie Chaplin. 1936.

In cinema, the subject of "tramp" is identified with Charles Spencer Chaplin's famous figure "[L]oosing his mind and his job in a ruthless factory, the little tramp struggles to survive in the industrial age with the aid of a helpless gamine."[29] The tramp is a workless man who walks around to find a job and this word corresponds to a slang word "hobo" or "hoe boy." From its lexical meaning, a "hobo" is a human who is "simply a worker who likes to travel"[30] and another definition of hobo is "a wanderer who has no regular work, a tramp"[31]. This concept would make a sense within Lefebvre's "The Right to the City" context as representing the non-systematic and uncontrolled movements of a citizen.

On one hand, the city tries to exclude the hobo from urban life due to security reasons. On the other hand, he is not the one to choose to be an idle; rather, the system of the modern city causes the lower class to have the lowest economic security which leads unemployment, bad living conditions and thus uncontrolled

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[29] David Robinson. *Charlie Chaplin - Official Website.* 2004. http://www.charliechaplin.com/en/films/6-modern-times/articles/6-Filming-Modern-Times (accessed June 23, 2013).
[30] William and Mary Morris. (1977). *Morris Dictionary of Word and Phrase Origins.* New York: Harper & Row Publishers.
[31] Longman Group. (1983). *Active Study Dictionary of English.* Bungay: The Chaucer Press.

movements of insecure citizens. In a word, the city itself treats its own citizens as worthless manpower. However, there would not be a city without humans, as Henri Lefebvre states; there would be nothing left to build with the absence of human beings.[32]

The modern movement in architecture comes up with the new conditions of its time: Rapid industrialization with the technological advancements and the world wars that forced the human settlements to transform. Because "the industry" adopts a mass production system in order to maximize the profit of the owner, namely the "boss"; the workers are expected to work in a strictly scheduled program which does not let them to act without the boundaries that is defined by the factory. Accordingly, Chaplin's tramp character is not pleased with working in a factory but he is also aware of that he "must" work and earn money for the life that he dreams of. In this respect, the determinant manner of not modernist vision but the industrialist system makes the "hoe boy" or "tramp" characters meaningful in a discussion which is based on "human" settlements.

Similar to metaphoric criticism of Chaplin, the Athens Charter touches upon the inhumane conditions of the "mechanized" urban settlements and charges the local governments with creating such inequitable conditions. So much so that, the "current" cities could satisfy any of the needs of dwellers such as green areas, sufficient transportation systems, traffic system with separate roads for the pedestrian and the automobiles, secured environment, and social rights. As José Luis Sert states, the Athens Charter would serve as the precursor of "Charter of Urban Rights" despite

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[32] Henri Lefebvre. "The Right to the City." In *Architecture Culture 1943-1968: A Documentary Anthology*, by Joan Ockman, 428-436. New York: Rizzoli International Publications, 1993.

of its weaknesses.[33] For the sake of healthier settlements, the old urban blocks can be demolished for rationally arranged housing units.[34]

Considering that certain sociological and politic elements are the external factors that affect architectural behaviors, it can be observed how the urban tissue has changed during the world wars both in physical – destroyed cities – and non-physical ways such as new approaches on politics on cities: mass housing with industrialization, factory cities, or the center-periphery construction of the bourgeois.

Certain forms would transform into trends in architectural discourses in which basic ornaments would be a matter of fact, but in a dependent way, however. Namely, the form is originated from the function in the example of industrial buildings. Respectively, the rapid industrialization brings about low-cost housings for the workers, and then a sufficient area to position them and a transportation system between work-place and folk-place.[35]

The fourth CIAM meeting took place before the Second World War and the approaches on urban planning surely changed after the war. Taking "social democracy" as the core idea, the governments' responsibilities expanded in order to provide the citizens with "universal education, health care and social security" as Nigel Taylor states. This planning approach was taking the country as a whole unlike the previous urban policies that only covered the city center.[36]

The CIAM members played an active role during the reconstruction of urban areas of European cities alongside of Algiers and Turkey. It was after the First World War.

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[33] José Luis Sert. "Foreword." In *Athens Charter*, by Le Corbusier, vii-x. New York: Grossman Publishers, 1973.
[34] Le Corbusier, op. cit, p.86.
[35]The word "folk" refers to the family concept of Patrick Geddes.
[36] Nigel Taylor. *Urban Planning Theory since 1945*. London, Thousand Oaks, New Delhi: Sage Publications, 1998, pp.4-6.

After the Second World War, the European architects had the opportunity to introduce "Modern Architecture" to the Middle East countries through the agency of United Nations and the United States.[37] During the reconstruction of the capital cities of Middle East countries, there had been applied or unapplied architectural projects of all sizes such as bus stations, state buildings and educational buildings under the practice of "constructing capital" in certain Middle East countries such as India, Pakistan, and Iraq. As a member of United Nations, Constantinos Doxiadis was an active urban planner in preparing urban development plans for developing countries such as Pakistan, Iraq, Iran and other countries such as USA, Syria, Lebanon and many others in Europe, Asia, Africa, and Europe.

Ekistics was a current subject of debate in the 1960s and those years surely coincide with the transitional period of the Second World War through which a critique of Modernity in general and Modern Movement in particular was an immense endeavor among the Western intelligentsia. In contrast to the post-war science as the servant of military, politics and economics, Ekistics then revealed itself as an independent science and refused to serve any individual intellectual stream. It is also important to briefly mention here that the cities in Europe were in bad conditions, almost destroyed because of the war; the post-war years were the period of recovery. In an open letter, Doxiadis states that "Legislators, financiers, military men and scientists were asked to give their opinion on the reshaping of the postwar world, but architects and those responsible for physical planning have been ignored. This, however, is not

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[37] Panayiota Ioanni Pyla, 2002, *Ekistics, Architecture, and Environmental Politics, 1945--1976: A prehistory of sustainable development,* Doctor of Philosophy in Architecture, Massachusetts Institute of Technology, Massachusetts: Dissertations Publishing.

wise, because the new world will be safe only after it has been reshaped on a new basis."[38] For him, only a "rational" manner could reshape the cities wisely.

Along with the Athens Charter, CIAM 8 would be mentioned as a relevant historical event in terms of its relevancy to the first editor of Ekistics journal. Titled as "The Heart of the City," CIAM 8 was the third International Congress of Modern Architecture after the Second World War. The congress that took place in 1951 in England by the MARS group, namely the English wing of CIAM, occupied itself with worrying the problem of "the heart of the city." Based on this, José Luis Sert called for the process of "recentralization" towards "unplanned decentralization" respect to the renewal of the cities during the post-war period.[39]

Following, the MARS group has published "the needs at a core" that manifests the necessity of a "city center" that is secured from traffic and the uncontrolled commercial advertisement. In contrast to post war conditions of 1951, current cities hold a heavy building mass and "needs at city core" still stands for current cities. Eric Mumford states that the Core was defined as a built space where the "sense of community" is physically expressed and the city center cannot be explained with the scientific manner of pre-war CIAM congresses.[40] The subject of the congress was relevant to rebuilding the destroyed city centers alongside of applying the CIAM principles on other city centers such as rural villages in Holland and Norway and suburban locales in the United States and Europe.

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[38] Doxiadis, "To Architects and to All Who Are Interested in Physical Planning for the Reconstruction of the World in The United Nations" (Athens, October 12, 1945). In Panayiota Ioanni Pyla, ibid.
[39]Joan Ockman. *Architecture Culture 1943-1968: A Documentary Anthology.* New York: Rizzoli International Publications, 1993.
[40]Eric Mumford. *The CIAM Discourse on Urbanism, 1928 - 1960.* Cambridge, Mass.: MIT Press, 2000.

Jaqueline Tyrwhitt was the assistant director of MARS group and a member of CIAM since 1941 as she has chaired the session "Social Background of the Core" in CIAM 8.[41] Following the congress, in 1954, Jaqueline Tyrwhitt went to Delhi as the director of the first U.N. International Symposium on Housing and Community Planning where Doxiadis was a participant.[42] The birth of the journal Ekistics dates back to this acquaintance.

However, CIAM declarations and the writings of Doxiadis were not the only examples that insisted on an immediate change. Fairly imaginative and stimulating, the architectural manifestoes of the 20th century belonged to an inspiring age. It would not be wrong to say that the inspiring developments of technology brought not only excitement but also a fear of the unknown future. As gathered together by Ulrich Conrads, the "Programmes and Manifestoes on 20th Century Architecture"[43] represents the ambiance of the period from an architectural view. For example, in the 1910s, there were the manifestations of newly forming modern movement: "Ornament and Crime" expression of Adolf Loos, organic architecture versus geometrical forms, De Stijl manifesto, the impression of "glass" as a structural material, and surely the theses and anti-theses of *Werkbund* between the discussions over individual insight of artist and objective purity of the architect.[44]

From the viewpoint of entopia concept as a place theory, "The Great Dystopia of 1984" was represented in a picture by Constantinos Doxiadis with referring to George Orwell's Animal Farm. Doxiadis's dystopia image was published in 1975 and in the advertising boards in figure; "ABC" letters appears frequently. It may be

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[41] Ibid.
[42] Ekistics Journal. *The first issue of the journal, October 1955.* July/ August 1995. http://www.ekistics.org/EJournal.htm (accessed July 01, 2013).
[43] Ulrich Conrads. *Programs and Manifestoes on 20th-Century Architecture.* London: Lund Humphries, 1970.
[44] Ibid.

questioned here that was it by coincidence that Constantinos Doxiadis specifically picked the letters "ABC" referring to Hannes Meyer. This question would be important in terms of "ABC Demands the Dictatorship of the Machine"[45] manifesto that was published in 1928.

Figure 2.2 The great dystopia of 1984. This image was published in 1975 and the ABC phrases can be seen on the right side of the picture.

2.2 Entopia as a New Theory of Place

Within this chapter, it is intended to build a theoretical framework of the concept of *Entopia* in order to forge a link between "theory and practice" – or, theory as the theoretical and historical background of Constantinos Doxiadis in modernization period and practice as the spatial responses of them. Alongside of countless studies of Doxiadis and the countless discussions on different issues that took place in Ekistics journal, the problems of current cities can be further discussed through this

[45] Conrads, op. cit, p.97.

spatial concept. The cover design of C. A. Doxiadis's book "Between Dystopia and Utopia", designed by Sophia Zarambouka, is the "object" of this chapter in terms of visualizing this place concept.

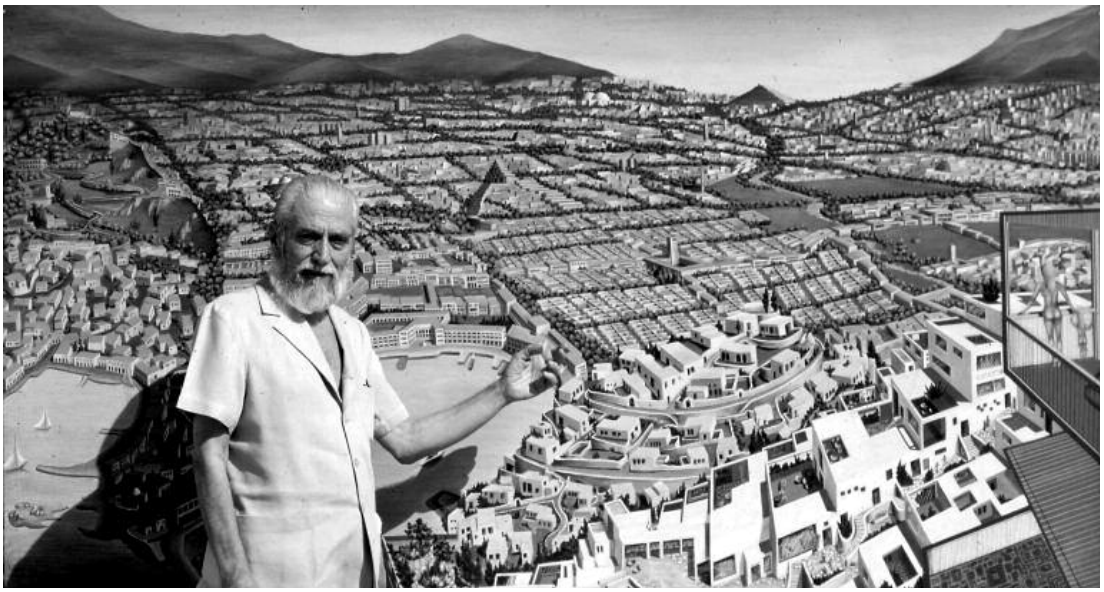

Figure 2.3 Constantinos A. Doxiadis. Entopia greeting card, 1974. © Constantinos and Emma Doxiadis Foundation. In Panayiota Pyla.

Most of Constantinos Doxiadis's published books on human settlements include a glossary that explains the related terms used in the book – mostly the terms that was coined by Doxiadis. Some of the terms coined by Doxiadis are *Anthroparea*, meaning "so-called built-up area; *Antropocosmos*, meaning "world of anthropos"; *Dynapolis*, meaning "dynamic city"; *Ecumenopolis*, meaning the world city; *Ekistics*, meaning the science of human settlements; *Entopia*, meaning "place that is practicable – that can exist"; and *Mecstreet* refers to "a street reserved for machines

only."[46] Although all those terms are related to society and urban settlements, the "entopia" concept propose an exceptional place definition in terms of being a "…topia" fiction.

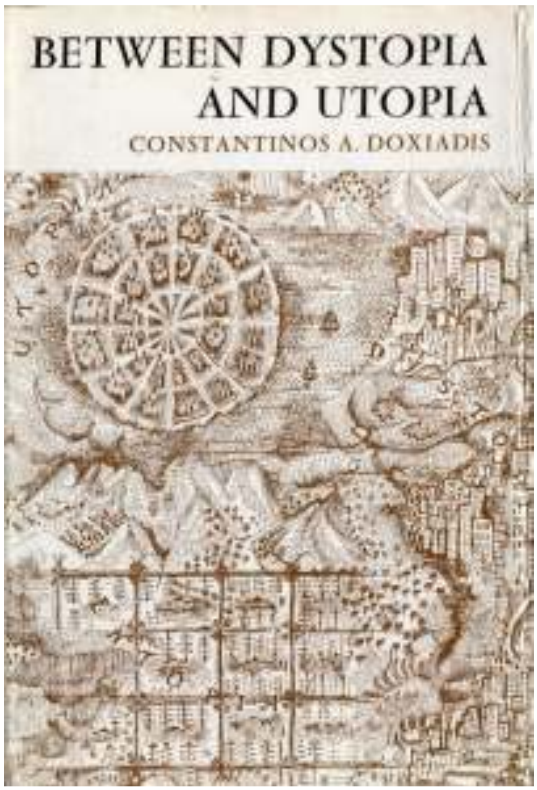

Figure 2.4 Book cover designed by Sophia Zarambouka (1966). Source: Constantinos A. Doxiadis, *Between Dystopia and Utopia*. London: Faber and Faber Limited, 1966.

The term *Entopia* was coined by C.A. Doxiadis from the Greek words *en* and *topos*, "in" and "place." It means a place that is practicable, or buildable. Constantinos Doxiadis first used this term within his lectures in Trinity College, Hartford in

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[46] Constantinos A. Doxiadis. *Action for Human Settlements.* New York and Toronto: W.W.Norton & Company Inc., 1976.

1966.[47] Following, he collected those lectures in his book "Between Dystopia and Utopia" which was published in 1966. Doxiadis simply explains the discrepancy of dystopia and utopia and proposes the way out of this contradiction in these words:

> The present city – without reason, without dream – leads to dystopia and disaster. Utopias – without reason, with dream – cannot get us out of the impasse. There is only one road left – *with reason and with dream* – which should take us out of the bad place into a good place, which is not out of place, but in place – an entopia.[48]

After structuring a place theory and also a new science; in 1968, Doxiadis published his book on Ekistics on the purpose of determining the field of study of an *Ekistician*. Meaning that "The Science of Human Settlements", the term Ekistics was coined by C. Doxiadis from the Greek words *oίκος* "home" and *oikõ* "settling down." Additionally he argues that while working on the "science of human settlements", that is not good enough for different disciplines to "work together;" instead, a fresh form of science should take place, which would merge all the related disciplines into a new. However, it should also be noted here that Ekistics requires the knowledge that is based on predictable and observable data. He refuses to work through the unpredictable phenomenon and rather defines the predictable cases in order to achieve a progress, which is visible and tangible.

Human settlements, for Doxiadis, basically consist of two components: "anthropos", human and his environment "physical settlement" and these two elements split into five elements. First three elements are the "nature" as the base of the settlements, individual "anthropos" as the inhabitant and the "society" as the systems of interaction between people. The other elements are the "shells" which contains the

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[47] Constantinos A. Doxiadis. *Ekistics: An Introduction to the Science of Human Settlements.* New York: Oxford University Press, 1968.
[48] Constantinos A. Doxiadis *Between Dystopia and Utopia.* London: Faber and Faber Limited, 1966.

human and his activities and the "networks" which interconnect the natural or man-made layouts to each other such as water supply, electricity, drainage networks, communication and education or the economic and political systems. These elements are defined as the "five ekistic elements" by the science of human settlements — they also make the base of entopia.

Another place theory related to entopia concept is Ecumenopolis or the "world city", extensively used to describe "the endless city" that was believed to have taken shape from the expanding urbanization and the rapid influx of human population; i.e., despite the fact that the habitable places of earth remain stable, the demand of further urbanization makes the endless city indispensable. This contemporary urbanization problem as well as the problem-solving approaches attached has gained since then a scientific character through a particular paradigm developed by Doxiadis and thus the prediction of "endless city" has generated a new theory with which the notion of Ecumenopolis has been regarded as the inevitable result of today's cities. It was also believed that Ecumenopolis adopts an unquestionable character due to its position under the indisputable notion of "science of human settlements."

It can be said that the three concepts "entopia, ekistics, and ecumenopolis" are complementary terms. Namely, the entopia diagram of Doxiadis Associates – for Panayiota Pyla, this is a different mode of representation of Doxiadis Associates among their usual graphical diagrams[49] – provides a view of the future of the Athens metropolis and includes the key concepts of planning the global city "ecumenopolis"[50] and ekistics is the discipline which defines the "actions" of the city planners.

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[49] Panayiota Pyla. "Planetary home and garden: ekistics and environmental-developmental politics." *Grey Room 36* (Massachusetts Institute of Technology), Summer 2009: 6-35.
[50] Ibid.

Having seen that Ekistics has been equipped to have five particular fields and disciplines – culture, economics, social and political sciences and technique –, their own legitimacy requires fully understanding how they interact with each other and create a unique scientific theory of human settlement in the hands of planners, urban designers, and architects. Ekistics also defines the urban space in relation to anthropology, architecture, physics, psychology and other technical fields or natural sciences. All these fields and disciplines would have different viewpoints over space; some supports each other and yet some possesses an incompatible field in which they cannot share even the same terminology. In spite of this, all have their own legitimacy due to their network of paradigms – or presuppositions –, which constitute a scientific "base" for their research. For this very reason, working on space, according to Doxiadis, only from the viewpoint of, such as phenomenology or fine arts would not be enough as the primary problems of space still remain. Therefore what is required here, for him, is rather a "science of space" with a common terminology for a more objective survey on urban environments.

For some, Ekistics may be regarded as *Passé* or not relevant as far as today's very unique conditions are specifically considered; however, interestingly enough there are nowadays an increasing demand for further academic and professional retrospective works on Doxiadis for several reasons – destructive urban patterns at global scale to local environment problems in Turkey. For instance, a recent file was published under the title "*Dosya: Ekümenopolis*; File: Ecumenopolis" in *Arredamento Mimarlık*, a new documentary of "Ecumenopolis" was made by İmre Azem in 2011; and titled as "The cities, security and poverty", the 2013 meeting of the World Society for Ekistics took place in Ankara, Middle East Technical University.

Believed to be timely in respect to those recent developments, the core question revolves around to band the knowledge of theories and history together and to bring forward a "buildable" utopia. While putting the idea of "Entopia" forward, Doxiadis does not dream of rainbows and unicorns while working on tomorrow's cities:

> I do not present a utopia, for which there is no place, but an Entopia for which there is a place on our globe (on Mars I would act differently). For this reason I start by explaining in a realistic way that certain characteristics, such as the dimensions of the City of the Future, are inevitable because of the explosion of science and technology. We cannot avoid them anymore than the farmers could avoid the formation of the village once they decided to cultivate the soil and to abandon hunting. If we want to build and not only talk, we must be realists.[51]

Alongside Doxiadis's usual graphic images that contain related data about human settlements, the greeting card is a direct imagery of a built entopia. As shown in the figure 2.4, the relatively irregular old city and the newly formed grid-like city coexist in an orderly manner. Additionally, a pyramidal figure on the upper right and vertically rising structures in places can be observed. More surprisingly, as Panayiota Pyla puts it, a nudist community is pictured on the right side of the image in order to address that a built entopia contains suitable living spaces for different communities.[52]

In his book *Between Dystopia and Utopia*, Constantinos Doxiadis explains that the aim of building entopia is to give the "ideal" shape to the city and thus to shape the oncoming global city, namely the ecumenopolis.[53] In this context, it can be said that there are simply three fixed values on the behalf of making short-term or long-term urban development plans: dynamic growth, human scale, and the time factor.

Firstly, the growth of a human settlement takes place in a dynamic manner. That is to say, a city is a dynamic formation by its very nature though; the ecumenopolis should reserve "dynamic cities with dynamic shells" in a way that multiple and static city centers should be built in a dynamic city. Namely, the city centers would be like static cells in a dynamically growing organism as Doxiadis states: "The solution then

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[51] Constantinos A. Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975.
[52] Pyla, Op. cit.
[53] Doxiadis, Op. Cit.

is not de-centralization but new-centralization." [54] The new-centralization idea of Doxiadis would be handled as a parallel attitude to the re-centralization discourse of CIAM 8, "The Heart of the City."

