EXPANDING ARCHITECTURE;
A PROPOSAL FOR A
MULTI – FUNCTIONAL HALL AT M.E.T.U.

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF NATURAL AND APPLIED SCIENCES
OF
THE MIDDLE EAST TECHNICAL UNIVERSITY

BY

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IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE
OF
MASTER OF ARCHITECTURE
IN
THE DEPARTMENT OF ARCHITECTURE

JULY 2003

Approval of the Graduate School of Natural and Applied Sciences

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ABSTRACT

EXPANDING ARCHITECTURE; A PROPOSAL FOR

A MULTI – FUNCTIONAL HALL AT METU

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July 2003, 154 Pages

Standardization, flexibility and transparency had been the eminent keywords of Modern Architecture that have also provided material for the re-interpretation and re-production of several discussions on concepts like 'form' and 'function' in architecture. This study is an inquiry into a number of different interpretations that scrutinize the intricate relationship between architectural form and function in the 20th century with respect to the concepts defined above.

The conceptualization of this thesis will be based on the assumption that function is an inadequate and weak concept for the generation of architectural form.

It is in this context that form is accepted as an architectural “fragment” that attains its autonomy not from the strictures imposed by other architectural fragment like ‘function’, ‘structure’, ‘program’ and ‘site; but from an infinite number of internal relationships or ‘design tools’ as we call.

The aim of this study is to propose a project for “A Multi – Functional Hall at METU” which has the capability of expanding its limits in future, both physically and conceptually; and investigate the ‘design tools’ that will direct the steps of transformations in the process of architectural production. Within this framework, the investigation is concerned with the production of a flexible, unstable and indeterminant building, focused on the concepts of ‘transformation of space’ and ‘constant change’, that could be re-designed and re-generated in respect to possible future transformations in the program. Thus, architectural production is defined merely as a ‘step’ or a ‘snap-shot’, controlled by the design tools suggesting the solutions for an ever-lasting transformation as the conditions change.

Keywords: inadequacy of function, architectural fragment, design tools, expanding limits, transformation of space, snap-shot, ever-lasting transformation.

ÖZ

GENİŞLEYEN MİMARLIK; ODTÜ'DE

ÇOK AMAÇLI SALON İÇİN BİR ÖNERİ

Turgutoğlu, Burak

Yüksek Lisans, Mimarlık Bölümü

Tez Yöneticisi: Doç. Dr. Ayşen Savaş

Temmuz 2003, 154 Sayfa

Standardizasyon, esneklik ve şeffaflık, aynı zamanda biçim ve işlev gibi kavramlar hakkındaki birçok tartışmayı günümüze kadar tekrar üreten ve yorumlayan Modern Mimarlığın en bilinen anahtar kelimeleri olmuştur. Bu çalışma, yukarıda belirtilen kavramlar çerçevesinde, yirminci yüzyılda, mimari biçim ve işlev arasındaki anlaşılması güç ilişkiyi dikkatle gözden geçiren farklı yorumlar üzerine bir araştırmadır.

Bu tezin kavramsallaştırılması, mimari biçimin üretiminde işlevin yetersizliği ve güçsüzlüğü tartışması üzerine dayandırılacaktır. Bu bağlamda biçim,

‘işlev’, ‘yapı’, ‘program’ ve ‘yer’ gibi diğer mimari parçaların herhangi birisi tarafından zorla yüklenmiş sınırlamalardan değil de, mimari üretim sürecindeki tasarım araçları tarafından tanımlanmiş, kendi içinde bulunan ilişkilerden özerkliğini kazanan bir mimari parça olarak kabul edilmiştir.

Bu çalışmanın amacı gelecekte sınırlarını, hem fiziksel hem de kavramsal olarak genişletme potansiyeline sahip olacak “ODTÜ Çok Amaçlı Salon” projesini üretmek ve mimari üretim sürecinde, değişimin aşamalarını yönetecek ‘tasarım araçları’nı araştırmaktır. Bu çerçevede, bu araştırma, ileride programa yönelik olası dönüşümlere göre tekrar tasarlanabilen ve düzenlenebilen, ‘mekanın dönüşümü’ ve ‘sürekli değişim’ kavramları üzerine odaklanmış; değişken, koşullandırılmamış ve esnek bir bina üretimi üzerinde durmaktadır. Bu nedenle, mimari üretim, koşullar değiştikçe, sürekli bir dönüşüm süreci içerisinde çözümler ortaya koyan tasarım araçları tarafından kontrol edilen bir ‘anlık durum’ ya da bir ‘snap-shot’ olarak tanımlanmaktadır.

Anahtar Kelimeler: işlevin yetersizliği, mimari parça, tasarım araçları, genişleyen sınırlar, mekanın dönüşümü, snap-shot, sürekli değişim.

ACKNOWLEDGEMENTS

This is a proud privilege on my part to express the profound sense of gratitude to Assoc. Prof. Dr. Ayşen Savaş, for her persistent guidance, enthusiastic supervision during the entire span of my thesis work in planning and preparing.

I am also thankful to Assoc. Prof. Dr.Emel Aközer, Assoc. Prof. Dr. Mualla Erkılıç, Assoc. Prof. Dr. Zuhal Ulusoy and Namık Erkal for their relevant discussions, suggestions and guidance throughout this study and during the jury.