Figure 2.5 "New-Centralization", Constantinos Doxiadis.

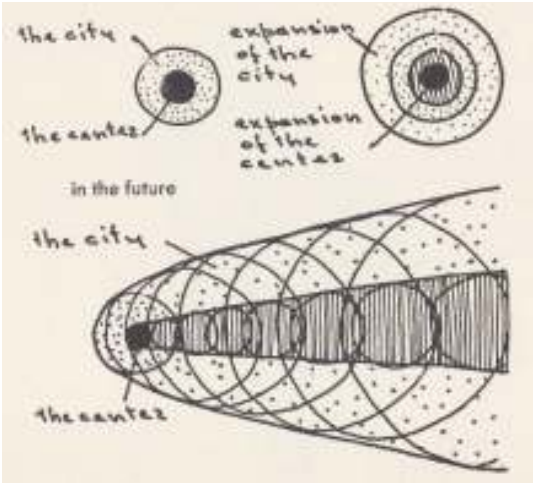

Figure 2.6 The ideal dynapolis. Source: Constantinos Doxiadis, *Between Dystopia and Utopia,* 1966.

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[54] Ibid.

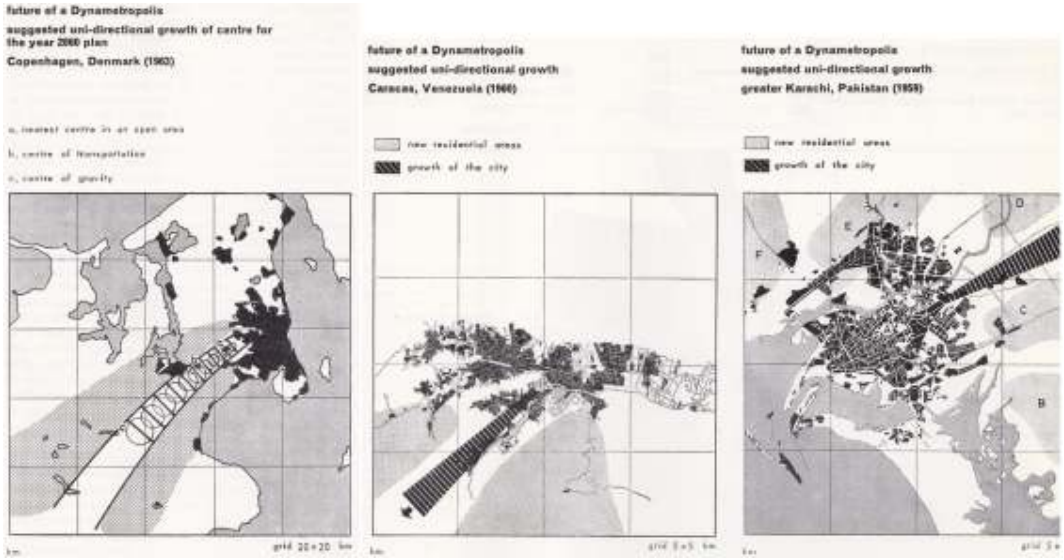

Figure 2.7 Dynapolis models.

The concept of *dynapolis* is another term which was coined by Constantinos Doxiadis in order to define the dynamically growing city.[55] Dealing with large-scaled urban plans, Doxiadis defines an axis for regulating the growth process of the urban settlements. Even though Doxiadis defends that the more working on larger scales, the more the entopia becomes accessible; he goes against the de-humanizing impact of Modernism. In this context, the motorways would be placed "under" the residential areas; and in the 22nd century, it would be a very primitive idea to place the highways "in" the city centers. Hereby, the "ideal" dynapolis and thus the ecumenopolis are the outcomes of the process of building entopia.

Secondly, "time" is a determinant element in Doxiadis's both large and small scaled urban plans, as it is for the rest of the disciplines. However, the concept of ecumenopolis covers a very large period of future times; namely, the ecumenopolis theory covers the next 1000 years. Entopia and ecumenopolis, seemingly utopian and

[55] As well, another term, coined by Doxiadis, is "dynametropolis" which means dynamic metropolis.

fanciful, are based on very concrete and relatively feasible principles, however. One of the principles is the human scale which is also one of the fixed values in urban settlements.

Consequently, an entopia would be described as a "buildable utopia" with a scientific base in order to build healthy places in the context of the oncoming ecumenopolis. For Constantinos Doxiadis, the entopia should accommodate the old city and the "modern" or the new city together in a reasonable way. Additionally, there should be defined spaces for different races, communities, religions, as illustrated in the greeting card of Doxiadis Associates. Another characteristic of the entopia is appearing to have a grid-iron plan; even if it is not directly mentioned by Doxiadis as a principle or a necessity. What is more; organizing the high speed traffic "under" the ground, designing new buildings[56] not vertically grown but horizontally sprawled, and generating new centers for developing urban areas are the other features of the concept of entopia.

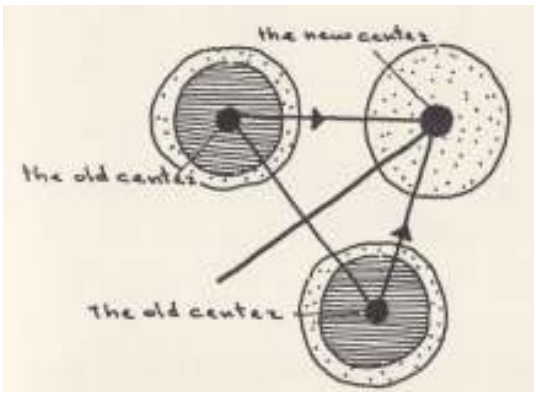

Figure 2.8 New centralization, C. A. Doxiadis.

[56] The forthcoming construction actions are indicated as "new buildings" in order to mention that Doxiadis do not have the challenge of tearing down the old and constructing the "modern" ones; unlike Le Corbusier's discourses.

Of many side issues derived, the notion of Entopia can be further discussed through a basic standpoint. As a crucial nexus of Doxiadis's theory of Ekistics, it can be regarded as a "scientific paradigm", if we use the exact wordings of Thomas Kuhn. Within this particular discussion, how the elements of natural and social sciences have been extensively utilized and made use of for the sole purpose of disciplinary power in the postwar era as well as how the position of Doxiadis in this battlefield–like environment was exercised, needs to be investigated.

The purpose of entopia is to generate scientific solutions for the problems of the metropolitan areas by examining them at all scales and then making problem-solving patterns for the oncoming city: Ecumenopolis, namely "the world city."[57] The concept of Ecumenopolis is a prediction based on objective data; in his book *Ecumenopolis: the Inevitable City of the Future* Doxiadis examines the ancient and current cities through quantitative methods and generates a projection for the future cities. This is not a utopia, proposal or a disaster scenario; but only a rational analysis of visible knowledge. The current cities will inevitably become into a single world city and this rapid urbanization can be exercised only through a scientific planning process. The period of Ecumenopolis or the "world city" is now at the verge and thus a new scientific approach should be acquired urgently:

> It is true that there are some characteristics of our subject which are predictable, and some which are not: universal desires are predictable, individual ones are not; biological needs can be predicted, 'fashions' cannot. Our goal is to define those features, which are predictable, and so turn from vague theorizing about the subject to a realistic approach to it.[58]

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[57] The notion of "today-cities" refers to the 1960s, which was the era that the theory of Ekistics was current. Doxiadis states that today cities are experiencing a crisis. Further, this is an "urban nightmare."

[58] J. G. Papaioannou, C. A. Doxiadis. *Ecumenopolis: The Inevitable City of the Future.* Athens Center of Ekistics, 1974.

The scientific approach developed by Doxiadis acquires presuppositions; that is the paradigm of Ekistics should be supported with scientific works and grounded on actual data.[59] For this very reason, the strict and unchangeable supportive scientific elements are strongly needed not to threaten the relevancy of Entopia. In Doxiadis's way, the human settlements should be physically examined: the attitudes of human beings in social life, their habits, biological needs and their practices within the city can be observed and transformed into a scientific data. This experiment should be structured in an objective manner in order to have a scientific ground. Therefore, the results obtained would indicate certain facts that are close-ended. However, the validity of the theories put forward depends on the validity of the method of obtaining them. In this regard, for instance, the transitional period that Doxiadis argues begins with the emergence of the first metropolis in 1825 and will terminate by the formation of "Ecumenopolis" between 2100 and 2200. In order to support his argument, he works with statistics and speculates on the status of the metropolises in those years as he regards the population growth and the increase of urbanization in certain yeas. These estimates are based on the assumption that the urbanization rate will be %100 in the year 2100. However, if those numbers fail, so does his theory.

Like architecture's contradictory position in the post-war world, science[60] was also in a problematic condition. Due to its role in the field of defense industry and thus military, science in general and its use was under coercion by various key figures in academia and political and professional groups in the market.[61] Both with its role in producing nuclear weapons, misuse of medical science for genocide or developing machines for transportation and communication in war industry, science was believed to be serving only to military purposes. As we know the Modernist

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[59] For Thomas Kuhn, the theories are the series of semi-standardized examples of a science and their implementations as an experiment or an observation are their paradigms.
[60] Science refers to natural sciences such as physics, chemistry or biology.
[61] A critic of science is Campaign for Nuclear Disarmament.

discourse of science was derived from the development of quantum physics in the 1920s; and therefore a growing skepticism was on the table. Along with that, for some, "the possibility of human and social sciences independent of physics and biology becomes a major problematic in the late nineteenth century."[62] Relationally, such a separation refers to a serious environmental problem in comprehending the human settlements accordingly. This is exactly where Doxiadis's steps in and proposes his scientific approach for the recovery of post-war cities. However, the critique of science and its re-use for humanitarian purposes such as the human settlements triggered several questions; for instance, according to Aronowitz:

> Can human (social) relations be "reduced" to physical or biological laws?"… "Controlled experiments may be conducted in psychology, but history, economics, and sociology do not lend themselves to such methods because the social cannot be fixed in space and time. … To what does social inquiry refer? Is there a social "system" that integrates culture and personality systems, as Parsons attempted to theorize.[63]

Additionally in his words, science and technology manages the production of energy with natural resources. However, it is not science itself which constitutes a hegemony but the concerns of power and ideology use science as a medium to reify their domination over the society and the nature. Namely, the usage of trucks is wider than rail transportation, which is more cost efficient than a vehicle runs on gasoline. This irrational consequence is not a scientific decision but a rational decision of the "cycle of capital."[64] The interdisciplinary ground of science allows the results obtained to be tested in many areas. For instance, dissemination of the vehicles running on oil stimulates the economic activity and it is a positive fact for the science of economics. On the other hand, this issue causes a natural disaster from

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[62]Stanley Aronowitz. *Science as Power: Discourse and Ideology in Modern Society*. Minneapolis: University of Minnesota Press, 1988.
[63] Ibid.
[64] Ibid.

the viewpoint of environmental science. This case shows that science can only achieve rational results by referencing different disciplines and further, working together with other disciplines.

Doxiadis's position then serves for an intermediary field where scientific urbanism benefits both those critiques and the contemporary outcomes. However, he never avoids the ongoing discrepancy between "science" and "ration". According to him, scientific urbanism can be understood in two ways: first, the science serves the political causes and second both "scientific" and "rational" urbanization only serve for the human settlements. However, we should always be remembered that the exercise of science in the market is not always rational. In this respect, Doxiadis fictionalized his endeavor by keeping himself away from those political causes, as he believed that the new science of Ekistics would have lead an inter-disciplinary and more importantly, a rational base.

2.3 Linear City and the Grid-Iron Plan

The grid-like representation of Entopia vision should be examined through the historical references from an urban scale in order to place it in architectural history. This reference would be the "grid-iron plan" as described in urban planning language. For this reason, the appearance of entopia is regarded as a grid plan, and "the" historical reference would be the grid-iron planning type as a postulation of this chapter.

Alongside of Grid plan, the Linear City model is also an important representation in entopia concept. Since Constantinos Doxiadis coined the word dynapolis – dynamic city – with referencing to growth pattern of human settlements, this concept became an essential element in the process of building entopia. Hence, the linear city model is examined in this chapter through George R. Collins' article *The Linear City*, published in The Pedestrian in the City in 1966. Because historical background of grid plan dates back to ancient times and linear city would be mentioned as more recent, linear city is discussed after the discussions about gridiron model.

> Grid is; a checkerboard network of intersecting streets and avenues forming the basic layout of a city or town. Just as in architecture a system of proportions, related to a basic dimension or module, has sometimes been used to facilitate construction and serve functional needs, so the elements of a town may be arranged with reference to a set of related dimensions.[65]

Either as a system or as an object, "the grid" refers to a geometrically systematized and a right-angled structure. In contrast to organic forms of natural landscape and organically formed human settlements, a grid is more of an artificial configuration. As Hannah Higgins puts it, the grid-iron was being used to establish a control mechanism with respect to administrative, agricultural, and military issues. Moreover, it represents a "highly regulated" and "tightly administered" society.[66]

For Baykan Günay, a gridiron takes the place of organically-developed urban tissue in such conditions that a dominant political power or a colonial city is in question. Hence, this easy-applicable type of urban design provides the citizens with equal living conditions and the infrastructure of the settlement and its transportation system can simply be arranged in a geometrical order. For those reasons, the gridiron plan has been a practical urban tissue throughout the history of urban design.[67]

The first appearance of gridiron plan can be observed in Mohenjo-Daro and Harappa settlements in Pakistan, dates back to 3000 B.C., as Baykan Günay notices. The grid plan type of Mohenjo-Daro is arranged in north-south and east-west axles with proposing urban blocks. Each block is divided into smaller blocks with rectangular proportions for different usages. This grid plan is also represented in an ancient Egypt settlement, namely Kahun, or El-Lahun. This city was planned for workers in a "gallery-like street pattern" with the idea of generating a control mechanism over

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[65] H. E. Sparrow. "Grid." In *Encyclopedia of Urban Planning*, by Arnold Whittick, 486-487. New York: McGraw-Hill Book Company, 1974.
[66] Hannah B. Higgins *The Grid Book.* Cambridge, Massachusetts, London: The MIT Press, 2009.
[67] Baykan Günay. "Izgara Kent Tasarımı." In *Kentsel Planlama: Ansiklopedik Sözlük*, by Melih Ersoy, 137-146. İstanbul: Ninova Yayınları, 2012.

the dwellers. Other examples of gridiron plan are ancient Greek cities in Anatolia. Dating back to 750 BC, ancient Priene and Milet settlements were arranged in Hipodamos' grid-based city order.[68]

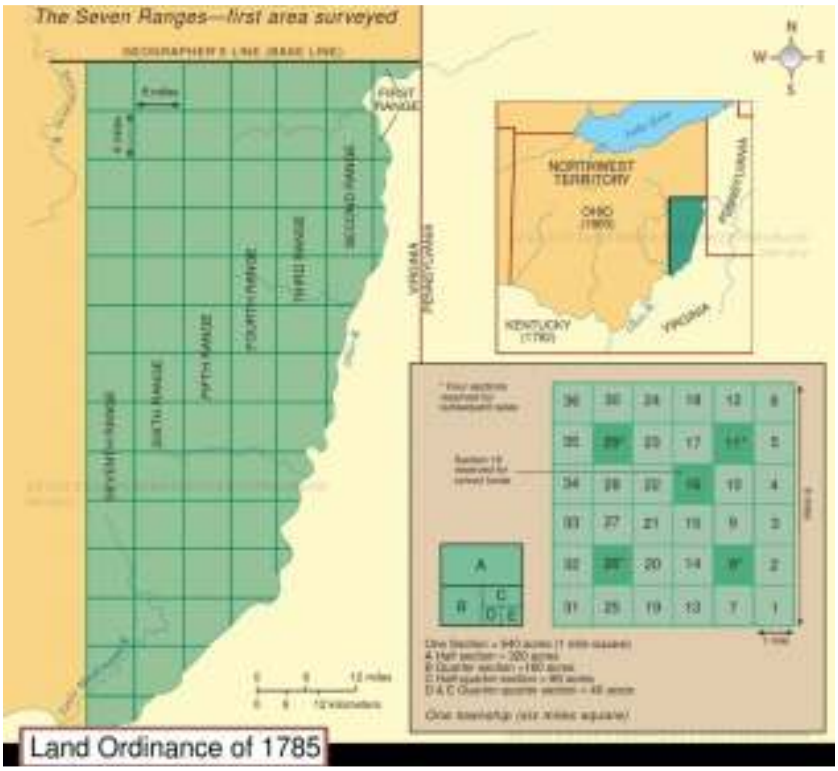

Figure 2.9 Land Ordinance of 1985, North America, United States, Map

This two dimensional plan was adopted by French, Netherlander, and English colonists while planning and constructing their new settlements in North America. Following, a Cartesian grid plan became a "standard sign" of civilization. As Leonardo Benevolo explains, grid plan was a universal instrument in the late 18th

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[68] Ibid.

century America with the Land Ordinance of 1785, defended by Thomas Jefferson, and this plan was applied with having rectangular and interrelated proportions.[69] Such as Benevolo, Günay also argues that gridiron plan has a philosophical depth alongside its basic configuration based on perpendicular connections of city blocks. However, in Turkey, the grid plan and its manner of life could not put into practice except some districts of Bursa, Aydın, Eskişehir, İstanbul, Konya, Edirne, and Muğla.[70]

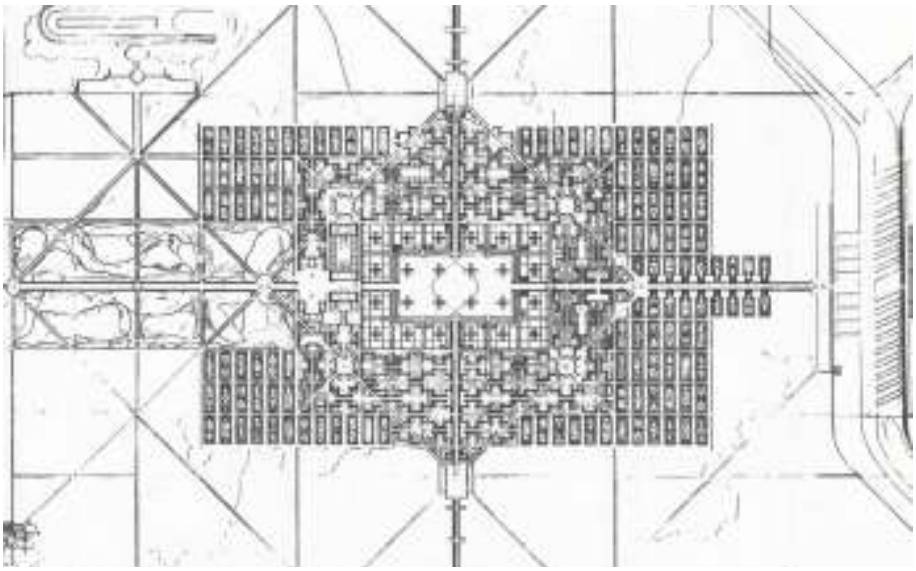

Figure 2.10 The layout of The Contemporary City (1922). Source: Robert Fishman. *Urban Utopias in the Twentieth Century* (Cambridge, Massachusetts, MIT Press, 1994), pp. 100-101.

[69] Leonardo Benevolo. *The European City, translated by Carl Ipsen.* Oxford, Massachusetts: Wiley-Blackwell, 1995.
[70] Günay, op. cit., 2012.

Figure 2.11 The Contemporary City (1922). Source: http://www.fondationlecorbusier.fr/.

Alongside of the first appearance of grid-based urban systems in ancient cities, there are more recent and examples of this system which would be mentioned as grid-based urban tissues. It would make sense to take Le Corbusier's "A Contemporary City of Three Million People" plan as an example for gridiron plan in terms of his specific place in the history and theory of modern architecture. This example is vital for this study for two basic reasons. Firstly, this plan represents a utopian grid-plan which may be criticized "with" the grid-like representations of *entopia*. Unfortunately, there are very few graphical pictures that directly portray entopia idea and the Contemporary City is an objectified image of a discourse, on the contrary. Accordingly, and secondly; the "urban utopias in the 20th century", as Robert Fishman calls it, directly show us the theoretical basis of Constantinos Doxiadis's urban projections.

It was a "real shock" when Le Corbusier represented "A Contemporary City of Three Million People" in 1922 November at the salon d'Automne in Paris.[71] Settling on a symmetrical plan, it contained high-rise blocks and this city would have been built to

[71] Richard T. LeGates, Frederic Stout. *The City Reader.* London, New York: Routledge, 2002.

an emptied urban area. Further, a large amount of current urban fabric of Paris would be demolished, as Le Corbusier argues; and this newly- formed city would be built there.[72] After he showed his work to the public, Le Corbusier observed that there were both rage and enthusiasm at the same time.[73]

The principles of Modern town planning were in question, rather than generating solutions to the existing "state of things", for Le Corbusier.[74] Thus, Contemporary City was planned as a settlement which belonged to 1922, the year that it was released to the public and it was neither of a utopian project nor a plan for the future for Le Corbusier. Thus he raised the basic principles of modern town planning in 1929. Le Corbusier defined the eleven elements of a contemporary city while explaining the issues that "we" must concerned about. Namely, a city should be consist of: "Site, population, density of population, lungs, the street, traffic, the station, the plan of the city, the city, open spaces, the protected zone, and industrial quarters."[75]

While explaining the "fundamentals" of modern planning, Le Corbusier described the Contemporary City plan. Firstly, an elevated "level" ground is ideal for this city and the river, a unique ground for water transportation, would flow away from the city center. Le Corbusier gave very specific details about the traffic system as it shows the enthusiasm of him by automobile as a new technology. Secondly, Le Corbusier suggested a socially divided habitation system which is organized to separate luxury dwellings from the workers' dwellings. Namely, the luxury housing units for elite class would be placed within the city center and "other" units would be placed on the periphery. Within social context, the density and population issues are

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[72] Ibid.
[73] Le Corbusier. "A Contemporary City." In *The City Reader*, by Frederic Stout Richard T. LeGates, 336-343. London, New York: Routledge, 2002.
[74] Ibid.
[75] Ibid.

crucial elements: the denser the city was, the more green areas for dwellers would remain. Within those contexts, the plan of the city followed four basic principles:

1- We must de-congest the centers of our cities.
2- We must augment their density.
3- We must increase the means for getting about.
4- We must increase parks and open spaces.[76]

Consequently, it can be observed that Le Corbusier was "persistent" and even "obsessive" about population density and mechanization of the buildings. "At the base of the sky-scrappers and all round them we have a great open space 2,400 yards by 1,500 yards, giving an area of 3,600,000 square yards, and occupied by gardens, parks and avenues."[77]

The final result of the issues and principles defined by Le Corbusier was a repetitive, symmetrical, and uniform "grid" plan. The reason behind this grid system was surely to "industrialize" the building with new technologies which were not being used affectively by the architects. Namely, the city should be geometrical and thus uniform in order to survive, unlike the cities of the 1920s and "repetition" is the consequence of a geometrical order. Following, repetition leads to a "perfect" standard form to be applied to the human settlements of the whole world. However, this uniformity can only be achieved through industrializing the building.