I am also grateful to Mehmet Kütükçüoğlu, Kerem Yazgan and Ertuğ Uçar, for their thoughtful mentorship, both intentional and unintentional, on all matters of design and life. They have given me gifts of their patience, wisdom and sincerity that I cannot repay.

I am also obliged to all my friends, especially Onur Yüncü, Umut Artuk, Denizhan Ölmez and Alper Karesioğlu, who have extended their kind, co-operative moral and technical support in providing vital information and materials that were essentially important in completing this project.

I am forever indebted to my parents, Sevtap Turgutoğlu and Osman Turgutoğlu, and my brother Barış Turgutoğlu, who have always stood by me, for

their understanding, endless patience and encouragement when it was most required.

Finally, I would like to express my warmest gratitude to Banu Tomruk, the source of motivation and partner for all the lonesome evenings, who has been great over the time and never raised an eyebrow when I claimed my thesis would be finished in the `next two weeks' for nearly a year.

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CHAPTER 1

INTRODUCTION

> The new architecture is the inevitable logical product of the intellectual, social and technical condition of our age…the spirit of age.[1]

In first half of the 20th century, with the development of Modernity, the ideals like 'open society', 'equality' and 'freedom' gained significance in society. Architecture has been evaluated as both a product and the initiator of these ideals. The radical transformations in the perception of all classical concepts and traditions enabled architecture to re-interpret its' inner dynamics. As Alan Colquhoun informs us, "freedom from academic dogma" and "a priori architectural rules" had become the main purpose of Modern architecture:

> The "experimentalism" in the Modern Movement had as its purpose the freeing of architecture from academic dogma. The theory of this Modern Movement

[1] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press, p. 125.

> never said was that architecture was "nothing but" science and technology. What is said was that its main impulse should be openness to technological and social reality. For this to happen it was necessary to reject a priori rules of architecture altogether. [2]

Moreover, Colquhoun indicates the significance of "transgression" in the process of rejecting "a priori rules of architecture". For Colquhoun, the call for contemporaneity had created a "tension" between the forces of "received tradition" and "new ideas." He points out that:

> There is an awareness that, even in the avant-garde (or especially in the avant-garde), there was an element of transgression, creating a tension between a received tradition and new ideas, and that the "meaning" of avant-garde architecture lay precisely in the space between these two forces.[3]

Because of this tension, architecture had to find a balance between new ideas and the traditional ones. Mario Gandelsonas, in his essay entitled "On Reading Architecture", claims that, "the Modern Movement, with its self-conscious synthesis of art and architecture, represented an important historical change where some codes were abandoned, others were maintained and, finally, new codes were incorporated into architecture."[4]

Colin Rowe (1920-1999) supports the interpretations on 'contomporaneity' by mentioning that a 'modern' architecture of necessity, "calls up a criterion of contemporaneity" which means that it had to adapt itself to the conditions of the period. He continues his discussion with a quotation from Gropius and mentions that, for Gropius, the new architecture is "the inevitable logical product of the

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[2] Colquhoun, Alan. 1989. *Modernity and the Classical Tradition. Architectural Essays 1980-1987*. Cambridge, MA.: M.I.T. Press. p. 39.

intellectual, social and technical condition of our age." As mentioned by Rowe, the new architecture "must be predicated not only in terms of function, structure and materials but also in terms of that more intangible content: the spirit of the age."[5] For Colin Rowe, the elements that create the space were found before, but their synthesis was new. Rowe points out that:

> Since it has been widely asserted that modern architecture is not merely an attitude of mind towards technological and sociological problems but that there has taken place a radical reorientation in the capacity to conceive of space, and since it is implied that, while the elements of this new spatial order may all have been present for many years, their effective synthesis was an achievement of the twenties.[6]

One of the reasons underlying this shift in the production of space was the desire of 'freedom' that had developed in architectural discussions. In order to free themselves from academic dogma, architects were running after what was not tried before in the process of form generation. They were against everything 'old'. Steven Kent Peterson says that, "the idea and theory of the Avant Garde provided a solution to the dilemma for architects in 1910. The revolt against prevailing forms was in itself a source for the energy of invention. There were no regrets, no hesitations."[7] Form had been isolated from 'idea' and was no longer thought of as "means by which certain 'truths' or concepts were given rhetorical clothing."[8] As the form was freed from the meanings and mechanisms embedded in it, a

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[3] Ibid., p. 39.
[4] Gandelsonas, Mario. "On Reading Architecture," *Progressive Architecture*, vol. 3, 1972, p.78.
[5] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. p. 125.
[6] Ibid., p. 141.
[7] Peterson, Steven Kent. 1980. "Space and Anti-Space," *Beyond the Modern Movement.* Cambridge, Mass.: M.I.T. Press, c1980. p. 90

"formalist" approach was introduced to and within the so called, modern architecture. This new interest on formalism had developed to such a degree that any discussion on space was made related with a formal terminology. For Alan Colquhoun:

> The process depended on compositional procedures precisely to the extend that the architecture avoided the repetition of previous formal solutions and the meanings embedded in them. This is evident if we take the example of neo-plasticism. Though Mondrian was a painter, he worked closely with architects, with whom he shared a certain body of doctrine. His writings contain a litany of terms like "dynamic equilibrium," "mutual relations," "balance," "movement," "constructive elements," "relation of position," "determinate and objective composition," all of which are part of an attempt to develop a vocabulary with which to describe formal relations in space.[9]