Why do not, the architects who would have asked Le Corbusier, benefit from newly-explored technological instruments? They surely do benefit today, but the social conditions of the cities did not make progress at all. In the 1920s conditions, Le Corbusier expressed that "A city made for speed is made for success."[78] This expression would show the belief of Le Corbusier over capitalism which would give

[76] Ibid.
[77] Ibid.
[78] Ibid.

way to a more "social" attitude in The Radiant City of 1933 with the Great Depression. However, the gridiron model of his "shining" city will also have been the scheme of layout of the settlement.

From a local viewpoint of Turkey, the master plans of Ankara and İstanbul were proposed by European urban planners besides Le Corbusier's proposal for İzmir. However, as Cânâ Bilsel questions; those plans were the "importations of models" and do not ideologically orient themselves to the local environment in which they would be applied. They only represented the "spirit" of their time which coincides with the early 20th century. For Bilsel, the answer lies behind the "Modernization ideology of Turkish Republic."[79]

It was after Le Corbusier's work on Algiers when the Municipality of İzmir contacted with Le Corbusier and asked for him to prepare master plan for İzmir. His work on İzmir "A Green City for 400,000 Inhabitants" was based on the elements, as Cânâ Bilsel explains. The first element was the traffic organization which was organized as separated three circulations: Rapid traffic, slow-motorized traffic, and the pedestrian circulation. The second element was the "reproduction of an ideal housing type properly designed" for local conditions of İzmir. The four functions, declared by the Athens Charter, became the functions of the master plan: *habiter*, *travailler*, *cultiver le corps et l'esprit*, and *circuler*.[80] Residential and business areas were to be settled on the built-up areas. Namely, a certain built areas were planned to be demolished instead of some historical monuments for the new urban tissue. Moreover, the population density was appointed as "350 to 400 inhabitants" per

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[79] Cânâ Bilsel. "Ideology and Urbanism during the Early Republican Period: Tho Master Plans for İzmir and Scenarios of Modernization." *METU Journal of the Faculty of Architecture*, 1996: 13-30.
[80] Dwelling, work, recreation, and transportation; translated from French by Jaqueline Tyrwhitt. Source: Jaqueline Tyrwhitt. *Cultural Heritage Policy Documents: Charter of Athens (1933).* http://www.getty.edu/conservation/publications_resources/research_resources/charters/charter04.html (accessed January 12, 2014).

hectare. Also, a new port was planned for the north of the industrial area while the existing port was thought as remain for yachtsmanship.[81]

Identical to The Radiant City and The Contemporary City's "*tabula rasa*" underlay, as Cânâ Bilsel explains, the traditional commercial center of İzmir was planned to be transformed into a "rational grid pattern". For this transformation, the existing urban pattern would have radically been changed with tearing down the old buildings, instead of the most "outstanding" monuments. The newly-built gridiron urban tissue would have been "entirely independent from the topography" of the city, as Bilsel argues.[82]

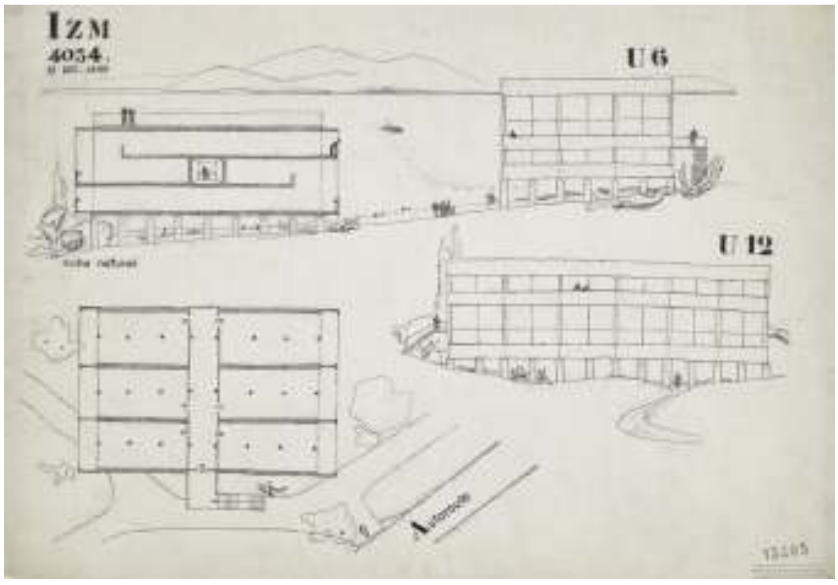

Figure 2.12 İzmir housing units by Le Corbusier (1948). Source: http://www.fondationlecorbusier.fr/.

[81] Bilsel, op. cit.
[82] Ibid.

Figure 2.13 İzmir Master Plan by Le Corbusier (1948). Source: http://www.fondationlecorbusier.fr/.

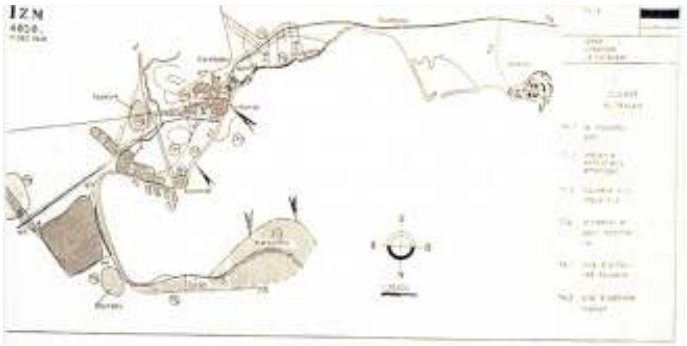

Figure 2.14 İzmir Master Plan by Le Corbusier (1948). Source: http://v3.arkitera.com/.

Proposed for İzmir by Le Corbusier, master plan of the city consisted of a business center with high-rise buildings, a green-belt for separating the dwelling units from the business center, and rational and standard housing units. The general principles of Radiant City were applied to this urban plan with its gridiron layout, high-rise buildings, organization of the green areas, and surely with standardized dwelling-units.[83]

[83] Cânâ Bilsel. "Le Corbusier'nin Kentsel "400,000 Nüfuslu Bir Yeşil Kent Teması Üzerine İzmir Nazım Planı" Önerisi." In *Le Corbusier ve Kent*, by Nuray Togay, 27-52. İstanbul: Boyut Yayın Grubu, 2002.

In İzmir Master Plan proposal, Le Corbusier used the gridiron plan for arranging different zones within their areas. In this context, idea of "zoning" of four basic deeds of the citizens was a crucial element as the gridiron urban tissue. However, as shown in the *figure 2.15*, it can be argued that the general layout seems to be based on an urban axis which may be called a "linear" city plan. Hence, Le Corbusier may have been used gridiron scheme in particular and linear plan in general. The previous works of Le Corbusier contained examples of linear city such as his plan for Algiers and "*Cité Linéaire Industrielle*."

Figure 2.15 Ciudad Lineal by Arturo Soria y Mata (1892).

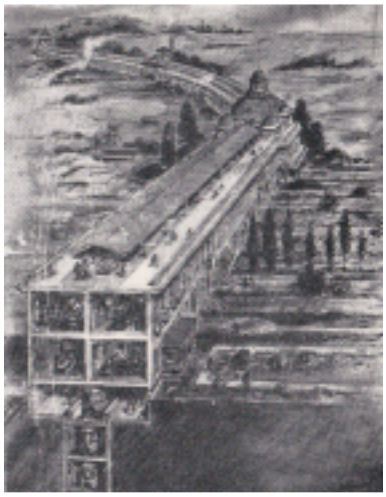

Figure 2.16 The Roadtown, Edgar Chambless (1910). Source: George R. Collins "The Linear City." In The Pedestrian in the City, by David Lewis, 204-217. (Princeton: Van Nostrand, 1965)

> **lin·e·ar** / *adj* / **1** of or in lines: *a linear diagram* **2** of length: *linear measurements*.[84]

From its lexical meaning, a linear city directly refers to an urban model which is composed "around" an axis. As defined by Baykan Günay, "The Linear City" model first appeared in the works of Arturo Soria y Mata in 1892. The linear city was one of three models that were developed by the societies who wished to break the crowded structure of European cities. Namely, those three models were Garden City, Industrial City, and Linear City. After the first linear city, La Ciudad Lineal's partial construction in the late 19th century, today, the city seems to absorb the linear model with rapid growth in every direction. However, the original main street with the main city blocks still remains.[85]

Through George R. Collins' article, the early representations of linear city planning models and their future reflections can further be discussed. A linear plan is based on a main artery which constitutes urban functions such as transportation, housing, and industrial districts. For example, as Collins, questions, a city can grow in three ways: "ribbon development", "city-spread", and "overspill." Ribbon development refers to a settlement which is developed around a ribbon-shaped urban element. Second one, city-spread refers to the urbanization of near-rural settlements. The third growth type would be mentioned as a planned program which is based on the dwellers' movement from the city center to the periphery. Thus, the "linear" urban tissue became a respondent to those movements of the urban areas with "rational" and

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[84] Longman Group. *Active Study Dictionary of English*. Bungay: The Chaucer Press, 1983.
[85] Baykan Günay. "Doğrusal Kent." In *Kentsel Planlama: Ansiklopedik Sözlük*, by Melih Ersoy, 92-95. İstanbul: Ninova Yayınları, 2012.

"controllable" organizations.[86] Namely, the changing cities – under the influence of industrial revolution – would expand more systematically thanks to this linear plan.

As George Collins explains, linear plan is decentralized in terms of decreasing the density of the core of the city. However, it processes along a "structured "route." The first example of linear city, Ciudad Lineal was located in Madrid but could not be completed. However, it was a model and pioneer of other linear city models which would have been proposed after Arturo Soria y Mata. Though linear city was thought to be the rival of English Garden City model, Georges Benoit-Lévy expressed that the garden city and linear cities were the two varieties of the same responses. In 1927, Benoit-Lévy proposed a linear expansion for Paris.[87] The year 1927 surely coincides with Le Corbusier's highway-dwelling proposal to Rio de Janeiro in 1929 and "*Projet Obus*" in Algiers between 1930 and 1934.

Based on a road, highway, or a transportation system, the linear city models represented futuristic and even utopian images. For instance, "The Roadtown" of Edgar Chambless visualized a literally linear city which was located "below" the railway system and was built as a mono-block with urban functions such as markets, public buildings, and houses. This city was endless with a flat roof which carries the train stations. This urban "utopia" was created in 1910 by an American urban designer. In time, the roads and highways became actual elements of the cities, rather than futuristic projections. Hence, the idea of "motopia" came out from British architect Geoffrey Jellicoe with placing the automobile traffic "up" in the air, namely the buildings.[88]

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[86] George R. Collins "The Linear City." In *The Pedestrian in the City*, by David Lewis, 204-217. Princeton: D. Van Nostrand Company, Inc., 1965.
[87] Ibid, p. 206.
[88] Ibid, p. 210.

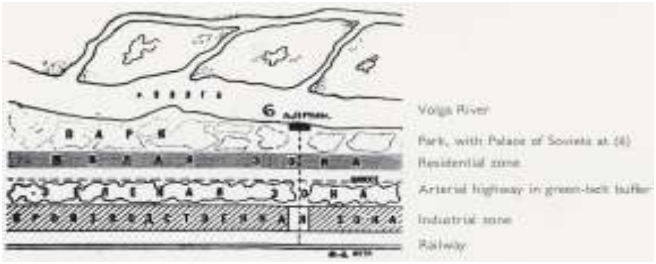

Figure 2.17 Stalingrad Linear City by N. A. Milyutin (1930). Source: George R. Collins "The Linear City." In The Pedestrian in the City, by David Lewis, 204-217. (Princeton: Van Nostrand, 1965)

Another projection about the linear plan was the "production-line metaphor." Moreover, Henri Ford theorized a region with small industrial units that would be placed in a 75 miles long, as a continuous city. Although Ford's plan has not been applied to the United States, a Soviet City "may have" influenced by his model.[89] The theoretical framework of linear city model was defined for Stalingrad city by N. A. Milyutin for 1930s Soviet Union, as Baykan Günay explains. This linear city was thought to be a de-centralist settlement as in Arturo Soria y Mata, but it intention was to build an industrial society. In this context, the linear city consisted of parallel and specialized urban blocks which are also parallel to Volga River. The urban blocks were defined as: Separated railway, public service area, a green belt that establishes a buffer zone between the settlement and the highway, another greenbelt with holding community services and playgrounds, and the agricultural zone.[90]

[89] Ibid.
[90] Günay, op. cit.

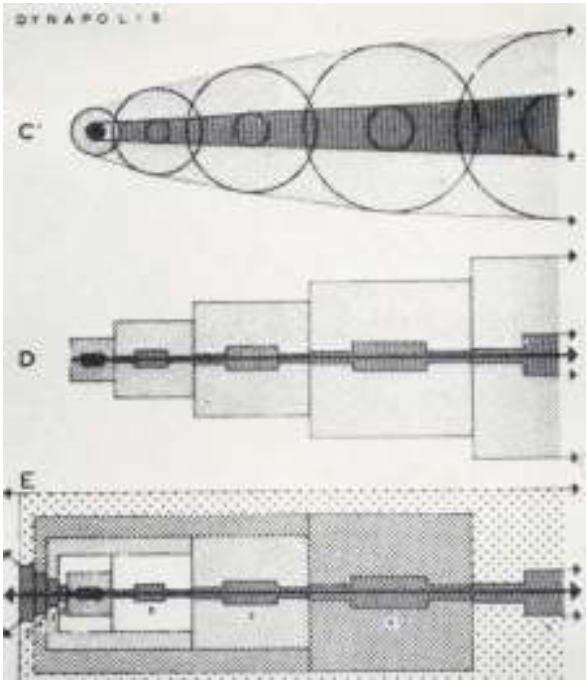

Figure 2.18 Constantinos Doxiadis, Dynapolis model (1960). Source: George R. Collins "The Linear City." In The Pedestrian in the City, by David Lewis, 204-217. (Princeton: Van Nostrand, 1965)

The "dynapolis" model of Constantinos Doxiadis can also be mentioned as a linear city model. He proposed a geometrically growing linear city plan and applied this dynapolis model to his master plan proposals of Islamabad, Bagdad, Denmark, Venezuela, and to many other existing city centers:

> On this occasion he demonstrated the futility of all types of centric plans for settlements, because they inevitably throttle their own core. In his schematic "Dynapolis" plan he showed how by linear extension the core could expand harmoniously along with the city periphery.[91]

As a result of this chapter, it can be said that the entopia model of Constantinos Doxiadis were directly related to historical urban schemes that are partially

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[91] Collins, op. cit.

contemporary to him. In other words, the theoretical framework of Doxiadis can be observed through two basic urban forms: The gridiron and The Linear City. To illustrate, the gridiron urban tissue was already in use in ancient cities and with the 20th century; it was advanced by Le Corbusier in line with the requirements of newly-formed Modernism. However, Constantinos Doxiadis's grid model was not based on a *tabula rasa* as Le Corbusier's model did. Rather, Doxiadis's behavior was to "cure" the existing cities with "ekistic therapy." Moreover, the line-like model of dynapolis was based on the urban model of linear city which dates back to the late 19th century. The difference between the first linear city model and dynapolis comes from their publication dates. Namely, dynapolis is almost seventy-years younger than its pioneer. In this context, dynapolis refers to urban environment which is denser and far more urbanized than the 19th century cities. In other words, it can be asserted that Constantinos Doxiadis was the "substitute" of the modernist urban discourse of the early 20th century.

CHAPTER 3

ENTOPIA AS A PLACE THEORY

While the walking distance was to determine the boundaries of human settlements in the past, these boundaries grew and the roads to settlements increased with technology today. Area of a person's daily life expands in this way. More, the boundaries of the cities are getting closer to each other with rapid population growth and urbanization. For Doxiadis, the biggest reason for the crisis in the cities is industrialization together by the displacement of human scale with the transportation vehicles and machines. As Richard Sennett also states in "Flesh and Stone", some people do not even contact each other on the street during that day. With their automobiles, they enter the car parking lots of their working place; after work, they go back to their private garage of their homes.[92] It is a well-known fact that we, living in the city must use a vehicle in order to reach a destination. Cars and cities are dependent on each other in a vicious cycle: On the one hand, cities can also expand immensely, of course thanks to the means of transportation. On the other, we only survive with those of means of transportation. Namely, the city dwellers are now able to dwell in places far from the city center; or due to the presence of high-tech transportation and communication, they have to travel to distant places miles away from the city center during the day.

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[92]Richard Sennett. Flesh and Stone: The Body and the City in Western Civilization. New York: Norton, 1996.

Though Doxiadis states that constructing high-rise buildings and destroying the "touch" between human and the nature is a crime[93], it is a fact that the cities are growing both in vertical and horizontal directions irreversibly. It is not possible for us to change this today if we don't maintain an attitude such as "tearing down" the current cities and then building brand new ones. Therefore, according to him, if the attitude were to examine today-cities and generate solutions in order to make the settlements more "habitable", the condition of the human settlements would have been as the part of the period that we live in. Moreover, this would be seen as the reflection or the reification of the current "system."[94]

> Finally, phenomenology, with Husserl's analysis of the perceptual field and Merleau-Ponty's elaborate descriptions of the flow and dynamism of perception, has contributed to a new understanding of aesthetics. In this light, it can be summarized that the aesthetic properties derive from the *presence*, *vitality* and the *life force* of a being, and that aesthetic perception is the awareness of such properties, and is possible only with the full empathic participation of the observer.[95]

As noted by Jale Erzen in 1976, a new perception of space and place began to take place in architectural theory in the 1970s. This fact coincides with the appearance of "post-modernist" discussions with Robert Venturi's criticism[96] about dignifying the complexities and contradictions in architecture against the over-simplifying and over-purifying behavior of modernism. As a place definition, entopia concept's both spatial and historical contexts correspond to the "rise of post-modernism" and

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[93]Constantinos A. Doxiadis . *The Great Urban Crimes That We Permit by Law*. *Ekistics*, 1971: 249-254. This article was translated into Turkish by Gülşah Ökmen in the 253rd issue of *Arredamento Mimarlık.*

[94] The concept of the "system" refers to capitalism and in Kenan Güvenç's words, architecture's field of application which processes like a "stock exchange."

[95] Jale Nejdet Erzen. "Eğitimin Estetik Süreç Olarak Yorumu ve Mimarlık Eğitimi." *METU Journal of the Faculty of Architecture*, vol. 2, no.2, 1976: 175-186.

[96] Robert Venturi. *Complexity and Contradiction in Architecture.* New York: The Museum of Modern Art, 1966.

phenomenology discussions. For this reason, this chapter aims to investigate the place theories that took place in the post-modernist context of architectural theory. Among this historical and spatial discussions, other two "…topia" definitions, "dystopia" and "utopia" are to be examined through the philosophical and imaginary definitions of them.

3.1 Between Utopia and Dystopia[97]

From their lexical meanings, both utopia and dystopia come from the Greek word *topos*. The philosophical depth of utopia dates back to Thomas More's book "Utopia" of 1516. However, dystopia is described as a place which is the opposite of utopia, as in Constantinos Doxiadis's book "Between Dystopia and Utopia" is stated, "*Dys* signifies difficulty or evil. It is the opposite of *eu* – good. In this combination and context, dystopia is another and much more precise word for what anti-utopia was supposed to mean. V. L. Parrington (1947) uses it instead of anti-utopia. It is a new word, as is the concept, and not often used."[98] The concept of dystopia dates back to the late 19th century which is almost four-hundred years later than More's utopia.

It would not be a coincidence that dystopia was first used by an English philosopher John Stuart Mill in 1868 and this year coincides with period after the Industrial Revolution. From Doxiadis's definition, it can be said that dystopia was not a common word in 1966. Likewise, it does not have a philosophical background, unlike utopia. Rather, a dystopian concept co-exists with a utopian definition, such as entopia, becoming meaningful with utopia.

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[97] This title was inspired from the book title of: Constantinos A. Doxiadis. *Between Dystopia and Utopia.* London: Faber and Faber Limited, 1966.
[98] Constantinos A. Doxiadis. *Between Dystopia and Utopia.* London: Faber and Faber Limited, 1966.

The term of dystopia was not represented by architects as diagrams, rather; dystopia can be observed through cinematographic images such as Federico Fellini's short film in *Histories Extraordinaires,* adapted from Edgar Alan Poe's stories in 1968. Like the utopian images of modernist architects, it would not be a coincidence that the "cinema" to adopt dystopian mystery as a popular genre during the early post-modern years both in art and architecture. The space age gave rise to a limitless imagination: What would human race achieve next after landing on the Moon? Because of Cold War politics and social conflicts, those fantasies were also carrying fear with them. From the viewpoint of a contemporary human of the 1960s, the atomic bombs were used by the US only one decade ago, and unemployment and social inequality were still a problem for the whole world.

One of the core questions of this chapter is how the idea of utopia reified itself in the modernist context by urban planners and theoreticians. Another question is if Constantinos Doxiadis had proposed a unique urban design idea by entopia concept among Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier's "revolutionary" works which "reconstruct the urban form." From a different viewpoint, the second question would also be if the idea of entopia is the succeeding model of revolutionary urban forms.

In the light of Robert Fishman's book "Urban Utopias in the Twentieth Century"[99], "utopia" is analyzed through Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier's models that propose new urban systems. There were both social and urban crisis and the need for a change in urban system – in transportation, dwelling, recreation, and so on – led the thinkers to find a way out with modernist and partially anti-traditional designs, as Fishman states.

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[99] Robert Fishman. *Urban Utopias in the Twentieth Century*. Cambridge, Massachusetts, London: MIT Press, 1994.

> They attempted to look beyond the distortions that an inhumane social order had imposed upon the cities of their time, and to envision a city based on social justice and equality. They sought, finally, to discover what Le Corbusier called the "rules of the game": the interrelated revolutionary changes in urban design, politics, and economics which must take place if real solutions were ever to be found.[100]

Specifically in the England and generally the "west" of the 19th century, a radical transformation was in question in technology, economy, and culture as a result of Industrial Revolution. As Baykan Günay explains, new theoretical frameworks were generated and applied within peripheries of the cities or rural areas. Those frameworks were based on three main urban models: Garden City, Industrial City, and Linear City. Likewise, the urban patterns that shape industrial societies originate from two "utopian socialist thinkers." First one is Robert Owen[101], influenced by Saint Simon; he generated the theoretical base of the garden city. Second thinker is Charles Fourier who is the "pioneer of Le Corbusier's Unité d'Habitation." As a result of those influential urban thinkers and the search for "suburban" settlements during the early 19th century, the idea of Garden City model was emerged.[102]

Ebenezer Howard was the contemporary of a physically and socially changing environment. Though he did not have education in urban planning or architecture, a great deal of newly-shaping cities was influenced by Howard's diagrams and writings.[103] It can be said that the social conditions of 19th century England created the need for a solution about unhealthy living conditions of the workers. Hence, he appeared in an appropriate time with a specific formula for current problems of

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[100] Ibid.
[101] Robert Owen was a"Welsh Social reformer and advocate of cooperative settlements, influential in British social legislation through relentless campaigning against abuses of the early industrial system." Source: Antony Flew. A Dictionary of Philosophy (London and Basingstoke, Macmillan, 1979), p.242.
[102] Baykan Günay. "Bahçe Kent." In *Kentsel Planlama: Ansiklopedik Sözlük*, by Melih Ersoy, 21-26. İstanbul: Ninova Yayınları, 2012.
[103] Robert Fishman. *Urban Utopias in the Twentieth Century.* Cambridge, Massachusetts, London: MIT Press, 1994, p.8.

urbanism. Although the diagrams of Howard may seem so un-detailed to be settlement plans, they offer an explicit and easy-applicable urban layout. For this reason, Ebenezer Howard is still under question in today's urban planning debates, from different viewpoints, however.

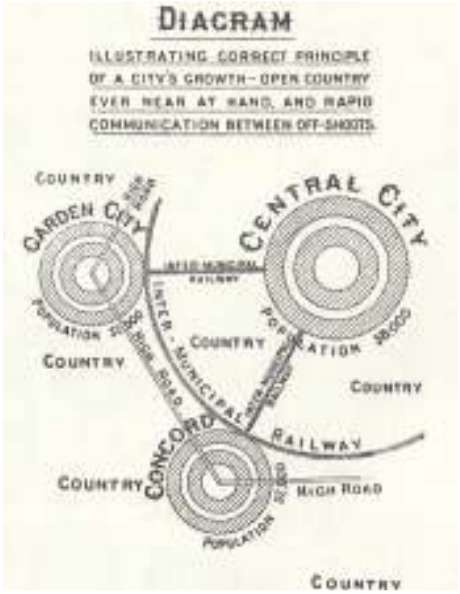

Figure 3.1 Ebenezer Howard, garden city from a broad viewpoint (1902). Source: Robert Fishman. *Urban Utopias in the Twentieth Century* (Cambridge, Massachusetts, MIT Press, 1994), p.116.

Figure 3.2 Ebenezer Howard, Diagram no.1: Three Magnets (1902). Source: Bernd Evers. *Architectural Theory* (Köln, Taschen, 2006) pg. 437.

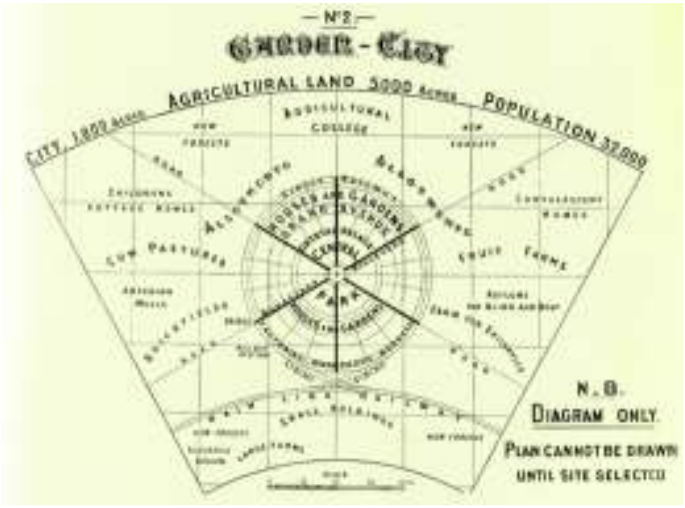

Figure 3.3 Diagram no.2: Schematic presentation of a garden city (1902). Source: Bernd Evers. *Architectural Theory* (Köln, Taschen, 2006) pg. 439.

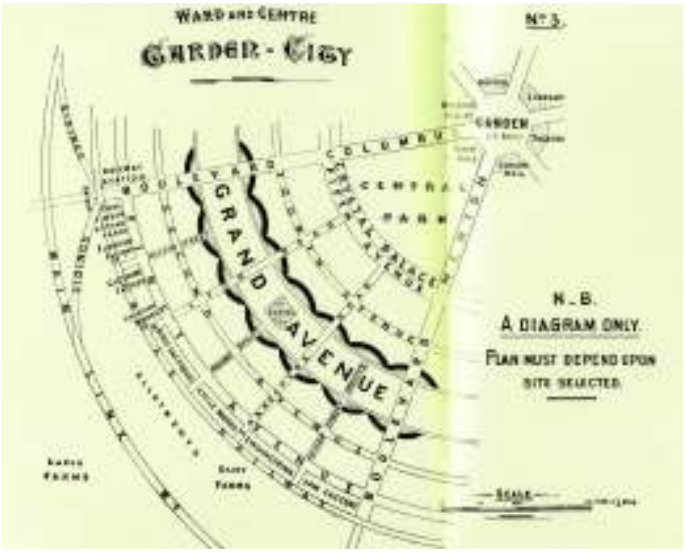

Figure 3.4 Diagram no.3: Detailed diagram of programs and functions of Garden City (1902). Source: Bernd Evers. *Architectural Theory* (Köln, Taschen, 2006) pp. 440-441.

For Robert Fishman, the Garden City model of Ebenezer Howard is a representation of "cooperative socialism" and "a plan for moderate decentralization."[104] Decentralization was also a prevailing idea of the CIAM 8 that took place in England, Hoddesdon. However, "decentralization" was taken as an uncontrolled and thus an adverse example; and a planned "recentralization" would save "the core" of existing cities.[105] With two examples from different periods – Garden City of 19th century and CIAM 8 –, it is obvious that the conditions of urban and suburban settlements have so rapidly changed that the solution of Howard is not sufficient to respond to the needs of the human settlements. Besides that, as Baykan Günay expresses, the garden city model pioneered in many theories and application schemes of human settlements such as easing the pressure of the city centers, creating new "focuses" in rural areas for working class and for the improvement of the industry, the co-investment of private and public sectors, promoting the social betterment with social corporations, integrating the suburbs with the cities by rail systems, and so on.[106]

Unlike the "cooperative" system of Ebenezer Howard, Frank Lloyd Wright designed a utopian human settlement which is purely based on "individualism." Wright's utopian settlement "Broadacre City" was also an example of decentralization, but in an American[107] manner. "He planned the city, he called "Broadacres", took

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[104] Ibid.
[105] CIAM 8, Hoddesdon. "Summery of Needs at the Core." In *Architecture Culture 1943-1968: A Documentary Anthology*, by Joan Ockman, 135-136. New York: Rizzoli International Publications, 1993.
[106] Günay, op. cit.
[107] Because Frank Lloyd Wright was an American-born architect and Broadacres was designed for American suburbia, it was mentioned as American in order to perceive the distance between the cultures of the US and Europe.

decentralization beyond the small community to the individual home. He believed that individuality must be founded on individual ownership."[108]

Frank Lloyd Wright defended "anti-urbanism" against rapidly-urbanizing dense cities, stated by Kenneth Frampton, and argued that a new consciousness of building, and thus a "new system" should be established. Against this consciousness, for Wright, this new urban system "would happen spontaneously."[109] Discussing this spontaneity, Kenneth Frampton puts an exclamation mark (!) to the end of the paragraph, possibly as a little sarcasm. Following, Frampton explains Wright's attitude in terms of technological improvements of his age: "In his historical determinism, Wright looked to the machine as the one agent with which the architect has no choice but to come to terms." Hence, Wright takes the advantages of technology in building Broadacres. Namely, he identified three main technological inventions: "The motor car" as the "general mobilization of the human being" and widening the human settlements, "radio, telephone, and telegraph" as "electrical intercommunication" which shortens the long distances, and "standardized machine-shop production" as the combination of "scientific discovery and technology."[110] Moreover, Wright expresses birth-rights of any citizen:

1- His social right to direct medium of exchange in place of gold as a commodity: some form of social credit.
2- His social right to his place on the ground as he has had it in the sun and air: land to be held only by use and improvements.
3- His social right to the ideas by which and for which he lives: public ownership of invention and scientific discoveries that concern the life of the people.[111]

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[108] Fishman, op. cit.
[109] Kenneth Frampton. *Modern Architecture: A Critical History.* London: Thames and Hudson, 1980, pp. 190,191.
[110] Frank Lloyd Wright. "Broadacre City: A New Community Plan." In *The City Reader*, by Richard T. LeGates and Frederic Stout, 350-358. New York: Routledge, 2002.
[111] Ibid.

Figure 3.5 Broadacre City (1929-1935). Source: Robert Fishman. *Urban Utopias in the Twentieth Century* (Cambridge, Massachusetts, MIT Press, 1994), pp. 125-126.

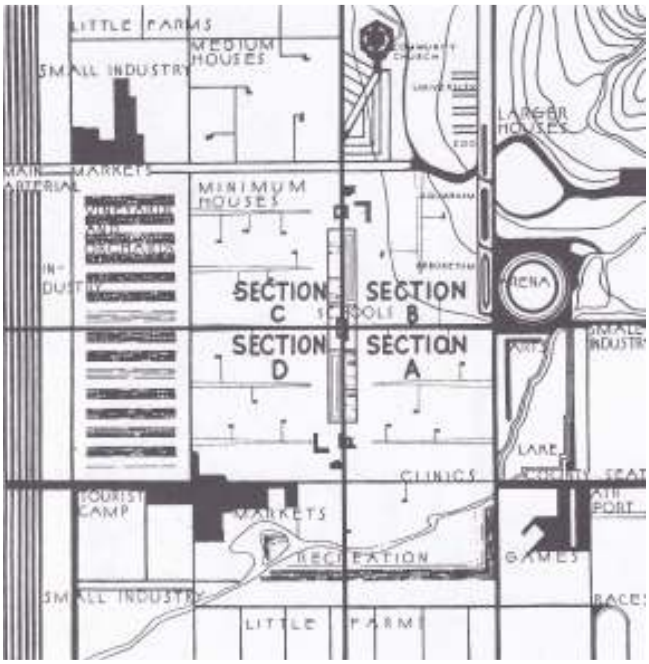

Figure 3.6 Broadacre City (1929-1935). Source: Robert Fishman. *Urban Utopias in the Twentieth Century* (Cambridge, Massachusetts, MIT Press, 1994), pp. 125-126.

Those three items provide an insight about the general overview of Broadacre city and the stance of Frank Lloyd Wright about technology, politics, urban settlements, and architecture. He pictured automobiles and personal aircrafts with dignifying the usage of gasoline and high-speed traffic. He defined houses as a one-car house, a

two-car house, and a five-car house. This issue indicates Wright's American roots which are based on individual opportunities with a high capitalist system, as quoted by Kenneth Frampton; Meyer Schapiro criticizes Frank Lloyd Wright as ignoring the question of social class and power and not thinking over the "economic conditions that determine freedom."[112]

From spatial viewpoint, the high usage of automobiles and train systems – Wright offered high speed mono-rail system – make the suburbia dream possible. Moreover, he expressed the touch between land and human is being ignored by contemporary cities and human settlements should be re-built with direct links to the nature. Moreover, he designed multi-lane highway roads in order to provide the citizens with pleasant drive. Most importantly, in Broadacres, every human would have at least one acre unit of land.

For Frank Lloyd Wright, cities are centralists with their uncontrolled growth as "cancerous tissues." This situation uniforms the citizens' ideas and behaviors, makes them "conformists" and encourages "mediocrity." On the other hand, Broadacre cities are decentralist, small-scaled, and ethical in terms of creative working conditions, as Haluk Zelef explains. More, the best administration of settlements is the minimum management and this idea makes Broadacre cities democrat, for Frank Lloyd Wright.[113]

Ebenezer Howard was English, Frank Lloyd Wright was American, and Le Corbusier was Switzerland born French, in that; their visions about future's cities directly signified to their environments. It is not a coincidence for Le Corbusier to dream of cities with high-density population just as Frank Lloyd Wright criticizes the

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[112] Frampton, op. cit.
[113] Haluk Zelef. "Ütopya Kent ve Doğa; Frank Lloyd Wright ve Broadacre." *Mimarlık: 291*, 2000: 15-18.

contemporary American cities: like uniform boxes next to other boxes. Paris, the city that Le Corbusier lives in, had already reached to the population of 4 million in the beginning of the 19th century. Because it is a historical city like other European cities, the habitable areas were – and are – very limited and Le Corbusier proposed vertical living units with bigger green areas for recreation and transportation. American cities did not have the problem of free spaces for urbanization, but Europe did. Manfredo Tafuri defines Le Corbusier within European culture in those words:

> Absorb that multiplicity, reconcile the improbable through the certainty of the plan, offset organic and disorganic qualities by accentuating their interrelationship, demonstrate that the maximum level of programming of productivity coincides with the maximum level of the productivity of the spirit: these are the objectives delineated by Le Corbusier with a lucidity that has no comparison in progressive European culture.[114]

Ville Radieuse of 1930 was defined as "classless" by Kenneth Frampton in contrast to Ville Contemporaine which had a hierarchical order. There was another significant change in Le Corbusier's understanding of "machine- age city" which was organizing the city on a limitless linear order instead of a centralized city model. Parallel "bands" were placed in this linear order for different functions: "satellite cities" for education, "business zone", "transportation zone", "hotel and embassy zone", "residential zone", "green zone", "light industrial" area and heavy industry, and "warehouses."

With the Great Depression of 1930, Le Corbusier lost his faith to capitalism and organized Radiant City with a "total administration" where the capacity of production was under control, as Robert Fishman stated "Coordination must become

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[114]Manfredo Tafuri. *Architecture and Utopia: Design and Capitalist Development.* Cambridge, Massachusetts: MIT Press, 1976.

conscious and total. Above all, society needed authority and plan."[115] Le Corbusier saw this necessity as a necessity for the machine age. Unlike division of social classes in Contemporary City, Radiant City included the division of labor with a "full range of exchange and cooperation." This city would be built without classes, as Le Corbusier decided after his travel to the United States.

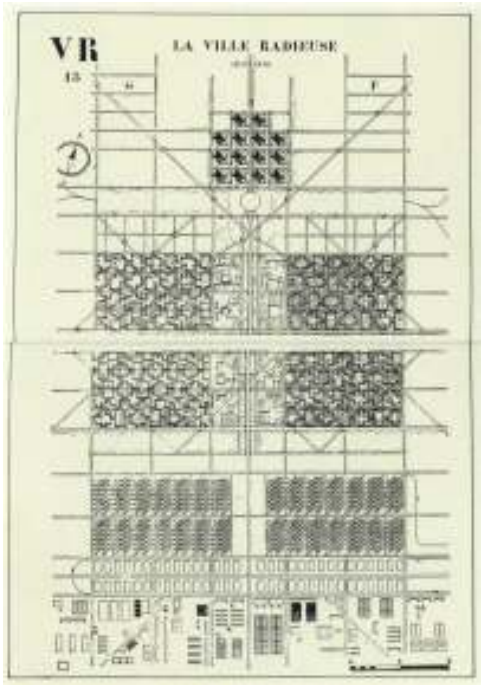

Figure 3.7 The Radiant City (1935). Source: Bernd Evers. *Architectural Theory* (Köln, Taschen, 2006) p. 475.

During his travel in 1935, he witnessed luxury settlements besides the "crowds in the subway who come home at night." Thus, in Radiant City; Le Corbusier changed the class-based organization of Contemporary City, carrying luxury buildings in the

[115] Fishman, op. cit.

center and workers' housings on the periphery and he dedicated The Radiant city to proletariat.[116]

Like the Garden City, as Robert Fishman follows, the cooperative society of Radiant City originated from the "nineteenth-century utopian hopes" such as Ebenezer Howard's cooperative system of garden cities did.[117] Though the architecture of Le Corbusier did not change after the Great Depression, for Güven Arif Sargın, Le Corbusier was under the influence of syndical ideologies with his view on re-identifying the "social engineering." Every corner of the city should be planned by urban planners and it is vital in order to re-construct the "socialist"[118] life. Le Corbusier organized green areas through thousands of square-meters thanks to vertical habitation units. As Sargın argues, independent space and green areas are the most valuable items introduced to city by Le Corbusier.[119]

Garden City, Broadacre City, and The Radiant City would be mentioned as the reflections of their creators' individual imaginations, as Robert Fishman states; those utopias are not limited by pragmatic reasons and they were not designed for contracted works. Rather, they are the pure urban dreams which are not interrupted by daily problems of the designers. This situation connotes the main difference between utopia and entopia: Utopian urban settlements are totally based on creative and imaginary ideas whereas entopia is based on feasibility. Moreover, it can be mentioned that the grid-like image of entopia reminds of the prior images of other applied or un-applied urban plans such as the grid-shaped organization of a Barcelona district, Eixample; or Le Corbusier's The Contemporary City. Even so,

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[116] Ibid.
[117] Ibid.
[118] "*Toplumcu*" in original writing.
[119] Güven Arif Sargın. "Le Corbusier ve Kent; Devrim ve Tutucu Söylence'ye Dair." *Sanat Dünyamız, 87*, 2003: 189-197.

most of the urban planning schemes have influenced by their precursors since the basic principles of human settlements extend over ancient ages. From Constantinos Doxiadis's viewpoint, immediate action for unhealthy conditions should be worked on. It is very far from a utopian behavior; yet, it carries the responsibility of serving for humanity in both the short and the long terms.

3.2 Phenomenology of Place

It is not easy to define phenomenology because it is based on "appearance." For this reason, a historical work on phenomenology would contrast with the idea of its philosophy. Because "using of words" does not come from generalizations for Husserl, phenomenology cannot be systematized and historically described. In this respect, important names as Maurice Merleau-Ponty, Edmund Husserl, Martin Heidegger, and following Christian Norberg-Schulz, Edward Relph, and Yi-Fu Tuan can be criticized from their writings. However, it is a fact that both of those names belong to successive important periods. Namely, Husserl lived in the industrialization and modernization period and his followers Heidegger, Norberg-Schulz, Tuan, and Relph were the parts of post-modern period in architecture so they can be investigated from the context of post-modernity. In this context, this chapter deals with modernism in five parts: Definition of phenomenology, investigation of such names as Husserl, Merleau-Ponty, and Heidegger, introduction of postmodernity, the role of Norberg-Schulz and Tuan in this period, and finally the position of Constantinos Doxiadis and his place theories in this spatial context.

In architectural theory, phenomenology was defined as "a theoretical paradigm" that was influential over determining Postmodernism by Kate Nesbitt.[120] From a philosophical view, it is directly related to Edmund Husserl who investigated the

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[120] Kate Nesbitt. *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory.* New York: Princeton Architectural Press, 1976, p.28.

consciousness of human with excluding all the "external causes" and taking the human perception as the center: "Although this sounds like a program for a psychology of introspection, Husserl insisted that it was an a priori investigation of the essences or meanings common to the thought of different minds."[121] From its sociological definition, phenomenology is related to social consciousness within human's experiences in daily life: "Phenomenological sociology is based on the idea of a social construction of reality through interaction among people who use symbols to interpret one another and assign meaning to perceptions and experience."[122]

Edmund Husserl developed the "doctrine of phenomenology" with opposing the empirical science. For him, the knowledge was not based on pure science but it consisted of all kinds of experiences such as sensory experiences.[123] As Edgar and Sedgwick stated that it is not easy to follow Husserl's writings due to his ever-changing and improving ideas, it is relatively simpler to identify his enterprises in his followers' suggestions. Maurice Merleau-Ponty and Martin Heidegger were the followers of Husserl among Alfred Schütz and Jean-Paul Sartre with re-reading his theories from different viewpoints.[124] Merleau-Ponty was a French philosopher and worked on the "consciousness" besides ethics. He rejected "dualist theories of body and soul" with also rejecting the unsparingly realistic and subjective knowledge and argued that the outlook of the world was not based on empirical data.[125] Also, he believed that the experience cannot be "bracketed" and meaning and knowledge are directly related to human body.[126]

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[121] Antony Flew. *A Dictionary of Philosophy.* London: Pan Books, 1979, p.247.
[122] Allan G. Johnson *Dictionary of Sociology.* Malden, Oxford, Victoria: Blackwell Publishing, 1995, 2000, p. 226.
[123] Flew, op. cit, p.146.
[124] Andrew Edgar and Peter Sedgwick. *Cultural Theory: The Key Concepts.* Oxfordshire, New York: Routledge, 2008, p.239.
[125] Flew, op. cit, p.212.
[126] Edgar and Sedgwick, op. cit.