For the sake of a free architecture, architects rejected *a priori* rules of design and developed their own terminologies to define new formal relationships in the design process. As stated in *The Harvard Architectural Review*:

> If traditional languages of form were rejected by the Modern Movement in its quest for a new architecture, then similarly rejected were traditional notions of organisation, composition, and design process.[10]

Bernard Tschumi (1944-) states that the paradigm of architect as a "form-giver" is a concept "passed to architecture through the modern period" and draws our attention to a formalist attitude developing in Modern architecture. He also points out that, "underlying these is a belief in the unified, centered, and self

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[8] Colquhoun, Alan. 1989. *Modernity and the Classical Tradition. Architectural Essays 1980-1987*. Cambridge, MA.: M.I.T. Press. p. 34.
[9] Ibid., p. 34.

generative subject, whose own autonomy is reflected in the formal autonomy of the work."[11] It is in this context that form is accepted as an architectural element that attains its autonomy not from the strictures imposed by any other architectural element like 'function', but from its own internal relationships defined by the designer. By this very nature, the functionalist idea of "form follows function" was seen as an obstacle in the generation of an autonomous form and rejected by most of the architects with the beginnings of the second half of the 20th century.

As stated by Anthony Vidler, in order to understand the relationship between 'function' and 'form' in the process of producing architecture, it is necessary to analyse the "post-structuralist climate after 1968"[12]. It is a period that questions all of the classical, traditional and historical modes of theorising architecture. In this period, the elements of architecture like 'function', 'form' and 'structure' have been presented as independent elements, whose existences do not affect, restrain or shape each other. It is in this context that architectural production is understood as a 'fragmented', 'autonomous', 'unstable' and 'indeterminant' object that is always in the tendency of change and transformation. Bernard Tschumi points out that:

> Architecture's inherent confrontation of space and use and the inevitable disjunction of the two terms means that architecture is constantly unstable, constantly on the verge of change. It is paradoxical that three thousand years of

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[10] "Formal Concerns". Spring 1980. *Beyond the Modern Movement.* The Harvard Architectural Review, vol. 1. Cambridge, Mass.: M.I.T. Press. p. 7.
[11] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. pp. 207-208.
[12] Vidler, Anthony. May 1999. "The pleasure of the Architect". *Architecture and Urbanism* Vol. 216. No 9. pp. 17-23.

> architectural ideology have tried to assert the very opposite: that the architecture is about stability, solidity, foundation.[13]

Tschumi also states that, "not only is there no simple relation between the building of spaces and the programs within them, but in our contemporary society, programs are by definition unstable." For Tschumi, "future of any building is indeterminate. Whether cultural or commercial, programs have long ceased to be determinate, since they change all the time-while the building is designed, during its construction, and, of course, after completion." As mentioned by Tschumi, "architecture is regarded as no longer concerned with composition or with the expression of function. Instead, it is seen as the object of permutation, the combination of a large set of variables, which is meant to relate, either in a manifest or secret way, domains as different as the act of running, double expansion joints, and the free plan."[14]

Within this conception, architectural form giving is accepted as a process no longer dependent on the 'function' of a building. On the contrary, function is accepted as a weak and an inadequate concept in the process of form generation. Besides, form and function are seen as separate entities whose presences are not dependent on each other. Thus, an infinite number of relationships can be found between function and form throughout the production of architectural space. Bernhard Hoesli, in the Addendum of the book titled *Transparency*, develops his

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[13] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. p. 19.
[14] Ibid., p. 181.

own terminology to define this relationship and mentions that space can be accepted as the "common matrix of use and form":

> Everything that is implied by the term "use", that is all activities for which a building is intended, is a manifestation in space as is everything that is implied by "form" of a building. Space can be said to be the common matrix of use and form.[15]

Bernard Tschumi defines the elements of architecture as 'fragments' to criticise the conventional relation between form and function. He suggests an autonomous architecture whose fragments are open to 'new' and 'unexpected' relations in future. As he informs us, "the analysis of our present condition as a dislocated one suggests the possibility of future re-groupings, just as particles of matter in space will occasionally concentrate and form new points of intensity, so the fragments of the dislocation can be reassembled in new and unexpected relations."[16]

It is in this context that contemporary architectural production can be accepted as an unstable and dynamic object that attains its own autonomy from its capacity to be in conformity with the changing demands of 'program', 'site' and even 'society' in future.' This new process has to suggest a number of solutions that will organise new relationships between architectural elements like 'function', 'form' and 'structure' in return for each problem or demand. Thus, architectural production is defined as a 'step' or a 'snap-shot' in the ever-lasting process of transformation. This process can be the subject of architecture which calls for a

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[15] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p.89

[16] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. p. 189.

functional transformation in an existing building whereas it can be the object of architecture that calls for a continuous change in the architectural program of a building to be designed.

In January 2002, The Rectorate of METU faced the problem of expanding the limits of The Cultural Congress Hall and The Sport Club in order to accommodate an additional number of offices, administrative departments, exposition halls, restaurants and tennis courts. Designers had proposed a number of solutions for a multi-functional hall that would not only solve the problem of 'expansion' as the site poses by its nature; but also adapt to new problems which will be introduced by the site in future. Moreover, it is expected that the spaces of the multi-functional hall could be re-designed and re-generated in respect to possible future transformations in the program.