Martin Heidegger, as the follower and also the critique of Husserl, touched upon the similar ideas of Husserl with basic differences. While Husserl defended the existence "universal" experiences that comprise the whole society, Heidegger argued that the conception of world differs from regions to different societies. This difference in perception comes from their "existential modalities" and "their modifications"[127]: "The wood is a forest of timber, the mountain a quarry of rock; the river is water-power, the wind is 'wind in the sails.'"[128]

Although it is another matter of debate, the different definitions of "Martin Heidegger" in different philosophical dictionaries are contradictory and need to be touched upon. Namely in Ivan Frolov's dictionary of philosophy, published by the Academy of Sciences of the USSR in 1991, it was mentioned that Heidegger accepted the "National Socialist Ideology" during his presidency lecture in Freiburg University in 1933.[129] However, the same lecture was also mentioned by Antony Flew in "A Dictionary of Philosophy" in order to highlight his new position as the new Rector in Freiburg University and handled the same lecture in terms of introducing his main philosophy: *Sein und Zeit*.[130] After all, Antony Flew was British and Ivan Frolov was Russian and both were born in the 1920s. This issue would address to the regional aspects in the same topic with interpreting the same issue from different viewpoints. Thus, their different views for the same person – Heidegger – would be an example of Heidegger's philosophy in "regional" scale that defends different views of different regions.

Not the Modernist architecture itself but the industrialization and its commercial appearances led architectural elements to an "international" style which was based on

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[127] Edgar and Sedgwick, op. cit, p.241.
[128] Martin Heidegger. *Being and Time*, tr. John MacQuarrie and Edward Robinson, Oxford: Blackwell. Cited in Edgar and Sedgwick, op. cit.
[129] Ivan Frolov. *Felsefe Sözlüğü.* Translated by Aziz Çalışlar. İstanbul: Cem Yayınevi, 1991, p.206.
[130] Flew, op. cit, p.133.

socio-economic concerns. As it was mentioned by Güven Arif Sargın, "This approach, by its nature, left traditional values out of the mainstream thinking. While, living in a consumer society spreads over a contagious disease, the future is still being structured on T.V. spots."[131] The critiques over Modernism and its appearances in mechanical-styled buildings and geometrically arranged urban plans began to take place in the agenda of architecture during the early 1960s.

In the 1960s, not only a theoretical change in place theories but also radical changes in architectural deeds were in question. It would not have been by coincidence that Joan Ockman took the period of 1943-1968 in order to represent the "recent past" and K. Michael Hays to take after-1968 as the "beginning of contemporary architecture theory" in their books that both collected "architecture culture" articles. In this context, Michael Hays stated that the period of "contemporary architecture" began with the 1960s with the alterations in political stances of nations, international policies, philosophical theories, and "general cultural production."[132]

By the early periods of modernist architecture, the new technologies were newly used and potentials of new industrial materials and techniques were recently being discovered by the architects. As Le Corbusier stated in "Towards a new architecture: guiding principles", the opportunities of industry have not been discovered by the architects yet.[133] In 1920, Le Corbusier defended that the architects and engineers should take maximum advantages of current technology and he designed living

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[131] Güven Arif Sargın. "A Research for Recovery of the Identity of Place (With Special Reference to Historical Urban Environments)" (M.S. diss., Middle East Technical University, 1989), p.1.
[132] K. Michael Hays. *Architecture Theory since 1968.* London, Massachusetts: The MIT Press, 1998, p.x. [132] Güven Arif Sargın. "A Research for Recovery of the Identity of Place (With Special Reference to Historical Urban Environments)" (M.S. diss., Middle East Technical University, 1989), p.1.
[132] K. Michael Hays. *Architecture Theory since 1968.* London, Massachusetts: The MIT Press, 1998, p.x.
[133] Le Corbusier. "Towards a New Architecture: Guiding Principles." In *Programs and Manifestoes on 20th-Century Architecture*, by Ulrich Conrads, 59-62. London: Lund Humphries, 1970.

machine with this impression over the early 20th century period. However, after the Second World War, both the technology itself and social approaches over technology have changed in architectural environments. As Güven Arif Sargın mentioned, architectural deeds of the 1960s became uniform in international context and "mass production" was not only valid in industry, but it was a prevailing attitude in architectural and urban design.[134] Namely, the utopian feature of Modernist "dreams" gave its place to a new attitude over architecture.

In the 1960s, there was a doctrine originated from the 19th century that architecture was the physical expression of developing civilization. This doctrine led architects to express the spirit of time using new materials and techniques. The compulsion to use new techniques made it necessary to use problem-solving methods. However, architects were interested in new materials rather than worrying the actual problems around them.[135] During the late 1960s, architecture culture was not a spontaneously-developing discipline anymore.

In 1968, Robert Venturi and Denise Scott Brown published their article "A Significance for A&P Parking Lots or Learning from Las Vegas"[136] which later composed the first part of their book with Steven Izenour, Learning from Las Vegas.[137] The article was published after a workshop with three faculty members, nine architecture students, two city planners and two graphic students in Yale University, The Department of Arts and Architecture. Venturi and Scott Brown argued that the existing environment should be examined rather than ignoring it. In this manner, the writers formed a new approach on examining the environment as

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[134] Sargın, op. cit.
[135] Stanford Anderson. "Quasi-Autonomy in Architecture: The Search for an "In-between"." *Perspecta*, 2002: 32-37.
[136] Robert Venturi, Denise Scott Brown. "A Significance for A&P Parking Lots or Learning from Las Vegas." *Architectural Forum 128*, 1968: 36-43.
[137] Robert Venturi, Denise Scott Brown, and Steven Izenour. *Learning from Las Vegas.* Cambridge, Mass.: MIT Press, 1972.

architects. As they state that "Learning from the existing landscape is a way of being revolutionary for an architect. Not the obvious way, which is to tear down Paris and begin again, as Le Corbusier suggested in the 1920s, but another way which is more tolerant: that is to question how we look at things."[138]

The study on Las Vegas was based on the concept of "phenomenon of architectural communication." As the authors states that "The analysis of a drive-in church in this context would match that of a drive-in restaurant, because this is a study of a method, not content." The importance of symbolism had a significant role in Venturi and Scott Brown's study on Las Vegas. They states that the symbols in architecture are important because the people who experience the city need to see familiar fragments for the sake of a sense of orientation. To illustrate the "orientation" issue, they argued; a driver could easily locate himself thirty years ago. The signs were little but he already knew where he is, thanks to the clear structure of the roads.

The guidance of the signs gains importance with beginning of the usage of "cloverleaf" in roads. A Driver has to turn right in order to reach to the left turn. The drivers cannot locate themselves without the signs, due to the complex structure of the roads. Similarly, with all of its numerous signs, "The architecture of persuasion" is the dominant idea of design in the symbolic architecture of Las Vegas, for Venturi and Scott Brown. If we tear down the signs, there would be nothing left, they argue.

By the end of the article, Venturi and Scott Brown criticized Modern architecture in the light of research on Las Vegas. They expressed their displeasure about Modern architecture in these words: "Allusion and comment, on the past or present or on our great commonplaces or old clichés, and inclusion of everyday in the environment,

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[138] Ibid.

sacred and profane – these are what are lacking in present-day Modern architecture."[139]

It can be said that modernist attitudes in architecture were not "modernist" and exciting anymore because the technological innovations of the 19th and early 20th centuries were "consumed" both by the architects and the society. For instance, old Soviet buildings or housing estates in European countries are popularly identified as "monotone, pale, and rubbish" by the public but those buildings were the "idols" of a very powerful ideology, once. Namely, it is a natural process that the trends in architecture are constantly changing.

> By the early 1960s, a young post war generation of architects had seized the idea that architecture should participate in the liberation of human experience from the constraints of the social status quo.[140]

Architectural phenomenology was formed by the followers of Husserl, Heidegger, Merleau-Ponty, and Piaget. This formation was not a group "armed with an emblematic manifesto" but they were architects whose works were defined with space definitions that are based on experiences. Called as postmodernism, the criticisms over modernism led to the formation of architectural phenomenology.[141] In this context, Jean Labatut, Charles Moore, Christian Norberg-Schulz, Kenneth Frampton, Edward Relph and Yi-Fu Tuan formed a circulation around the US academia.

However, in this chapter, it is not intended to discuss post-modern architecture and phenomenology in depth but it is crucial here to locate *entopia* in architectural

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[139] Ibid. All the writings about Learning from Las Vegas were extracted from the term paper of Melodi Pak resigned in 2010, for the requirements of Architectural Research I, lectured by Ayşen Savaş in METU, Ankara.
[140] Jorge Otero-Pailos. *Architecture's Historical Turn: Phenomenology and the Rise of the Postmodern.* Minneapolis, London: University of Minnesota Press, 2010, p.xi.
[141] Ibid.

discourse as a place theory among its contemporary place theories. Located in the "post-industrial culture", entopia's contemporaries criticized the "internationalism, functionalism and domination of technology" as these characteristics of modernism caused the "loss of space" and the loss of space's identity.[142] As Gonca Paşolar stated, the new approaches on place aimed to "recover" the space from uniformity and mediate between "the universal" and "the local."[143] In this context, basic principles of space in Yi-Fu Tuan, Christian Norberg-Schulz, Edward Relph, and Juhani Pallasmaa's writings are in question in order to analyze the "essence of place", as Norberg-Schulz called it.

As an architect, Juhani Pallasmaa criticized contemporary design attitudes that expressed the post-modern style in his seminal text "The Geometry of Feeling." While searching for the phenomena of places, he exemplified this issue with comparing "modern buildings" and "anonymous houses." In this context, he argued that that the modern buildings do not address to our feelings while any "anonymous" house in an old town having a feeling of familiarity by the reason of the fact that meaning of a building does not come from its form. Rather, its meaning lies in the "emotional force" that it carries. Namely, Juhani Pallasmaa explained phenomenology of architecture as "looking at" the inner consciousness of the experience, unlike examining its physical properties; as he states that "The phenomenology of architecture seeks the inner language of building."[144]

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[142] Gonca Paşolar. *Interpretations of Place in Architecture* (M.S. diss., Middle East Technical University, 1999), p.46.
[143] Ibid.
[144] Juhani Pallasmaa. "The Geometry of Feeling: A Look at the Phenomenology of Architecture." In *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory*, by Kate Nesbitt. New York: Princeton Architectural Press, 1996.

"The architecture of memory" represents the phenomena of a place that can be the smell of coffee, sound of water or the light of the space;[145] in that, phenomena and thus the feelings of a place are built by such abstract items that directly address to user's memory. The feeling of a place is an "intangible" phenomenon unlike other tangible phenomena such as door, window, and furniture, for Christian Norberg-Schulz. In "The Phenomenon of Place," he examined the elements of the place that create the "sense" of the space. He explained the concept "the essence of place" in these words:

> Place is evidently an integral part of existence. What, then, do we mean with the word "place?" Obviously we mean something more than abstract location. We mean a totality made up of concrete things having material substance, shape, texture, and color. Together these things determine an "environmental character," which is the essence of place.[146]

Christian Norberg-Schulz dealt with phenomenology through "everyday experience." He defined everyday experience through the traditional behavior of architecture that defines separate spaces for different usages. However, this approach excluded the "place" and defines the users' practice as "here." Because phenomenology investigates the place as a "concentration" and "enclosure" which is full of sense,[147] a place can only be identified by abstract facts instead of using scientific and analytic methods.

Two geographers, Yi-Fu Tuan and Edward Relph improved the place concept from the aspect of "human geography" among other behavior that was formed in the 1960s, namely "regional geography." While writing on physical phenomena during

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[145] Ibid.
[146] Christian Norberg-Schulz. "The Phenomenon of Place." In *Theorizing a New Agenda for Architecture: An Anthology of Architectural Theory*, by Kate Nesbitt, 414. New York: Princeton Architectural Press, 1976.
[147] Ibid.

the 1960s, Tuan changed his attitude into a "humanistic approach" in the context of the 1970s when the "reaction to positive sciences" was in question. Later, the term of "humanistic geography" became to be notable by Yi-Fu Tuan.[148] The definition and perception about "place" were furthered by Tuan with his argument that places are the concepts that make us "know the world" through human's experience and perception.[149] As it was stated before, Heidegger's examined the perception of humans through their regional contexts. Unlike his approach, it would be mentioned that Tuan sublimed the "human" and "place" as pure concepts that form the perception rather than relative experiences in different regions.

Yi-Fu Tuan touched upon the concepts of perception, attitude, and world view in order to construct the base of "topophilia" concept which was developed by him. To clarify, "perception" is a "purposeful activity" with the selection of certain phenomena alongside of other eliminated values. Thus, perception is "the response of the senses" to stimulant characters of the place. The second concept "attitude" represents the "cultural stance" of the human when faces the world. The attitude takes its shape as the results of perceptions and thus experiences and it is more of a "stable" character. Later, the "world view" of human takes its shape from "conceptualized experiences" with the attitudes. The world view refers to a system of attitudes and beliefs. Finally, "topophilia" takes shape with all the connection between human and place: "Topophilia is the affective bond between people and place or setting."[150]

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[148] Phil Hubbard, Rob Kitchin. *Key Thinkers on Space and Place.* Los Angeles, London, New Delhi: Sage Publications, 2011, pp.426-427.
[149] Tim Cresswell. *Place: A Short Introduction.* Malden, Oxford, Carlton: Blackwell Publishing, 2013, p.20
[150] Yi-Fu Tuan. *Topophilia: A Study of Environmental Perception, Attitudes, and Values.* New York: Columbia University Press, 1974.

It is relatively simpler to follow the influence of phenomenological philosophy of Edward Relph, as Tim Cresswell states.[151] Namely, Relph was interested in "everyday life" in order to explain and visualize the link between human experience and the "places." Namely, the places determine the human experience. Referring to Christian Norberg-Schulz, Relph introduced "vertical and horizontal structures of existential space, where vertical one corresponds to levels and horizontal one refers to elements of existential space."[152]

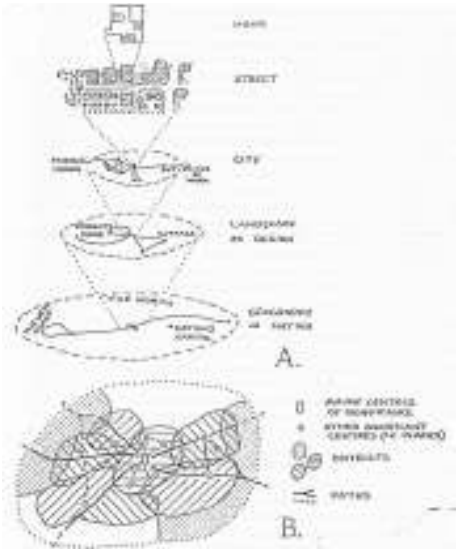

Figure 3.8 "Vertical and horizontal structures of existential space." Source: Edward Relph. Place and Placelessness (London, Pion Limited, 1976) p. 21.

Based on the analyses of Norberg-Schulz, Relph visualized the complex system of human's relationship to places. Namely, human constitutes different relations with such places as work, home, recreation, and so on. Some places human postpone and

[151] Cresswell, op. cit., p.21.
[152] Edward Relph. *Place and Placelessness.* London: Pion Limited, 1976, p.20, quoted in Güven Arif Sargın, op. cit, p.58.

some place human appropriates; and there are such former places that human see them as "nostalgia."[153]

In a similar manner to Edward Relph, Constantinos Doxiadis described the "entopia" place theory from the smallest unit of human settlements with reaching up to the largest unit; the city and the world city. Respectively; the furniture, the room, the house, and the neighborhood should be designed and later on the city, metropolis, megalopolis, and the ecumenopolis would take their shape. This similarity between the diagram of Edward Relph and design attitude of Constantinos Doxiadis would not be a coincidence in that the books "Place and Placelessness" was published in 1976 and "Building Entopia" in 1975.

Moreover, Doxiadis's interest in room and human perception with the five senses coincide with the 1970s where the discussions over "human geography" and thus phenomenological place were in the agenda of architecture. Namely, he published an article titles as "The Formation of the Human Room"[154] which investigates the historical evolution of room in respect to human's biological and social needs. His interest in "room" comes from two basic reasons. Firstly, the room is the smallest unit of human settlements to "serve all basic purposes." Secondly, the room can be investigated on a "biological basis" with its wide range of varieties where the larger units – polis, metropolis, megalopolis, and so on – cannot have different variations, unlike the room.[155]

Investigating the room, Constantinos Doxiadis examined this unit both from its historical and physical contexts. There always have been extrinsic factors that changed the formation of a room. Those factors, as Doxiadis mentions, were the

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[153] Relph, op. cit, p.21.
[154] Constantinos Doxiadis. "The Formation of Human Room." *Ekistics vol.33, no.196*, 1972: 218-229.
[155] Ibid.

combination of human's needs and structural necessities. More precise, the human needs were – and still are – based on Man's[156] "biological" and "mental" requirements. For instance, the ceiling height of a room is determined by the biological and thus physical properties of a Man. Moreover, a human needs clean air and sunlight due to his biological system. Besides, mental needs are as important as the biological needs such as the visual sense that needs to "look at" further distances in order not to feel like in a "prison." Likewise, a room's contact with nature also determines the mental quality of human.[157]

In brief, there are four basic principles that shape the room for Doxiadis: maximizing the contacts of human, providing him a daily life with a minimum effort, "optimization of Man's protective space", and relating the room with the ekistic elements Nature, Man, Shells, Society, and Networks. Moreover, Doxiadis gives references to ancient Greek housing principles that took the human as the origin with his body, soul, sense, and mind while building houses. However, Doxiadis gave references neither to phenomenology nor space and place discussions of "post-modern" culture in his discussions about room. It is not clear that if it was by purpose or not. In any case, the "entopian room" discussion can be placed in the architectural environment of the 1970s. The entopia concept, as a place theory and as the base of design principles of Doxiadis; will be discussed in the next chapter.

3.3 Entopia in Practice

As Lewis Mumford remarked that the "CIAM Grid" or *Grille CIAM* is the practical response of Athens Charter[158], the grid definition of *entopia* and the linear representation of *dynapolis* would be the reifications of the whole "Ekistics"

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[156] In this article, Constantinos Doxiadis mentions the human as "Man with a capital M."
[157] Doxiadis, op. cit.
[158] Eric Mumford. *The CIAM Discourse on Urbanism, 1928 - 1960.* Cambridge, Mass.: MIT Press, 2000.

doctrine. In the light of previous chapters of this study, it can be said that Constantinos Doxiadis did not propose purely original urban forms. On the contrary, he was a spokesman of Modernist "tradition", dating back to Industrial Revolution in general and to first CIAM congress in specific. In this respect, the basic principles of Ekistics and then their spatial responses held by Constantinos Doxiadis's firm Doxiadis Associates are in question in this chapter.

Among other European urban planners, Constantinos Doxiadis was one of the architects who worked in the Middle East countries among Patrick Geddes who worked in various cities such as Palestine, Calcutta, Madras, Jerusalem, Ceylon[159], and Le Corbusier who designed urban settlements for Algiers, İzmir, and Chandigarh. Namely, the universality of Modernism was in a contradictory position with its *tabula rasa* implications over the existing urban settlements and as a part of this style; Doxiadis's design principles also carried the same contradictions. Namely, it would be under question that if the principles of ekistics suitable for all the cities around the world.

As an architect and urban planner, Doxiadis prepared a great deal of projects for different countries. Namely, his firm undertaken different projects in Bangladesh, Brazil (Rio de Janeiro), Cyprus (city of Limassol, Alakati Beach and Mt. Troodos), Ethiopia (Axum), France (Mediterranean region), Ghana (Accra and Tema area), Greece (Athens, Patmos, Arta, Igoumenitsa, loannina, Preveza, Rhodes, Serres, Volos, Aspra Spitia, and many other cities), Iran (Tahran, Farahnaz and Shiraz), Iraq (Baghdad, Kirkuk, Basraah, Mosul, and Musayyib area), Italy (Otranto), Jordan (Aqaba), Lebanon (Baakleen and Marjayoun), Libya(Cyrenaica region, Beida, Tripoli, Benghazi and Marsa El Brega), Nigeria (Lagos, Ilorin,), Pakistan

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[159]Noah Hysler Rubin. "The changing appreciation of Patrick Geddes: a case study in planning history." *Planning Perspectives Vol. 24, No. 3*, July 2009: 349-366.

(Islamabad, Lahore, Peshawar and Rawalpindi), Saudi Arabia (Riyadh), Spain (Madrid, Barcelona and many other cities), Sudan (Khartoum), Syria (Horns, Hama and Selemiyah), USA (Urban Detroit Area, Northern Ohio, Great Lakes Megalopolis, and other regions), Former Yugoslavia (Skopje; currently the capital city of Republic of Macedonia), Zaire (currently Democratic Republic of Congo; the cities of Kinshasa, Kisangani, Lubumbashi, Likasi and Kolwezi); and Zambia (Lusaka, Chililabombwe, Chingola, Chipata, Kafue, Mongu and Mufulira).[160]

Though a part of the projects listed below did not exercised by the employers or the governments that hired Constantinos Doxiadis, they were impressed by the design principles of Doxiadis in reconstructing or renewing the urban systems such as transportation and in planning and constructing new human settlements. Namely, there are major projects such as constructing a "new capital" of Pakistan: Islamabad, reconstructing the existing capital of Iraq: Baghdad and very large scaled project held in the US such as the planning of new transportation networks and detecting the development axis of certain urban areas.