Thus, the primary and the pragmatic goal of this research is to propose a project for "A Multi – Functional Hall at METU" which has the capability of 'expanding' its limits in future, both physically and conceptually. Here, the study concentrates on suggesting a different type of 'expansion' that calls for ways in order to expand the borders of architecture both as a discipline and a profession. The method is to investigate a number of 'design tools' that will organise and formulate the steps of transformations in the process of design and use. The building is expected to have the capacity not only to house new programs that will be added in the future but also to transform itself by the assistance of these 'design tools' and the relationships defined by them. This kind of a dynamic, unstable, fragmented, indeterminant building based on the 'transformation of spaces' and

‘constant change’ will surely resist to any prediction and determination; so it could adapt to new functions and the unpredictability of future.

Designing a multi-functional building, which is on the verge of change and expansion, requires the clarification of some notions like ‘function’, ‘multi-function’, ‘transformation’ and ‘expansion’ of architectural space. As the words ‘change’ and ‘expansion’ pose, by their very nature, this kind of a design process requires also the re-interpretation and re-definition of these concepts and their relationship with architecture. Thus, the term multi-functional has to be understood in the light of the discussions above. The prefix ‘multi’, increases the influence of the concepts like ‘instability’, ‘indeterminacy’, ‘autonomy’ and ‘transformation’ of a project; and it requires a new definition. This study introduces two design tools to control the production of space and to question the meaning of multi-functionality.

The project “A Multi – Functional Hall at METU” will produce its own definition of ‘multi-functional’ on the basis of the following ‘design tools’: ‘fragmentation’ and ‘transparency’. In other words, these ‘design tools’ are suggested not only to control the relationships between fragments of architecture like ‘form’, ‘function’ and ‘structure’, but also to be unstable, indeterminate and autonomous enough to expand their own limits in order to present the rules that will control the ‘phases’ of new and unexpected transformations in future. Besides, ‘fragmentation’ and ‘transparency’ as independent groups of tools; it is also their interrelations that are expected to have infinite combinations and permutations. Thus, the design process will define a single ‘phase’ at each step where each

‘phase’ refers to a transformation. It is in these phases that interrelations between fragments are also directed by ‘fragmentation’ and ‘transparency’.

Within this framework, the conceptualisation of this study titled “EXPANDING ARCHITECTURE; A Proposal for a Multi-Functional Hall at METU” will be based on the discussion of the concept of ‘function’ and its’ inadequacy in the generation of architectural form. Within this conceptual framework, in the second chapter, I will argue that there exists no longer a function based architecture – perhaps never existed – and it is not more crucial than any other element in the process of form generation. Here, I will investigate different approaches concerning the relationship between architectural ‘form’ and ‘function’ in the 20th century.

In the third chapter, the ‘design tools’ and how we use them in the process of design will be discussed under the subtitles ‘fragmentation’ and ‘transparency’. By doing this, I will search for the answers to the following questions. Can these design tools be accepted as concepts to examine, organise and provide physical relationships between spaces? Or, are they just physical elements that are generated as the result of some form studies in architecture? How do they organise or control the relationship between architectural elements, both physical and conceptual, throughout the endless process of space transformation? Do they have to be independent? If yes, do they have to be integrated? Or, just as the project itself, how do these governing design tools adapt themselves to transformations in future?

As a conclusion, the last chapter will explore the possibilities of the interaction between the so-called design tools, ‘fragmentation’ and ‘transparency’

on the process of form generation with respect to the concept of ‘layering’. This way, the design process of the proposal for a multi-functional hall titled “A Multi – Functional Hall at METU” will be based on the concept of ‘layering’ that relates the concepts imposed by ‘fragmentation’ and ‘transparency’ in the third chapter.

CHAPTER 2

THE INADEQUACY OF FUNCTION IN THE PROCESS OF FORM GENERATION

Almost every architectural student has been told that architecture is a synthesis of '*firmitas, utilitas and venustas*'[17], where 'utilitas' refers to 'function'. The most important characteristic of architecture that distinguishes it from the visual and plastic arts is its conciliation with 'function'. In the 20th century, the relationship between architecture and function has been subjected to different interpretations related with 'the reconciliation of function with architectural form'. In this chapter, I will concentrate on three main approaches searching for the effects of 'function' on the process of form generation.

The first approach is focused on the discourse of 'functionalism' which suggests the idea that the form of a building has to be derived from the function of that building. Within this framework, function is accepted as the form generator, the ultimate source and governing element in the process of producing architecture.

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[17] Vitruvius. 1993. *Mimarlık Üzerine On Kitap (Ten Books on Architecture).* Trans. Dr. Suna Güven (Ankara: Şevki Vanlı Mimarlık Vakfı Yayınları), pp. 11-12.

The second approach searches for a re-definition of the relationship between function and form with a number of alternative concepts such as ‘response’ and ‘fulfill’. Here, function is not rejected in the process of form generation but the idea of ‘form follows function’ is denied.

The third approach, investigating the relationship between function and form, is based on the inadequacy and weakness of function in the process of form generation. Within this framework, function and form are thought as independent elements whose presences cannot define each other. It searches for ways to produce an autonomous architecture which uses a formal vocabulary to define the relationship between architectural elements.

Thus, in this chapter, these three different approaches investigating the power of ‘function’ on the process of ‘form generation’ will be discussed respectively.