As representing the principles of an "entopia", Islamabad would be an illuminative example in terms of representing both the gridiron and linear city models. Moreover, Islamabad became the new capital of Pakistan – with a new regime – in the 1960s and the existing capital Karachi was removed to Islamabad. During this transitional period, Doxiadis Associates was the firm that was responsible for designing the new capital. Moreover, their work on The Developing Urban Detroit Area would be a good instance in order to visualize the idea of a dynametropolis, namely; the dynamically growing metropolis as Constantinos Doxiadis calls it. However, this chapter aims to deal with Doxiadis's urban projects not one by one, but as a whole in order to conceive the system of "Building Entopia."

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[160]Constantinos and Emma Doxiadis Foundation. "The Man and His Work." http://www.doxiadis.org/files/pdf/major_projects_N.pdf (accessed June 23, 2013).

Titled as "Building Entopia"[161], Constantinos Doxiadis published his book in 1975 as the next book to the last one published before he died. As it is seen from its title, this book deals with the overall system of ekistics and explains how to build "entopian" settlements step by step. Namely, "Building Entopia" contains almost all the built or preliminary works of Doxiadis Associates and Doxiadis handles those projects as the parts of a new system. In other words, it would be handled as guide to comprehend the theoretical knowledge of Constantinos Doxiadis and also to observe his spatial responses to those theories. For this reason, this chapter intends to decipher the book "Building Entopia" both with its examples and descriptions. Re-reading this book would be a method to visualize the entopia concept from an architectural viewpoint.

Building Entopia[162]

Entopia represents a healthy and systematic layout of the future world-city: Ecumenopolis. Namely, the ecumenopolis is the inevitable future of existing cities and the settlements should be arranged or healed in order to be prepared for the ecumenopolis. Otherwise, it would be a total chaos and disaster as the cities of the 1970s, for Doxiadis, already represented dystopian views. In a word, ecumenopolis is not a prophecy but a scientific projection and building entopia is the only way to achieve habitable places both in terms of housing and large settlements.

From the smallest unit of furniture to the larger unit of ecumenopolis, Constantinos Doxiadis investigated all the parts of entopia step by step. As Doxiadis stated that entopia is not a theory but a descriptive plan for future settlements, all the elements of the ecumenopolis should be worked on in detail. After building the units, the working system of entopia was described in order to systematize its mechanism.

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[161] Constantinos A. Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975.
[162] All the writings and visuals of this part are based on the analysis of Constantinos A. Doxiadis' book *Building Entopia* and any other material was not included. For this reason, no references were given.

Namely, there are ten parts of entopia that should be worked on: The furniture, the room, the house, the house-group, the neighborhood, the polis, metropolis, megalopolis, eperopolis, and ecumenopolis. The last two stages of human settlements do not exist yet: Eperopolis, continent cities and the ecumenopolis, the world city. Following, the total system of entopia works with five sub-systems: The systems of nature, anthropos, society, shells, and networks.

The first and also the smallest element of entopia is the furniture and the starting point of designing furniture is the chair. The reason is that human physiologically needs to sit in a chair in order to take a rest. Similarly, tables, beds, and other furniture that we often use should be designed ergonomically to the purpose. In this context, Doxiadis proposed "auto" furniture systems that respond to basic needs of the users. The furniture of the future was designed in order to serve the human body with not disturbing his eyes, ears, nose, fingers, and muscles. For instance, an auto-chair can be transformed for different usages such as resting, eating, working, or watching television. Another example is auto-shelves that can be reorganized with a "button" for different occasions, in that; a book shelf can automatically be turned into a shelf with an artwork or family portraits. Moreover, the same auto-shelves may also contain a bed and table in itself and thus the room would be transformed for different usages during the day. With the auto-furniture, Doxiadis proposed economical solutions for the needs of everyday life. The "changing furniture" such as auto-bed, auto-chair, auto-armchair, auto-table, and auto-shelves would arrange the whole day of human thanks to technological solutions which were not in use in Doxiadis's times yet.

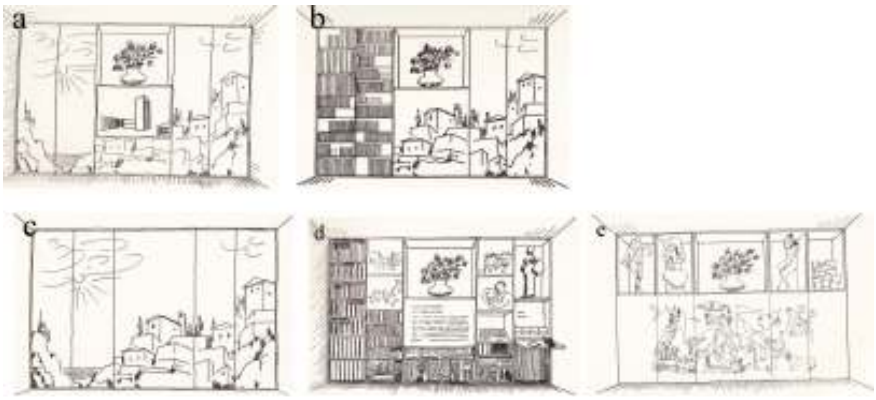

Figure 3.9 Five possible usages of an Auto-Shelf with its interchanging units.

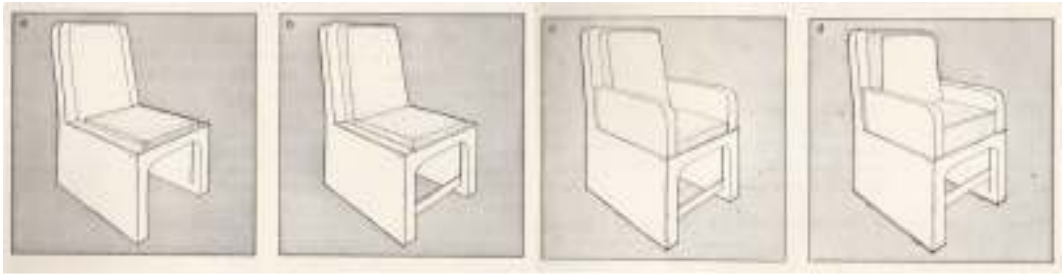

Figure 3.10 Four possible usages of an Auto-Chair.

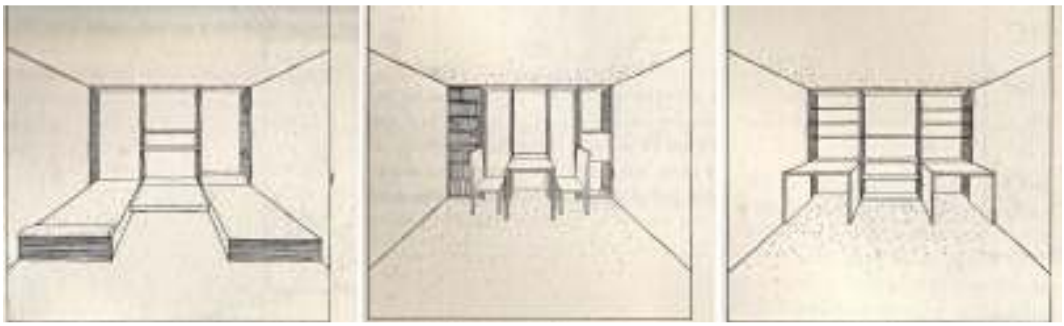

Figure 3.11 Auto-Bedroom, Auto-Dining Room and a combination for different needs. The units are built-in furniture so that a single room can be used differently through different periods of a day.

The second unit of entopia is "room." The room was designed by Constantinos Doxiadis is a way that both the roof and windows can be automatically moved. The shape of the room is the basic one: rectangular, as Doxiadis mentions that irregular shapes – hexagons or pentagons – and unusual ceiling heights opposes the physiological needs of human body. For this reason, the proportions of Ancient houses would be the most useful ones for rooms: "They have to respect the real

needs of anthropos and the long experience gained by him through trial and error."[163] Moreover, Doxiadis touched upon the issue of "body, senses, and psyche" that is defined by the shape, proportions, materials, colors with references to his own article: "The Formation of a Human Room" which was published in Ekistics periodical in 1972.

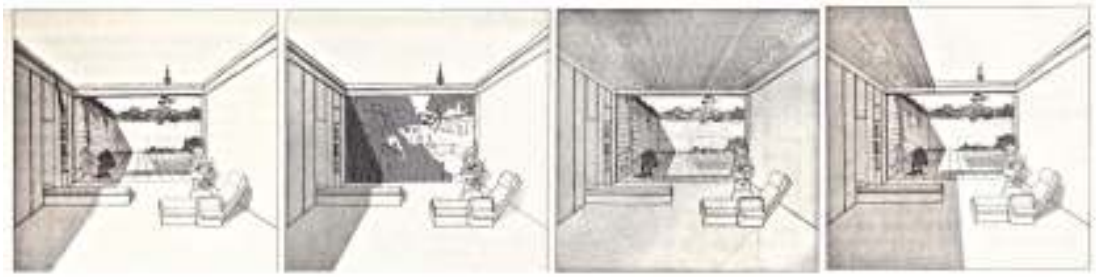

Figure 3.12 Different usages of auto-room during a day.

Figure 3.13 An example of partial auto-room from Constantinos Doxiadis's applied project in Apollonion, Porto Rafti, Greece (1975).

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[163] Constantinos A. Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975, p.86.

The room was also conceived as an auto-room similar to auto-furniture. Because a person would not need more than one room during an ordinary day, one room should be able to satisfy his or her needs in order to save energy from cleaning or maintaining another room. As the entopian house was planned with a single-floor, the room is open to the courtyard, next room, and to the sky in order for the human to build "optical relationship" with the surrounding spaces. In this context, the moving inner walls isolate the room from other rooms or it provides the room with open spaces. Likewise, the moving roof consists of two kinds of coverings. First one is solid and not transparent for full isolation from the sky and the second one is semi-transparent for partial sunbathing. Thanks to this system, the dweller would take all the advantages of all the periods of a day both with benefiting from the sun and fresh air. Doxiadis gave the example of Apollonian settlement which was designed by Doxiadis Associates in order to visualize the sliding walls.

The third element of entopia is the house which is the "structure serving as a dwelling or a household" for a family or different people groups. As Constantinos Doxiadis's family concept does not only consist of a regular family of wife, husband, and children but of homosexual, nudist, and other different people groups; he proposed different types of houses and neighborhoods for them. Namely, a human spends more than half of his or her day in residential unit and also the half of this time is spent during sleep.

For Constantinos Doxiadis, there were two major problems of current housing system of the 1970s. First problem was the high-income group that tends to change their houses frequently. This behavior would not help with providing them with security and healthy residences. The second problem was the multi-story housing units that disconnect the human from the natural environment. Namely, people; especially the children need to develop relationship with the nature with walking and playing on the ground. Thus, it is the human's right to own his own garden – even if it is too small – and to reorganize his space according to his personal needs. For those reasons, Doxiadis's different variations of houses can be arranged towards different usages.

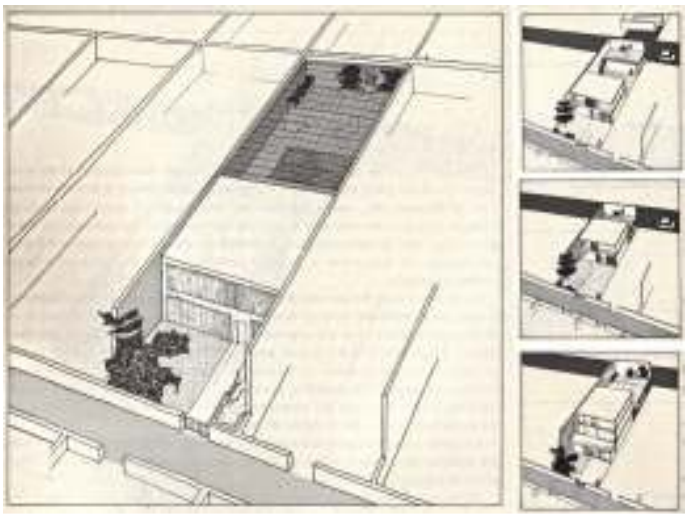

Figure 3.14 A basic entopian house with different variations for different users.

In practice, for Doxiadis, it is not possible to change all the existing dwelling units into entopian houses, specifically; the high-density areas cannot be changed radically. Nonetheless, existing low density areas can gradually be transformed into entopian housing groups over a period of time. Though existing housing groups are arranged on the structure of automobile roads, it is possible to change the mecstreets into hustreets.[164] An example of an entopian house was Doxiadis's house group projects that took place in Greece. This example, as it is seen below, was used in "Building Entopia" both for exemplifying the room, house, and for house-groups. Other visuals of Apollonion were used in the "housegroup" unit of entopia in order to bring forward a "concrete" proof of the possibility to build entopia. After all, Doxiadis did not give any examples of places that he did not visit and work on.

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[164] The terms "mecstreet" and "hustreet" were coined by Constantinos Doxiadis. Mec-street refers to the street that is reserved for mechanical means of transportation and hu-street means the street that is reserved for humans only. Those two concepts were frequently used by Doxiadis in almost all of his writings.

Figure 3 15 A house in Apollonion by Doxiadis Associates in Porto Rafti, Greece (1975).

"Housegroup" is the fourth unit of entopia. A housegroup represents a small neighborhood with several families and contains a population of 15 to 100 people. The aim of building a house-group was to provide the dwellers with a zone of transition between their houses and the big avenues. Namely, a person should not directly be "thrown into" a main street or an avenue immediately after going out from his apartment. In this context, a small street and a small square should be placed around the houses with preserving the human scale with offering small socializing areas for the core of the neighborhood.

Similar to auto-room and auto-furniture, the families would have the opportunity to reorganize their houses within its frames. With the organization of all the houses, the human streets (hustreets) and the human squares (husquares) would take their shape accordingly. Because the parking areas and streets for the automobiles place "around" the settlements, but not in it; the housegroup is only reserved for humans only.

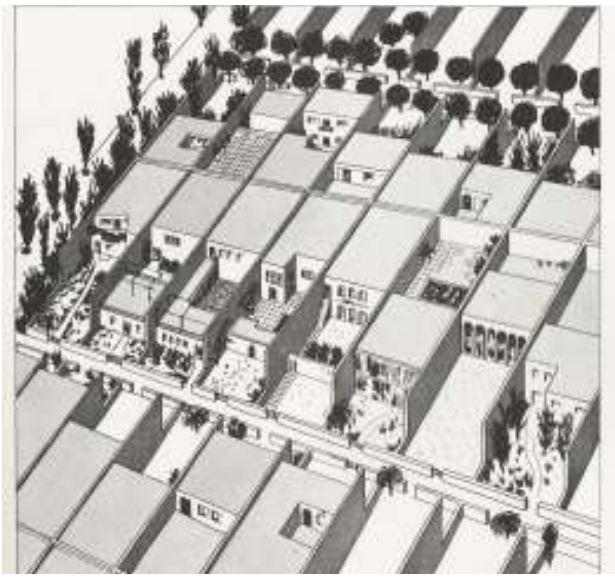

Figure 3.16 The basic representation of a housegroup which contains over 20 houses of middle-income families.

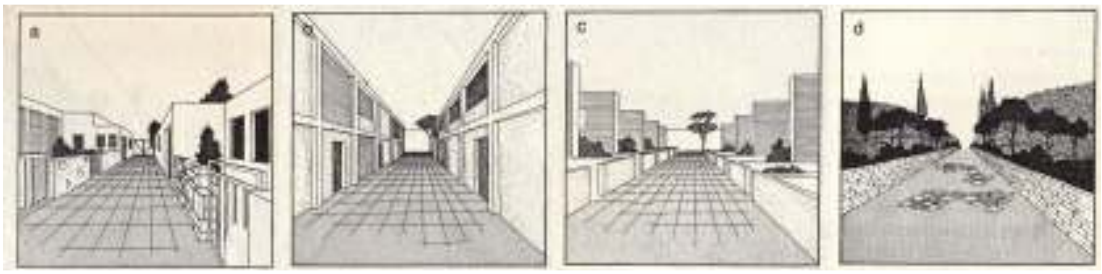

Figure 3.17 Different types of hu-streets.

The act of separating the mechanical means of transportation from the humans was based on one basic principle of Ekistics, the science of "human" settlements. The principle was to regain the human scale in the human settlements among contemporary cities that are dominated by the machines. In this regard, Doxiadis touched upon the importance of humans' "freedom" of action without the endless pressure of mec-streets, namely the heavy traffic inside the settlements with citing to

Sigfried Giedion: “No machine can replace physical nearness, neither telephone nor radio, home movies or television.”[165]

Constantinos Doxiadis touched upon the issue that “seeing” is the sense with a capacity of “at least 100 times” more than hearing and “over 1000” times more than other senses. For this reason, the human streets were designed as “lines” for the sake of human’s visual needs. Hence, the hu-streets of the housegroups functions as the “areas of visual communication” of the neighbors. Moreover, the hu-squares provide the dwellers with spaces for physical activities, basic commercial needs, and socialization – as Doxiadis called it gossip square – and serves as a place for the betterment of the human mind.

Figure 3.18 Three different variations of hu-squares.

The practiced examples of entopia house-groups were given from the applied projects of Doxiadis Associates in different years in different countries. Namely, a

[165] Sigfried Giedion. *Architecture, You and Me.* Cambrigde, Mass: Harvard University Press, 1958, pp. 123, cited in Constantinos A. Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975, p. 119.

housing project in Eastwick, Philadelphia illustrated the example of a huarea – human area. Likewise, a husystem (human system) was already practiced in Islamabad, Pakistan as the new capital by Doxiadis Associates.

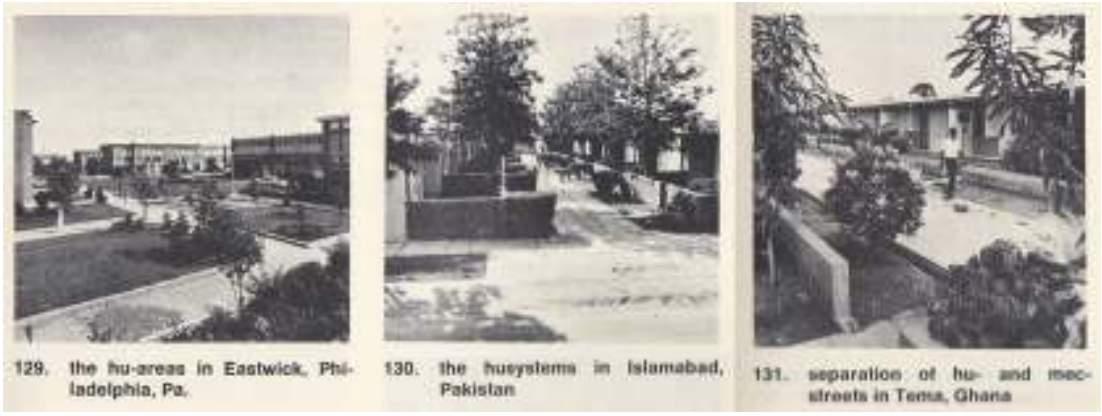

Figure 3.19 The system of human streets and human areas designed by Doxiadis Associates in Philadelphia, Islamabad, and Ghana.

Figure 3.20 The system of human streets and mechanical streets designed by Doxiadis Associates in Zambia.

The housing units in Islamabad were mostly built for low-income groups with the encouragement of the current Pakistan government. Besides, the same approach in housegroups was applied to three African countries by Doxiadis; Ghana, Zambia, and Nigeria. All those examples of housing projects consisted of the idea of

separating the hu-streets from the mec-streets and the core principle was to re-gain the human scale in the context of "housegroup" unit of entopia.

With the examples of Doxiadis Associates' projects in different countries – and even different three continents – Constantinos Doxiadis expressed that the building of entopian house-groups of the future was already begun: "We cannot create the future tomorrow, but we have already started the process by creating hustreets and husquares separated from the macareas."[166]

The Apollonion housegroup, as mentioned under the issue of house and room units; was located outside of Athens, Greece. It was designed for middle and high income groups with a modernist concept of traditional Greek houses. However the mec-streets did not built underground, they were located in a "lower level" which was topographically under the housings. Thanks to this arrangement, the separation of human from the mechanical means was completed in those projects.

In Mosul, Iraq a house-group was designed and built by Doxiadis Associates with modern technology in the way of traditional materials and design methods. The spaces between the buildings did belong only to human. Likewise, the headquarters of Doxiadis Associates International were designed with not losing the human scale. Namely, the car-parking areas were located under the building and inner courts for human were designed both for the sake of human health and for the visual pleasure.

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[166] Constantinos A. Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975, p. 126.

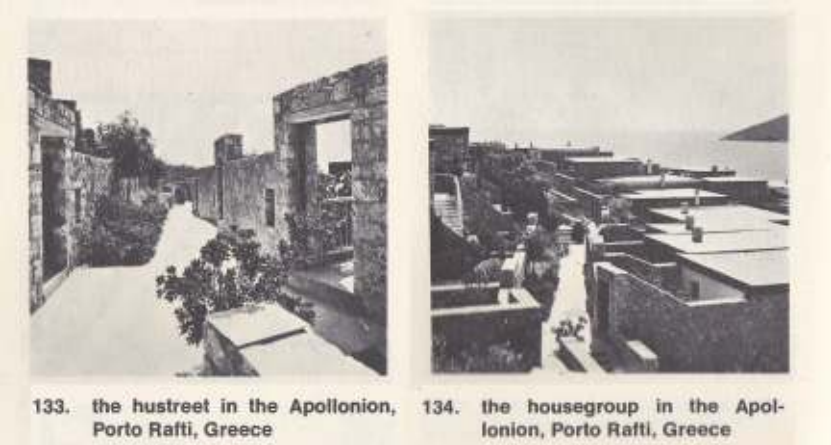

Figure 3.21 A house-group and human street designed by Doxiadis Associates in Greece.