2.1 Function as the Form Generator

With the beginning of the 20th century, the relationship between architecture and function established very strong links. Alan Colquhoun points out that the 20th century architecture was dominated with the concept of functionalism. For Colquhoun, with the beginnings of the modern period, the collaboration between form and idea was started to be questioned. He claims that:

> Form was no longer thought of as a means of expressing a certain idea, but as indissoluble from, and coextensive with, the idea.[18]

2.1.1 Functionalism

The independence from the idea, however, did not render 'form' as a separate concept, free from reductions or overruling control mechanisms. Moreover, the idea of a self-sufficient form, was blurred by 'functionalism':

> The extend to which this general formalist tradition entered into the theory and practice of the twentieth-century architectural avant-garde was obscured by the doctrine of functionalism, which had the effect of reactivating an apparently more traditional and retardataire view of the "content" of the work of architecture, in the guise of the "architectural program".[19]

The Thames and Hudson Dictionary of the 20th Century Architecture defines functionalism as "an architectural principle according to which the form of a building is to be derived from the function it intended to fulfill.[20] Louis Sullivan (1856-1924), who has been considered as "the founder of 'modern' functionalism", in his essay entitled, 'The Tall Office Building, Artistically Considered' coined the maxim 'form follows function'.[21] Sullivan was the first architect who reloaded the word 'form' with function after it is seperated from 'idea'. He re-interpreted the relationship between function and form and believed in the significance of function in the process of form generation.

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[18] Colquhoun, Alan. 1989. *Modernity and the Classical Tradition. Architectural Essays 1980-1987*. Cambridge, MA.: M.I.T. Press. p. 34.
[19] Ibid., p. 34.
[20] Lampugnani, Vittorio Magnago (ed.). 1996. *The Thames and Hudson Dictionary of 20th Century Architecture*. London: Thames and Hudson. p. 113.
[21] Ibid., p. 113.

Frank Lloyd Wright (1867-1959) was a pupil of Louis Sullivan and he also believed the idea of 'form follows function.' Colin Rowe informs us that, for Wright, as for Le Corbusier, "the plan had always been a generator of form". What Rowe meant by plan is the function that organises the internal relationships between forms in space. Wright was mainly concerned with the "organic unity of space and structure." [22] As 'form' followed 'function', these two were forming a 'unity'.

Rowe gives Chicago as an example to claim that "Chicago did seem to experience a prevision of two of the major themes of twentieth century architecture – the frame structure and the composition of intersecting planes."[23] Wright was against the idea of frame because he was aware of the fact that the form was just a result of the static structure of the frame. Instead, he was using big cantilevers to accomodate additional functional requirements. Rowe says that:

> In each case, the vision of an architecture as a composition of sliding planes predominates; and Wright's anticipation of this idea seems to have been as complete as Chicago's earlier anticipation of the formal role which the frame structure was destined to play.[24]

Wright is said to be believed in functionalism. That is why he was against the formalist approach in Chicago Buildings and searched for all the advantages that could be obtained from the power of 'function' as the form generator. Not only his plan organisation was in harmony with the function it should fulfill, but also his elevations were in unity with the internal organisation. The elevations of Wright's

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[22] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. pp. 92-96.
[23] Ibid., p. 92.
[24] Ibid., p. 92.

buildings can be seen as the extensions of the plan, giving all the clues about the internal space organization of the building.

2.1.2 Plan of Volumes

A similar space conception can be seen in Adolf Loos'(1870-1933) architecture. According to R. Furneaux Jordan, Loos's Steiner House in Vienna was "remarkable for its plan". He states that, "…like Frank Lloyd Wright, Loos was fascinated by open plan, by the possibility of differentiating rooms by their shapes and levels rather than by doors."[25] This differentiation in the heights of internal spaces of buildings can also be seen in the elevations, as it was in the buildings of Frank Lloyd Wright. Moreover, it can be admitted that the concept of the relationship between plan and elevation is developed by Loos under the notion of 'plan of volumes' which would soon anticipate the works of De Stijl. Kenneth Frampton makes the following statement:

> The Steiner House, built in Vienna in 1910, initiated a series of houses in which Loos gradually evolved his conception of the Raumplan or 'plan of volumes', a complex system of internal organisation that culminated in the split-level houses realised towards the end of his life: the Moller House in Vienna and the Miller House near Prague. By the time of the Steiner House, Loos had already arrived at a highly abstract external idiom – his white unadorned prism, which anticipated by at least eight years the so-called 'International Style'. He began to elaborate his Raumplan concept in his Rufer House, Vienna (1912), where, in contrast to his later houses, the openings are quite freely disposed, following the free disposition of the

[25] Furneaux, Jordan. R. 1996. *Western Architecture*. London, Thames and Hudson Ltd. p. 317.

internal volumes – an elevational counterpoint that anticipated the canonical works of De Stijl.[26]

It is in this context that functionalism is accepted by Sullivan, Wright and Loos as a design tool in the process of form generation. For them, function is the ultimate source, a totalising and governing element for making architecture. It defines all kinds of relationships between spaces in plan, section and elevation organisation; and so, generates what we call the 'final form'.

2.2 Form in Response to Function

However, there were a number of other architects who re-defined the relationship between 'function' and 'form' in the process of form generation with a different approach. Instead of believing the idea of "form follows function", they sought to define this relationship with new concepts like 'response' and 'fulfill'. That kind of interpretation enabled them to free themselves from the restrictions imposed by 'function' and provided a semi-dependent form. In fact, they were searching for new forms and using 'function' as a "source for justifying their stylistic contamination."[27]

Christopher Alexander(1936-) was one of the architects who re-interpreted that relationship between form and function. As noted in the Dictionary of 20th century architecture, Alexander "attempts to establish planning theory on a more

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[26] Frampton, Kenneth. 1980. *Modern Architecture: A Critical History*. London: Thames and Hudson Ltd. p.93.
[27] Colquhoun, Alan. 1989. *Modernity and the Classical Tradition. Architectural Essays 1980-1987*. Cambridge, MA.: M.I.T. Press. p. 34.

solid basis by the application of scientific principles." This study helped him to develop complex mathematical formulas and 'patterns' to synthesize form.[28]

Can these patterns be perceived as 'design tools'?

His main concern was to list a number of design tools or, by his words 'patterns', that would work as a system, which organise and define the relationship between spaces in the process of form generation. With his own words, design is "the process of inventing physical things which display new physical order, organisation, form, in 'response' to function."[29] In this definition, Alexander especially uses the word 'response' to define the relationship between function and final form. As such, he does not reject the power of 'function' in the design process but he is opposed to the idea that "form follows function". Thus; he, I believe, succeeds in liberating his forms from the restrictions of functionalism by defining this intricate relationship with the concept 'response'.

Another architect who interpreted the concept of functionalism and its relationship with the form of a building is Hugo Haring. Heinrich Klotz points out that Haring relates function and form to the full variety of the "processes of living". For Klotz, Haring defines the spaces as "receiving their shape from the persons living in them and from their life." Klotz gives reference to Hugo Haring's own definitions about his architecture in which he interprets a house as an organic whole, of letting it grow out of a 'form fulfilling a function'. Klotz defines this type

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[28] Lampugnani, Vittorio Magnago (ed.). 1996. *The Thames and Hudson Dictionary of 20th Century Architecture*. London: Thames and Hudson. p. 113.
[29] Alexander, Christopher. 1970, Fifth printing. *Notes On The Synthesis of Form*. Cambridge, Massachusetts: Harvard University Press. p. 1.

of functionalism as "organic functionalism." [30] Haring uses the verb 'fulfill' to provide a balance between the words function and form as a mediating agent. Within this context, function is no longer the only determinant that defines the relationship between spaces in the form generation process.

2.3 "Function as Fiction"*

The third kind of approach investigating the relationship between function and form was based on the 'inadequacy' and 'weakness' of function in determining the final form. The primary aim of this approach was to reject 'functionalism' with all its' insistences and to construct a more formal vocabulary in the process of form generation. It is in this context that the strict bonds between form and function were broken and they were thought as independent elements whose presences were not able to restrain or define each other.

Alan Colquhoun was one of the theorists who discussed and interpreted the weak relationship between function and form. For Colquhoun, Moholy-Nagy, Hungarian painter and photographer (1895-1946), defined a different connection between form and function by developing a formal terminology. Colquhoun gives reference to Moholy-Nagy's claims about the inadequacy of program in determining the type of space created and he mentions that:

> It is clear that function – determining relationships that can become a spatial (that is, formal) experience but that does not entirely determine the type of

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[30] Klotz, Heinrich. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 24.

* Anderson, Stanford. February 1987. "The Fiction of Function". *Assemblage*, No.2. pp. 19-32.

> space (form) created – is merely a mask for form (space). All the escape hatches are carefully left open to provide a retreat from too rigorous an interpretation of functional determinism.[31]

Moreover, for Colquhoun, "function, in this system of ideas, provides a rationale for compositional play." As it can easily be understood, Colquhoun not only criticises the 'functionalist' attitude in modern period but also develops his own understanding of the relationship between form and function which is not so different from the one of Moholy-Nagy. Colquhoun was not denying the presence of 'function' in design process while he was believing in the weakness of it in determining the final form. Just to prove his claims, he gives references to Moholy-Nagy's thoughts and interpretations. He makes the following statement:

> Moholy-Nagy's definition of space as "the relationship between the positions of bodies" suggests that, for him at least, the elements were given and finite("found"). It was their possibilities of combination that were infinite, since the rules for these were topological (they were "kinds of" relationships).[32]

From his remarks, it can be said that every possible combination of form had become justifiable whatever the function was. Connection of form with function with a weak bond assured the possibility of providing an infinite number of form combinations.

In fact, architecture was avoiding existing forms. Architects coming from formalist tradition, like Le Corbusier(1887-1965) and Mies van der Rohe(1886-1969), were in the search of new forms. Colquhoun points out that formalism was

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[31] Colquhoun, Alan. 1989. *Modernity and the Classical Tradition. Architectural Essays 1980-1987*. Cambridge, MA.: M.I.T. Press. p. 35.

one of the strongest impulses behind architectural modernism except certain "extreme functionalists" like Wright and Sullivan. As there were 'functionalists' everywhere, the 'formalists' were using 'functionalism' as a refuge to justify their existence:

> At least in part, the purpose of functionalism was to try to exorcise those persistent forms whose semantic and expressive functions depended on the repetition of previous forms. To this extent, functionalism was an alibi for a system of forms that were to be innocent of stylistic contamination.[33]

2.3.1 Inadequacy of Function

It was Stanford Anderson (1934-) who investigated the role of the concept of function in the making of architecture within modern architecture in his essay titled "The Fiction of Function".