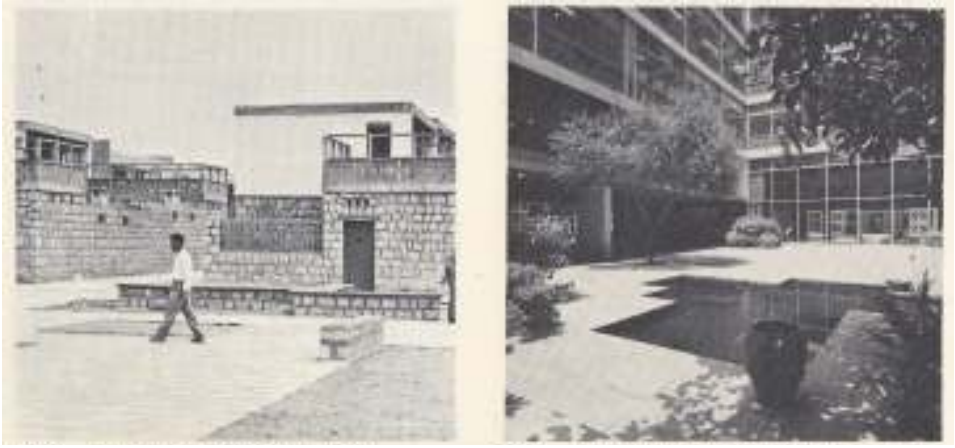

Figure 3.22 Other examples of human squares that were built in Iraq and Greece. Second visual belongs to headquarters of Doxiadis Associates International.

The condition of the house groups of Doxiadis's times – 1970s – was not that different from today's conditions. The human streets and mechanical streets were located in a combined way: Both the squares and small streets between the houses were used by the automobiles and the pedestrians at the same time. As Constantinos Doxiadis expressed, it was not possible to make a fundamental change in order to purify the streets from automobiles for economical and commercial reasons. However, the newly-built areas could have been arranged in an entopian way with basic modern technology.

The fifth unit of entopia is the neighborhood, which covers a larger area than the "housegroup." As distinct from housegroup, the neighborhood contains shops, churches, mosques, and other facilities for the dwellers and includes 100 to 5000 inhabitants. For Doxiadis, "today's metropolises" (speaking of the 1970s) do not reserve neighborhoods for basic needs of humans such as stores that are in the walking distance from their houses.

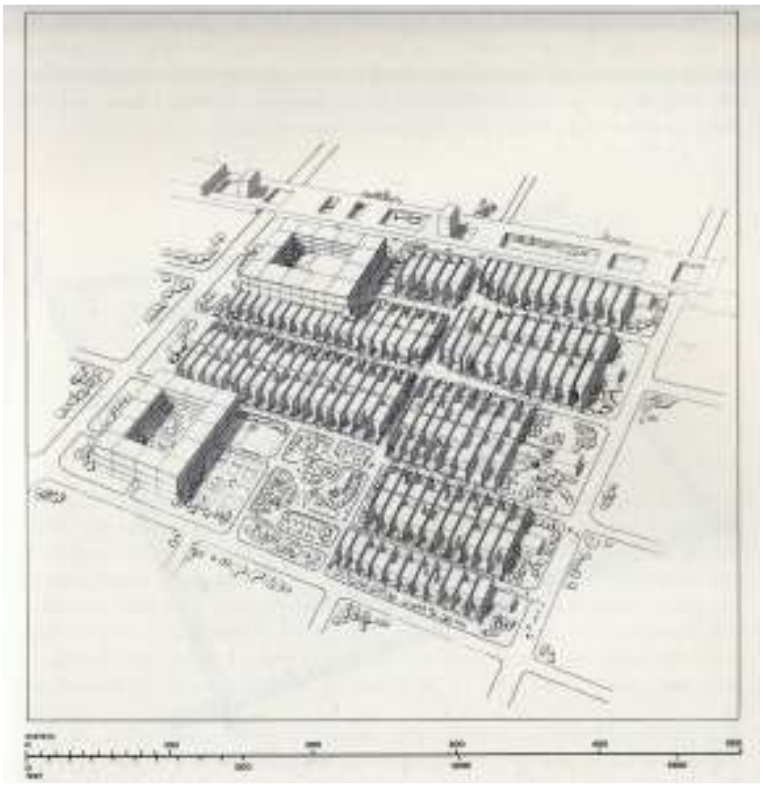

Figure 3.23 A neighborhood model.

Figure 3.24 From left to the right: Specialized housegroups, educational center, shops and workshops.

There are five requirements that a neighborhood should meet. Firstly, the physical boundaries of a neighborhood would be green areas or the mec-streets in that there would no mechanical streets be built inside a neighborhood so that the habitants would be aware of their hood's boundaries and act more freely. Secondly, a neighborhood should be able to respond all the "local social needs" such as facilities for people and for children. Thirdly, a neighborhood also should meet the commercial needs such as supermarkets and the smaller shops should be preserved among big shopping centers. Fourthly, this area should be cleaned from air pollution and partially be purified from heavy traffic for the sake of physical and mental health of the inhabitants. The fifth need is the urban artifacts should not go beyond the human scale. For example, the urban sculptures should not be bigger than a human can perceive it and this item refers to the cultural needs of a neighborhood.

The neighborhood consists of almost eight "housegroups" with other facilities in it. The core idea of this unit is that the inhabitants of this area would reach to all their needs during an ordinary day. For instance; the pharmacy, education center, sports area, kindergarten, supermarket, tailor shop, and so other places should be located with a range of a walking distance. Mostly, pedestrians would be allowed in this area with certain exceptions of vehicle traffic. In local scale, bicycles or motorcycles would be used such as in India, or in Netherlands. The automobile traffic would flow under the ground in long tunnels. Even the factories should be under the ground and should be covered with a green plant cover. After all, the future factories would work automatically without manpower and the workers would not have to work under the ground.

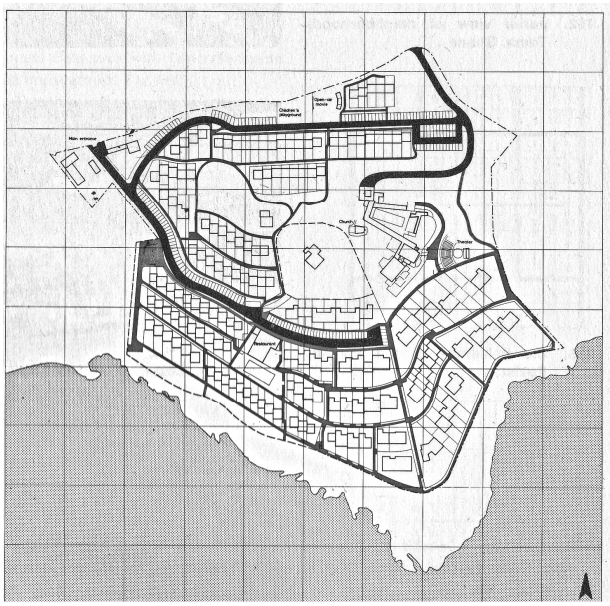

Figure 3.25 The layout plan of Apollonion, Porto Rafti, Greece by Doxiadis Associates.

The example of a neighborhood is again the Apollonion settlement which was designed by Doxiadis Associates. The layout plan pf this settlement would give an idea of the scale of a neighborhood. Moreover, there are two types of neighborhoods for Constantinos Doxiadis: urban and rural settlements. In the future, for him, there will only remain the urban settlements except certain traditional rural areas and the existing rural areas will become isolated housegroups such as an urban area.

The sixth part of entopia is polis with all its ancient references. Because Doxiadis is Hellenic and he takes the Ancient Greek cities as the starting point of design principles both in architectural and urban scale, the "polis" represents the small towns and cities with 5.000 to 200.000 inhabitants. The polis is the core of metropolises and larger cities. Namely, the "old"[167] polis turns into metropolises with

[167] Old refers both to historical city centers and relatively new cities that were built after the Industrial Revolution.

rapid and infinite growth. In this context, the city center should remain static in terms of the services it provides for the citizens. A regular polis covers the area of 2.000 by 2.000 or 5.000 by 5.000 meters and those dimensions coincide with the sizes of classical Athens and Renaissance Florence. In the future, those dimensions would not change because of constant value of human scale: The walking distances of human or the proportions of a human body will remain the same.

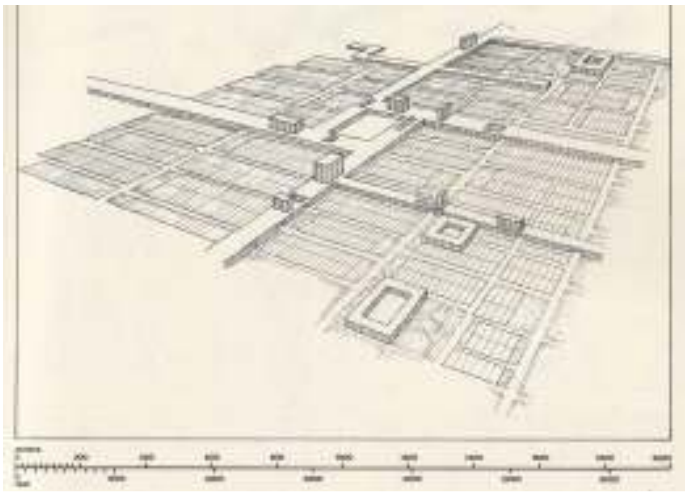

Figure 3.26 "The polis of the future."

The polis is not only a single and isolated place but it is also the "center" of existing and future metropolises. For example, Detroit, Michigan, where Doxiadis Associates prepared transportation system plans; includes a business center with the exact dimensions of an ancient polis. For this reason, a polis functions as a service corridor for business, commercial, and other administrative services. The polis would have four separate surfaces. First one is "the mec-surfaces below the ground" with the same logic of "housegroup" by separating the humans from the automobiles. Second surface is the public spaces with avenues and squares. Third surface is the semi-public areas with public and private spaces that serve as exhibition, inner courtyards (such as the courtyard of the headquarters of Doxiadis Associates International) and so on. Finally, the fourth surface covers the private buildings.

The current polises will be the future's metropolises, so their arrangements should and networks should be worked on in order to build the entopia in this scale. The polis is conceived as a dynapolis by Constantinos Doxiadis and in its dynamic phase, a polis can be put in a rational order with managing its growth axles. This "deed" of regulating the polis was illustrated in a simple scheme by Doxiadis, as seen below.

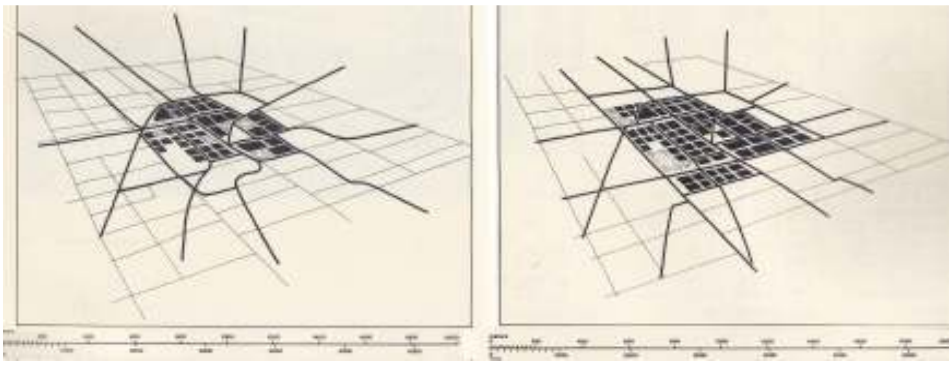

Figure 3.27 In the left, an existing polis was illustrated with uncontrolled growth. The other visual illustrates the "regulated" growth axles of a dynapolis.

As it is seen from the figure 3.26, the dynapolis model of Constantinos Doxiadis is not only a linear city representation but it is also the term for all the naturally growing cities. Moreover, there are six specific examples of newly-built polises with the guidance of Doxiadis's urban plans. One of them is Kafue dynapolis which will have been a part of Lusaka metropolis in Zambia and other example was Tema, Ghana; which will have been the part of Accra metropolis.

Figure 3.28 Tema, Ghana (1961)

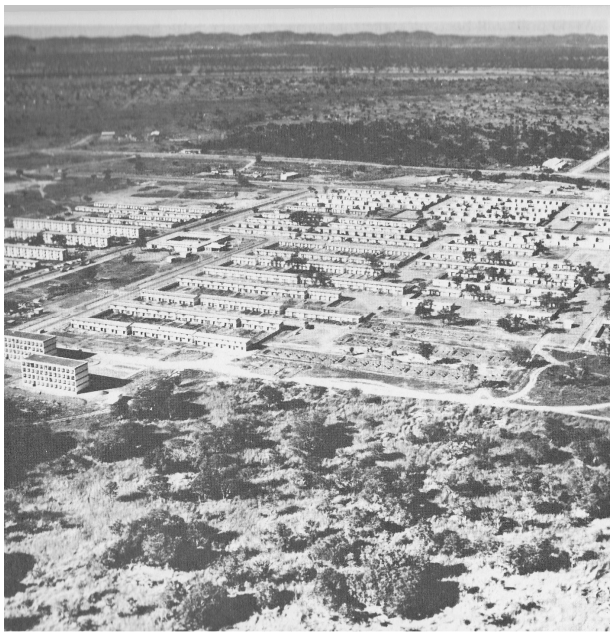

Figure 3.29 Kafue, Zambia (1969)

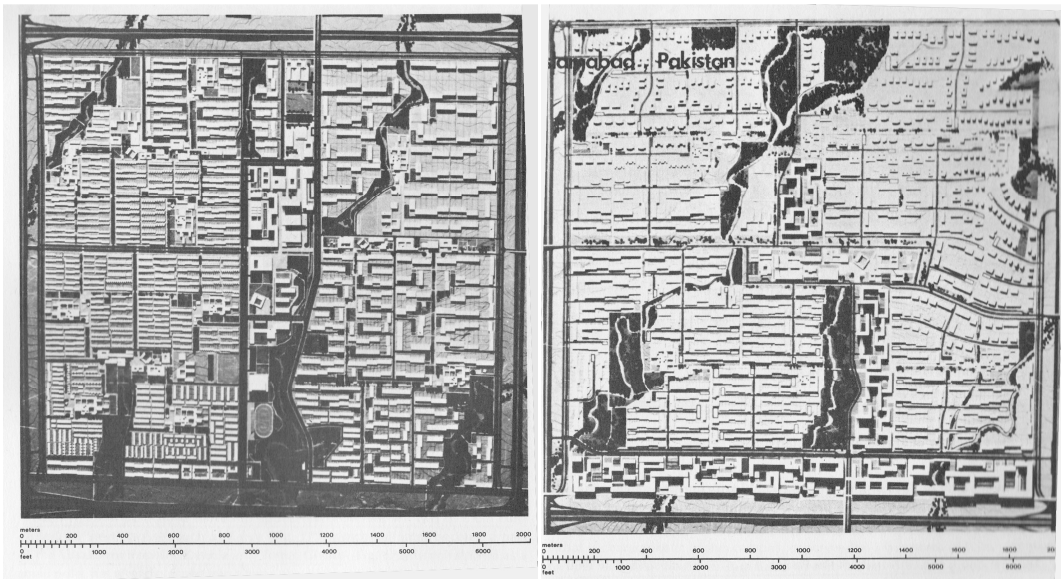

Figure 3.30 Two units of Islamabad, Pakistan. Those two models represent two polises which would settle newt to each other.

The polis was a unit of newly-constructing capital, Islamabad. Namely, a several units of polises shaped the overall settlements of Pakistan's new capital. Those units were planned to locate next to each other with forming a metropolis. In this context, the natural values of the environment were protected.

Two other examples of an entopian polis are from Pakistan and Greece; The University of Punjab and The University of Patras. Both the two were planned in order to cover the areas of 2 by 2 kilometers and the basic principles of entopia were implemented with reserving natural formations, reserving the ground for the pedestrians, providing the campuses with parks, and so on. The University of Panjab was a newly built university and The University of Patras was already built partially.

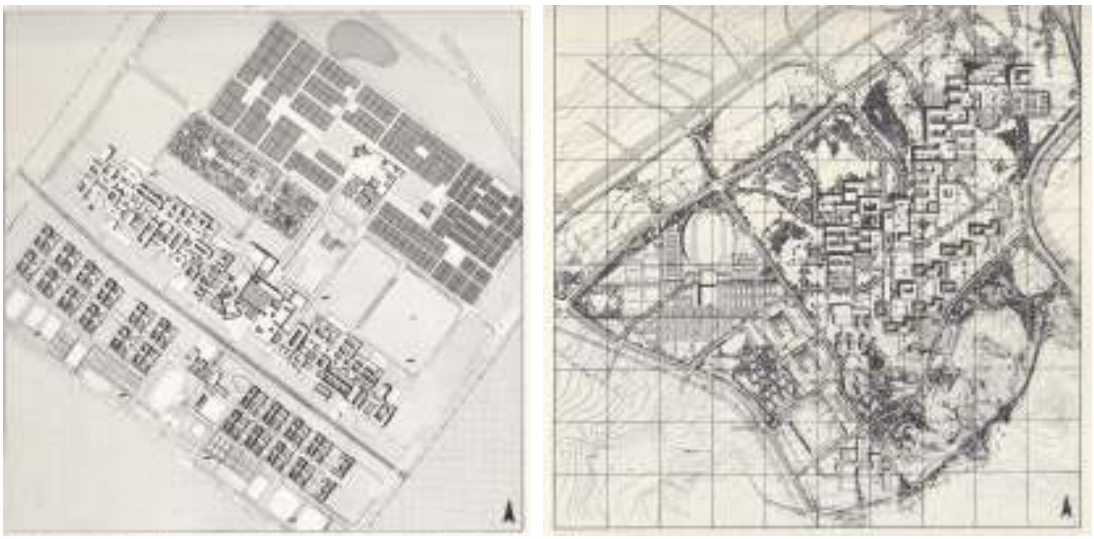

Figure 3.31 The University of Pubjab, Pakistan (1959) and the University of Patras, Greece (1972)

The element of polis has a great importance in terms of protecting the cultural values of a country. In its basic terms, a polis is the "core" of a human settlement and it contains cultural elements such as historical places, traditional items, artifacts, and so on. However, with different politics over the polis; those cultural facts can be saved, re-established, or damaged. For this reason, the polis has a very critical stance over the human settlements.

The seventh part of entopia is metropolis with covering large than 10 by 10 kilometers and holding a 1.5 million to 10 million population. The first composition

of metropolises dates back to 1825, to the industrial revolution and rapid urbanization after that. However, for Constantinos Doxiadis, the metropolises were facing serious problems because of uncontrolled movements of the dwellers and the instability that comes after those movements. Namely, the high-income group tends to move frequently and they leave the city center to low-income group and this transition cause chaos and disorder within the metropolis. Because the metropolises were already built and cannot be healed without radical a change, a realistic and "seriously studied" proposal was in great need during the 1970s.

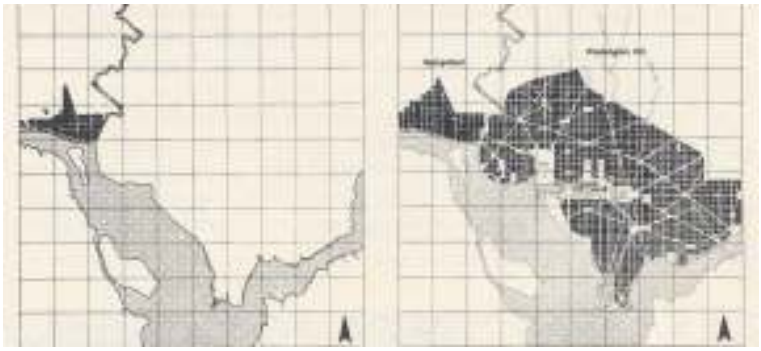

Figure 3.32 "Georgetown before the creation of Washington D.C. (1791)" and "Washington D.C., U.S.A. (1791), L'enfant's plan."

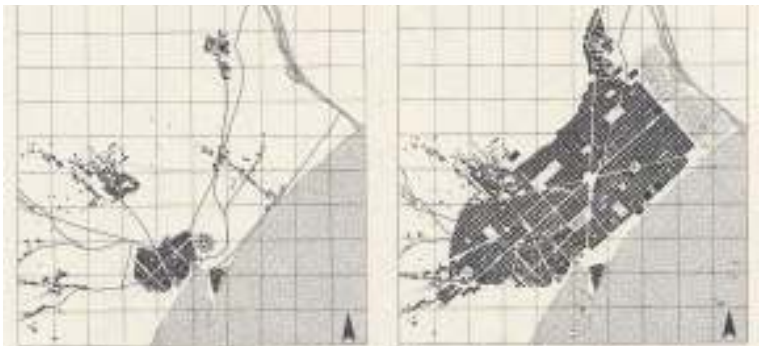

Figure 3.33 Barcelona in 1855 and "Barselona, Spain as planned by D.I. Cerdà in 1859."

A metropolis contains different service-polises within itself and all the metropolises expanded from a former polis. For this reason, a metropolis can be arranged on a rational way during its dynapolis stage as it was achieved in Barcelona and

Washington D.C. In other words, the core of the metropolis is a polis and in a similar way, today's metropolises (both the 1970s and the 2010s) are the cores of the future settlements. Today's metropolises are dynamically growing, thus; they are dynametropolises. The examples of Barcelona and Washington D.C. are important in terms of being planned large settlements which is a rare situation in that most of the metropolises were formed without any plan or control. For an entopian metropolis and thus an entopian ecumenopolis, the formation of the metropolises should not be left to coincidences.