> My argument will be that "functionalism" is a weak concept, inadequate for the characterization or analysis of any architecture. In its recurrent use as the purportedly defining principle of modern architecture, functionalism has dulled our understanding of both the theories and practice of modern architecture…Thus I wish first to argue that, within modern architecture, functionalism is a fiction – fiction in the sense of error. Later, I wish to incorporate function within a richer notion of fiction – that of storytelling.[34]

For Anderson function is not only a weak concept but also incapable of determining the final form, and even the function, of architecture. He also mentions that:

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[32] Ibid., p. 35.
[33] Ibid., p. 34.
[34] Anderson, Stanford. February 1987. "The Fiction of Function". *Assemblage*, No.2. pp. 19-20.

> No description of function, however thorough, is exhaustive of the functional characteristics of even relatively simple activities. The inadequacy of Hannes Meyer's few factors for determining a plan cannot be solved by adding more factors. No description of function, however thorough, will automatically translate into architectural form. The more thorough the description of function, the less likely that the description will hold true even for the duration of the design process. It would be difficult if not impossible to find an artifact, simple or complex, that has not functioned in unanticipated ways.[35]

Anderson draws our attention to The International Style in order to prove his statements about 'functionalism' in modern architecture. The exhibition titled *The International Style* was organized by Henry-Russell Hitchcock and Philip Johnson for the Museum of Modern Art in New York City in 1932.[36] Stanford Anderson points out that International Style exhibition had an inordinate influence on the understanding of Modern architecture. As mentioned by Anderson, at the heart of the polemic of Hitchcock and Johnson was an "exercise in connoisseurship"[37]. He points out that, "they sought to define the visual traits that assured the commonality of true modern architecture and thus established a style – the first proper style since neoclassicism."[38] The investigation of a number of visual formal relations under the mantle of The International Style showed us the importance of a formal anxiety and the reluctance to 'functionalism' in their understanding of producing architecture. Moreover, for Anderson, "an important corollary of Hitchcock and Johnson's emphasis on the primacy of style was their rejection of 'functionalism.'" Anderson makes the following statement:

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[35] Ibid., p. 22.
[36] Hitchcock, Henry-Russell and Philip Johnson. 1932. *The International Style: Architecture since 1922*. Princeton: W. W. Norton & Co.
[37] Anderson, Stanford. February 1987. "The Fiction of Function". *Assemblage*, No.2. p. 20.

> For Hitchcock and Johnson, the archdemon of functionalism was Hennes Meyer, who, for example, in his time at the Bauhaus, constructed diagrams of circulation and sunlight that claimed to show the "factors determining a plan." Far from functionalism being the crux of modern architecture, it was precisely the avoidance of functionalism, as recognized by Hitchcock and Johnson, that allowed inclusion under the mantle of the International Style. The seminal figures within the style were said to be, of course, Ludwig Mies van der Rohe, Walter Gropius, J.J.P. Oud, and Le Corbusier.[39]

2.3.2 Form as a Result of Architecture

In fact the interest of these architects like Mies van der Rohe and Le Corbusier was not on the rejection of the notion of 'function' but on the idea of 'function' determining all of the formal relations in a building. They were searching for solutions that would assure the reappraisal of the functions attributed to the elements of space. What they aimed was to increase the quality of architectural space by suggesting new formal relations between architectural elements freed from strictures of 'functionalism' in the design process. Besides, they were opposed to any style or discourse that would insist a number of organisational rules in the process of form generation. For them, form had to be generated through "objective" solutions related with the 'problems of building'. Colin Rowe mentions the importance of 'objectivity' in their understanding of producing architecture:

> The pursuit of form was presumed to lead to forms of doubtful integrity, to be irrational and private, to be a willful preoccupation with the past, an irresponsible sidetracking of the future; and there was the example of the nineteenth century to prove it. The new architecture was to be authentic. That is, it was to be inevitable and predestined and in the nature of things. It was not to be one possibility among

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[38] Ibid., p. 20.

> many, but the only possibility; and thus it was necessary that its determinants should seem to lie outside the sphere of choice, that what Mies has termed "subjective license" should be eradicated and that, in its place, 'objectivity' should be installed as the criterion of value.[40]

Moreover, Rowe states that, for Mies, Le Corbusier and Gropius, any formal or compositional terminology would stand irrelevant to the concept of spirit of age. For Rowe, "architects like Le Corbusier, Mies van der Rohe, and Gropius convinced that an authentic architecture could only be a rationalization of objective facts. One might believe that for them 'composition' implied a regard for mere appearance, had suggestions of subjectivity, of formalism – however highly formed their buildings may have been, they were certainly unanimous in asserting their innocence of formal intention."[41] Besides, Mies' famous quotation "we refuse to recognise problems of form; but only problems of building. Form is not the aim of our work, but only the result" was showing their attitude against formalism in architecture. In fact this was not a total reluctance; that is, they were not against preveilance of forms. Form was thought to be the result of their architecture. Of course this was again a conscious attitude. In order to be on the safe side, they were using neither 'formalism' as the purpose of their architecture, nor 'functionalism'. Indeed, according to the *Dictionary of 20th Century Architecture*, "function was practically the last factor which determined the eminently symbolic form of the

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[39] Ibid., p. 20.
[40] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. p. 125.
[41] Ibid. pp. 60-61.

Fagus Factory or the Barcelona Pavilion."[42] For them, 'function' was an inadequate 'design tool' to define relationships of the whole building as the 'generator of form'. They were suggesting the dependence of form not on function but on relations defined by 'problems' of building.