Similarly to the arrangement of the polis, the natural elements of a metropolis should be preserved such as natural plantations, rivers, and its natural topography. Moreover, the daily life of an inhabitant should be systematically organized with the "coordination of social and administrative boundaries."[168] Those boundaries would consist of natural corridors with plantation, mec-streets which are designated to automobiles, or they would be "physical structures" as all sorts of buildings. The boundaries help the inhabitants with locating themselves in the city without getting lost in a chaos.

Every unit of an entopian metropolis has their own systems. Namely, the housegroups have their own streets and those streets build the neighborhood's network which will later compose the network of polis. As a result, a metropolis is based on a hierarchical network system with the balance between the smallest units and the largest units of it. However, this hierarchy is not a repetitive system but it is based on a rational order.

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[168] Constantinos A. Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975, p.176.

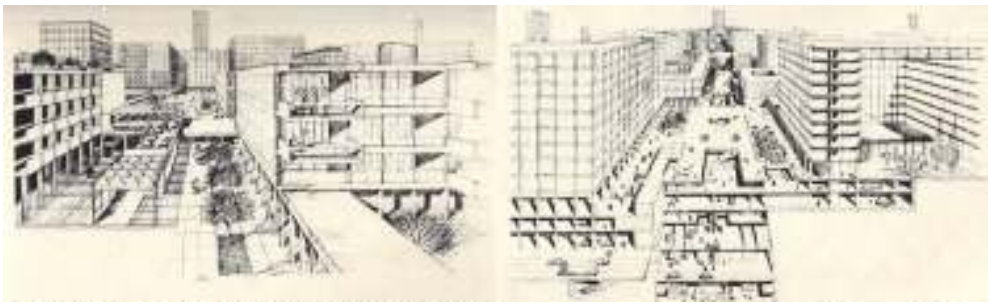

Figure 3.34 Constantinos Doxiadis's proposal for Detroit, Michigan which envisages a service corridor for humans-only and a multi-level underground system for all the means of transportation.

As stated before; the water supply, telecommunication system, and the transportation of people are located under the ground with a corridor system. The underground system composes an underground network of the metropolis in a grid-like order for practicability and easy applicability. A similar design was the proposal for Detroit city center with a service corridor as a hustreet and an underground tunnel as a mecstreet. This corridor is ended up with a relatively high rise building for the perceptional needs of the pedestrians. Moreover, the service corridors should be approximately 2 kilometers long, but should not be longer. The reason is the ideal walking distance of a human which determines how long a human would like to walk without getting tired or squeezed.

Although the metropolises already had their shape and cannot be re-designed, the existing metropolises can be arranged with the principles of entopia. Firstly, the pedestrians and the automobiles should be separated permanently. Secondly, their growth direction should be regularized for more controllable future settlements without falling into a total chaos. Once the metropolis is transformed into an eperopolis, there will remain too few things to do in order to save the settlements from unhealthy conditions. For this reason, the dynamical feature of the metropolises is the key for building the entopia. For instance, Constantinos Doxiadis made master plans for Lusaka, Islamabad, Riyadh, and Baghdad; both of them were evolving into metropolises from polises and the master plans were also the preparation-plans of

those cities for transforming into metropolises. Namely, he gave growth axles to those cities with well structured plans.

With the physical “conurbation” of the metropolises, the eighth part of entopia appears: Megalopolis. Such megalopolises did already exist during the 1970s with absorbing the near settlements and evolving them into a single unit. A megalopolis consists of 5 to 75 million people and covers an area of 100 kilometers by 1.000 kilometers. A reasonable solution to slow down the rapid growth of metropolises is “regional decentralization” and “development of rural areas.” Creating new centers around the metropolis would decrease of city center’s density along with increasing the quality of inhabitants’ life. In both cases of creating new centers and organizing the existing megalopolises, the hierarchical order of the smaller units should be preserved.

An example of organizing existing megalopolis is Constantinos Doxiadis’s large scaled urban project for Urban Detroit Area. After publishing three books based on the analyses of this area, he developed a re-construction plan for the transportation networks and thus for the growth axles. In figure 3.35, two cases were illustrated. The first model illustrates a projection of the future in case of the “continuation of present trends” and the second model expresses the entopian future of this urban area with the imposition of a geometric network. Namely, the grid-like model shows an entopian megalopolis.

There is no such a visual representation of the future megalopolises for Doxiadis. The reason is that megalopolises are still dynamically growing and both the 1970s and the 2010s have not witnessed a static megalopolis yet. In this case, only predictions can be in question. If someday an urban planner observes a static megalopolis, this settlement he or she witnessed will be called “eperopolis” which is the ninth unit of entopia.

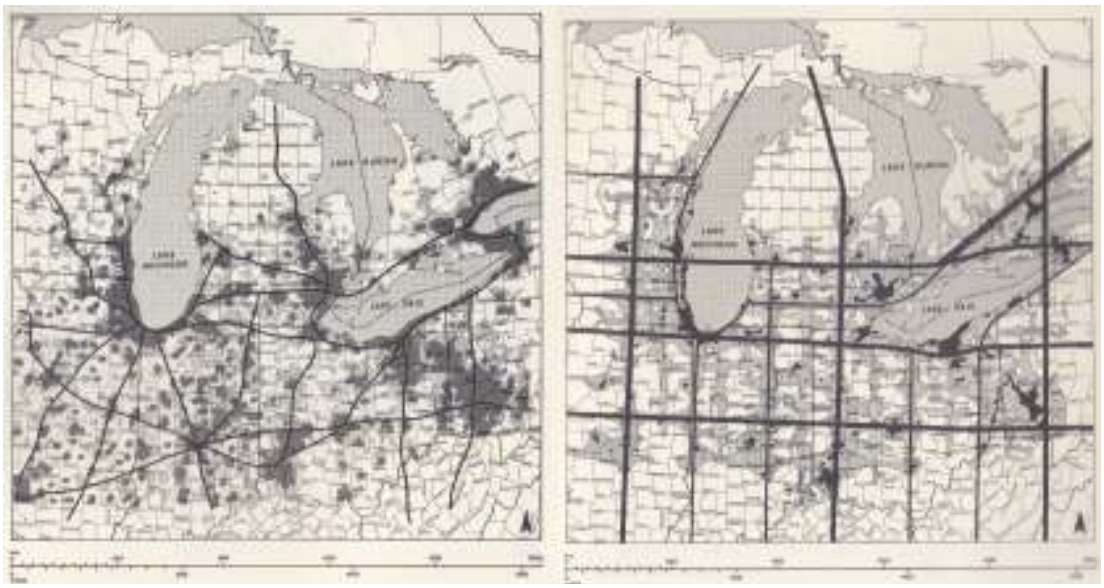

Figure 3.35 The Great Lake Area. The figure on the left illustrates the future of the area if nothing is done and the other image illustrates an entopian future of this area.

Eperopolis means the continent city which is a part of ecumenopolis. This huge human settlement consists of several megalopolises, many metropolises, and numerous cities. This unit of entopia does not exist yet, but it started to take its shape with growing megalopolises. The future names of eperopolises would be:

Africa	– Africapolis
North America	– North Americapolis
South America	– South Americapolis
East Asia	– East Asiapolis
West Asia	– West Asiapolis
Europe	– Europolis
Ocenia	– Oceanopolis[169]

Speaking of continent cities, there are two coordination ways to build entopia. First one is LANWAIR system which involves land, water, and air transportation systems.

[169] Doxiadis, op. cit, p. 221.

This system is based on the idea that all those three systems should process in the same routes. Namely, LANWAIR system provides an inter-connected system which allows the people to use the three systems combined with each other. For example, a person would be able to take a water transportation system after going out from an airport. This system should process in a continuous and coherent way. The second coordination way is more of a political attitude besides constructing a universal transportation system. Namely, this attitude is based on the idea of removing the country boarders and adopting a political stance that promotes the national administrations to work together within the process of the betterment of human settlements.

With the universal control mechanism of the national administrations, five decisions will determine the final shape of the eperopolis:

1- How to respect and protect Nature.
2- How to organize growth.
3- How to organize Networks.
4- How to organize social contacts.
5- How to help Anthropos to conquer Nature by entering it, not with machines, but as a natural animal, in order to learn about Nature and its laws by respecting it.[170]

Eperopolis was studied by Doxiadis Associates as preparing a plan of a LANWAIR system for the whole continent. However, the same system is also applicable for all the continents with changing its general overview according to local topographies and natural plantations. In other words, a systematic transportation system containing all the means of transportations is the key to achieve an entopian eperopolis. In figures 3.36, 3.37, and 3.38 the future continent cities were illustrated by Constantinos Doxiadis.

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[170] Doxiadis, op. cit, p. 226.

Figure 3.36 Europolis and North Americapolis.

Figure 3.37 Africapolis

The idea of ecumenopolis, the ultimate part of entopia, was perceived as a great chaos by the contemporaries of the 1970s and even today, it is also perceived as a "prophecy of doom" in the context of the 2010s. However, as Constantinos Doxiadis states, many things have changed between the 1940s and the 1970s. For instance, the flight times were shortened especially during the travels between the oceans and the traveler increased over %1000. Moreover, the trade between nations changed from "$56 billion to $371 billion" in a twenty years period. Despite these big changes, "the world is not shrinking." In other words, the ecumenopolis is not a fact that we should fear of, rather; it is the natural result of rapidly growing human settlements.

As ecumenopolis is “under way”, it cannot be left alone to spontaneous improvement. “We”, as Constantinos Doxiadis addressed to the architects, urban planners, and engineers; have to prepare rational solutions for the existing settlements and for the oncoming world city. This preparation begins with the smallest unit of furniture and follows with organizing the room, house, neighborhood, polis, metropolis, eperopolis, and finally reaches to the static ecumenopolis. Only with this manner the entopia can be built.

Figure 3.38 Ecumenopolis.

In this process of building entopia; existing systems, existing lines of transportation, and the esthetic forces build the total system of entopian ecumenopolis. The balance between nature and human determines the quality of life in ecumenopolis: “The balance will be such as to allow for the maximum number of people to live on this earth under the best possible conditions.” Even if this statement is open to question due to its stance over maximizing the population, it will be criticized in the next chapter.

CHAPTER 4

CONCLUSION

In this study, the historical and spatial relations of entopia concept were investigated through architectural discourses of the twentieth century from a theoretical viewpoint.

In order to establish entopia's historical context, the Modern Movement in architecture was questioned with a general overview on historical and theoretical facts. Specifically, the Athens Charter, the declaration of the Forth CIAM Congress, was a key issue in relating Doxiadis with modernism. Following, entopia concept itself was investigated through Constantinos Doxiadis's writings and drawings and the geometrical responses of entopia were brought into view. Moreover, the geometrical representations of entopia were related to two urban tissues – one is very old and the other is fairly contemporary – of gridiron urban tissue and linear city.

The spatial context of entopia was investigated by means of place and space theories of "modern" and "post-modern" architecture. Namely, the entopia concept was firstly located between "utopia" and "dystopia" place definitions and in this chapter, dystopia concept was handled from the cinematographic images of the 20th century and utopia was handled from the urban utopias of the 20th century.[171] As other space and place theories, which were the contemporaries of entopia; architectural phenomenology of the post-modern culture was discussed. Finally, the building

[171] This is also the title of Robert Fishman's book: "Urban Utopias in the Twentieth Century."

process of entopia was discussed through Constantinos Doxiadis's architectural and urban projects.

The first chapter dealt with the modern movement and the Athens Charter in order to present the historical base of entopia. Modern architecture and modern movement[172] was the successions of a transitional period. Namely, technical advancements in materials and building gave way to a "new" approach not only in architectural design but also in urban planning. With the modern movement, the traditional items in design were completely rejected by the architectural environment in Europe. The CIAM was formed in this way: in order to identify the condition of architecture and identify the features of the "new" architectural approach. Following, the Athens Charter also determined the problems of habitations and proposed basic solutions for better living conditions. Although CIAM was not the only organization that composed modernist discourse, the basic principles of the charter were directly related to entopian system of Doxiadis. Constantinos Doxiadis reflected the excitement of this newly formed architectural system, namely modernism both with his writings and projects. As discussed in the last chapter, it can be said that the entopian city represents the modernist urban settlement.

Second chapter examined the entopia and its reflections. Based on the drawings and writings of Constantinos Doxiadis, why he needed to develop a new place theory was discussed. The answer was simple. The human settlements experienced numerous crises with the world wars and new political conditions and there was a need for an immediate amelioration. In this sense, entopia was the practicable place with healthy

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[172] The distinction of modern architecture and modern movement was clearly mentioned by Leonardo Benevolo. Namely, "modern architecture" refers to the period beginning with the Industrial Revolution and "modern movement" in architecture refers to European architectural trends in the 20th century. Quoted in Leonardo Benevolo. *History of Modern Architecture, Vol.1*. Cambridge, Massachusetts: The MIT Press, 1971.

conditions and it was a response both to impossible utopia and existing dystopian settlements. Entopia was the place that can exist and it had to be built before ecumenopolis takes its shape. To be more specific, the future of the human settlements was obvious for Doxiadis; the megalopolises would be absorbed by the ecumenopolis just like small settlements were absorbed by metropolises. It would be a disaster if provisions were not made. At this point, entopia is the place theory that consists of all the instructions that architects and urban planners need to practice for the betterment of future cities and thus the oncoming ecumenopolis. In this respect, "units" of geometrically planed settlements should be placed in an interconnected way and the human settlements should be handled as dynapolises – dynamically growing cities. Besides, the issue of decentralization was also in the agenda of building entopia.

The third chapter connected the urban approaches of entopian places with other urban theories. Namely, the grid-shaped entopian city was related to Le Corbusier's grid layouts both in his utopian projects and in a more local scale, his relatively-gridiron proposal for İzmir. Moreover, the dynapolis model of Constantinos Doxiadis was compared with the linear city model of the 19th century. As a result, the originality of entopia was determined and the applicability of an entopian city was proved from its experimented "sources of inspiration."

On the purpose of locating entopia in other "…topia" place definitions, utopia and dystopia were investigated through three utopian projects of the 20th century: Garden Cities of Ebenezer Howard, Broadacre City of Frank Lloyd Wright, and Radiant City of Le Corbusier. This chapter investigated the creative urban proposals of modernism and made a made general overview on other place definitions.

The chapter of "phenomenology of space" intended to look through the place theories that were raised after the 1960s. This chapter was important for two reasons. Firstly, it gave the chance to compare Constantinos Doxiadis's stance over "place" with architectural phenomenology that was raised during the 1960s. Secondly, architectural phenomenology had a historical importance in terms of being the part of

criticisms over modernism. Namely, Doxiadis was also interested in defining the place from the mental needs of human. Even if he did not directly quote phenomenological writings, it is obvious that he was "influenced" by such discourses.

The last chapter finalized entopia concept with actual structures. Based on "Building Entopia", one of the last books of Constantinos Doxiadis, this chapter clearly defined how to achieve healthier urban settlements with an entopian way through architectural drawings and applied projects of Doxiadis Associates.

In the light of the knowledge in this study, certain "subjective" criticisms can be made over the entopia and ecumenopolis.

Firstly, the "entopian ecumenopolis" or the livable world city proposes a maximum dwelling quality for the widest population as possible. However, it seems Constantinos Doxiadis missed the point that "human" is indeed "homo sapiens" which is a part of the whole system of nature. With subliming the human, it cannot be forgotten that human is not the "manager" of the nature. For this reason, the "maximum" population of human would be a disaster for the nature – it already is. Moreover, the intent of maximizing the population refers to a very conservative (religious) approach which contrasts with the scientific essence of Ekistics.

Secondly, entopia's proposal for underground traffic system is in practice in today's conditions and this system does not seem to work for the benefit of the humans. The reason is that the drivers of the automobiles also have the right to breathe fresh air instead of an artificial climate provided by the machines. There would be, today, sufficient technology for removing the heavy traffic to the underground but humans are not rats at all and "we" belong to the ground; not underground. Similarly, the underground railway is also not a humanistic system with not providing the human with sunlight and blocking the sense of direction of humans. However, the exposure of sunlight was one of the most crucial principles of the Athens Charter and underground systems are definitely against this principle. If subway trains are

necessities for high populations, then the consumption of McDonalds and Burger King are necessary for feeding large amounts of people.

Thirdly, the industrialization period only covers a period of two hundred years. Although my generation who were born in the 1980s cannot feel the difference between the pre-industrial periods, a great change took place with the heavy industry. In other words, another system was dominant before the Industrial Revolution and this historical event made a "leap"[173] that caused radical change in the existing system. Hence, my assumption is that if this great change happened only in two centuries – which is a very short period in civilization history – another "leap" would be under way. Because the urban systems cannot respond to social inequality and unhealthy conditions, it should be replaced with another system.

Meanwhile, the "universality" of Modernism can be critically investigated through Constantinos Doxiadis's attitude over the Middle East countries. In this context, the transformation or the formation of existing capitals such as Islamabad and Bagdad would be in question. Alongside, the critical influence of the United Nations with modernist trends during the re-construction of war-veteran European cities should be examined. In this regard, as popular query; "why European and American discourses in architecture dominate the rest of the world's architectural deeds" should be inquired with the 1960s post-modern discourses such as critical regionalism. As the final assumption, this issue would be the initial point of a future study which is based on Eastern context of the 1960s modernism in architecture.

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[173] This concept directly refers to Karl Popper: Karl R. Popper, *The Logic of Scientific Discovery.* New York: Harper & Row , 1965.

The “objective” implications of this study comprise both the historical and spatial importance of “entopia” among its precursors, contemporaries, and followers. The implications of this thesis are listed below in five items.

Firstly, it was seen that the principles of the Athens Charter are directly related to principles of building entopia. In general, with the essence of modern architecture; architects were in search for the “new” and “light” spaces with purifying from the moldy[174] designs of the “classical.” On one hand, in the 20th century, human scale became a crucial criterion especially in housing design in the means of cost efficiency and fast-applicability. On the other hand, the urban settlements were rapidly expanding due to developing means of transportation and newly constructed wide petroleum-based asphalt roads. As a result, cities were no longer “cores” but they were and are still growing organisms, namely “dynapolises” as Constantinos Doxiadis calls. For this reason, it can be said that the human scale was replaced by the machine scale, as Reyner Banham puts it in his book Theory and Design in the First Machine Age.[175] In this context of the modern movement in general and the Athens Charter in particular, Constantinos Doxiadis is a spokesman of Modernism and his urban planning principles would be mentioned as the continuum of the charter. In other words, Doxiadis’s behavior in both architectural and urban scales represents the “atmosphere” of the 20th century “architecture culture.”

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[174] Although the word “mould” refers to the “mould manifesto” which was written by Austrian artist and architect Hundertwasser, the building designs of him would be mentioned as post-modern rather than defining them as modernist structures. Nevertheless, the mould manifesto constitutes an illuminating example, associated with the other manifestos in Ulrich Conrad’s compilation, for comprehending the response of the architects and artists against the strict rules of “traditional” art and design. This manifesto was published as “Hundertwasser. "Mould Manifesto against rationalism in architecture." In *Programs and manifestos on 20th-century architecture*, by Ulrich Conrads, 157-160. Cambridge, Massachusetts: MIT Press, 1971."

[175] Renyner Banham. *Theory and Design in the First Machine Age* . London: Architectural Press, 1980.

Secondly, this study showed that "entopia" was not an original idea with unique place definitions but it was the "synthesis" of certain existing urban theories. As follows, an entopian settlement can be interpreted as the combination of gridiron plan and the linear city with the principles of Athens Charter. Though the entopia theory has sharp criticisms over the utopian projects of Le Corbusier, Constantinos Doxiadis stated in 1975[176] that Le Corbusier's utopian projects acted as a bridge over the lack of revolutionary attitude in human settlements. Along with its links to other place theories, entopia concept has the importance of proposing a "buildable" place that minds the human scale. Although a collective utopia and thus an entopia is not possible, the physical needs of the human body can be determined scientifically and in this way the place concept called entopia can be parameterized. The social context is variable but the body of anthropos is stable since it adopted a sedentary life. For the very reason, the only constant object of the human settlements is the "anthropos" since there is no planet to dwell instead of the planet earth.

Thirdly, the investigation of urban utopias of Ebenezer Howard, Frank Lloyd Wright, and Le Corbusier showed the basic distinction between entopia and utopia. Namely, the utopias were based on the imaginations of their creators without any pragmatic concern. However, entopia is based on practicability for immediate action in order to "cure" the human settlements from the constraints of the "machine age." At this point, the uniqueness of entopia lies behind its realist approach.

If we handle the 20th century as witnessing the ongoing theoretical shifts, the issue of architectural phenomenology would be the latter discursive formation after modernist utopias. Hence, the fourth implication of this study is based on Constantinos Doxiadis's ties with phenomenology, even if he did not directly give references to it.

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[176] Constantinos Doxiadis. *Building Entopia.* New York: W.W.Norton & Company Inc., 1975.

Namely, it can be implicated that the arrangement of the smallest units of entopia – the room and the house – demonstrates Doxiadis's interest in phenomenology. Actually, it is not a coincidence that Doxiadis was interested in a contemporary discussion in that both the issue of phenomenology and ekistics were "popular" agendas of architectural environment in the 1960s and the 1970s. Thus, this study only revealed an apparent historical relationship between different place theories rather than exploring a hidden issue.

The last implication of this study is the validity of entopia for today's urban settlements. Based on the discussions of the last chapter, it can be argued that entopia concept was bonded with modernist architecture but the proposals in order to build entopia are still valid today. The entopia was already achieved by Constantinos Doxiadis with both urban and architectural projects. In a sense, this is the proof of the applicability of entopia.

As a result, it can be said that the simplicity of entopia theory does not make it over-simplified without sophistication. Rather, the simple and easy-applicable principles of entopia make it "buildable" and in today's conditions, ekistics theory can be a solution in order to transform the current "dystopian" settlements into healthier places.

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