2.3.3 Laboratory Style

Heinrich Klotz(1935-) questioned the relationship of function and form in the modern period. He believed the inadequacy of function in the process of form generation. For Klotz, function was a mere notion attached to forms of everyday objects in modern period. That is why he called the modern style as 'laboratory style'. According to him, modernism was strongly affected by formalism and its principles. As he informs us, formalist attitudes were main forces that generate the styles.

> The casing of an electric razor, which ought to fit comfortably inside a hand, now had to become rectangular. An easy chair now presented hard edges and angles, which were more attuned to fashion's appeal to the eye than to the functional necessities of comfortable seating. The same "functionalism" that had to come to use right angles on the grounds of their matter-of-fact relevance and their functional aptness now, in no time, emancipated itself from function on aesthetic grounds and turned into a strictly formal principle – into a "style."[43]

Klotz believes that the right angles which became determining motifs for the new architecture facilitated the process of design, however, they were not functionally suitable. He claims that, "the right angles, used as a basic form to

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[42] Lampugnani, Vittorio Magnago (ed.). 1996. *The Thames and Hudson Dictionary of 20th Century Architecture*. London: Thames and Hudson. p. 113.

implement and express this objectivity, was not always functionally apt where the organic forms of the human body determined the relation between form and function (that is, in the design of objects for everyday use); however, it became the determining leitmotif for functional form in architecture, where it always had facilitated the processes of design and construction." From his remarks, it can be claimed that form was freed from restrictions of function in determining the relationships between architectural spaces in modern period. For Klotz, function and form are seen as independent elements which do not affect or control each other.

2.3.4 Unstable Architecture

Bernard Tschumi, in his book titled *Architecture and Disjunction,* also interprets the relationship between architectural form and function. He makes a critique to Modern architecture's passion with 'function' and explains the system that would lead to a "dynamic architecture" which is unstable and independent from the restrictions imposed by the program it tries to fulfill. Within this conception, he is opposed to the idea of 'function' defining the 'form' of architectural spaces; whereas he suggests an "endless array of uncertainities" between the two. For Tschumi, "there is no longer a casual relationship between buildings and their content, their use, and, of course, their very improbable meaning. Space and its usage are two opposed notions that exclude one another, generating and endless

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[43] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 21.

array of uncertainities."[44] He also mentions that "confrontation of 'space' and 'usage' and the inevitable disjunction" of the two terms is "inherent" in architecture which means that "architecture is constantly unstable, constantly on the verge of change."[45]

> Not only is there no simple relation between the building of spaces and the programs within them, but in our contemporary society, programs are by definiton unstable. Few can decide what a school or a library should be or how electronic it should be, and perhaps fewer can agree on what a park in the twenty-first century should consist of. Whether cultural or commercial, programs have long ceased to be determinate, since they change all the time-while the building is designed, during its construction, and, of course, after completion.[46]

Moreover, for Tschumi, "Architecture is regarded as no longer concerned with composition or with the expression of function. Instead, it is seen as the object of permutation, the combination of a large set of variables, which is meant to relate, either in a manifest or secret way, domains as different as the act of running, double expansion joints, and the free plan. Such a play of permutations is not gratuitous. It permits new and hitherto unimagined activities to occur.[47] For Tschumi, contemporary architecture is seen as a system concerned with a large set of architectural elements like 'function', 'form' and 'structure' in which any element is not important than the others in the process of space production. He points out that this kind of a fragmented architecture gives the system an opportunity to create 'new' and 'unexpected' relations in the future. For Tschumi:

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[44] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. pp. 20-21.
[45] Ibid., p. 19.
[46] Ibid., pp. 20-21.

> …the analysis of our present condition as a dislocated one suggests the possibility of future regroupings, just as particles of matter in space will occasionally concentrate and form new points of intensity, so the fragments of the dislocation can be reassembled in new and unexpected relations.[48]

2.3.5 Program as an Architectural Fragment

Thus, the fragments, as called by Tschumi, can be perceived as independent elements that have the capacity to form 'new' and 'unexpected' relations in future on behalf of producing an autonomous and unstable architecture. In this framework, for Tschumi, 'program' can only be one of these architectural fragments; and so, there must be a distance between architecture and the program it fulfills. At this point, Tschumi suggests a similarity between performing arts and architecture. He mentions that the relationship between program and architecture is comparable to the effect of 'distanciation' as the principle of nonidentity between actor and character.[49] He points out that, program is something to be 'written', "the program plays the same role as narrative in other domains: it can and must be interpreted, rewritten, deconstructed by the architect."[50] He relates this idea with his project of Park de La Villette:

> …there must be no identification between architecture and program: a bank must not look like a bank, nor an opera house like an opera house, nor a park like a park. This distanciation can be produced either through the use of some mediating

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[47] Ibid., p. 181.
[48] Ibid., p. 189.
[49] Ibid., p. 204.
[50] Ibid., pp. 204-205.

> agent – an abstract parameter that acts as a distancing agent between the built realm and the user's demands (at La Villette, this agent was the grid of Folies).[51]

With the assistance of the statement above, it can be claimed that, in Parc de La Villette, Tschumi succeeds in breaking the bonds between final form and function. In fact, in Tschumi's understanding, form has to be capable of being in conformity with the changing demands in future by suggesting a number of relationships between its spaces. Indeed it was the grid of 'folies' that defined the system of relationships between spaces in the process of transformation in Parc de La Villette. For Tschumi form has to isolate itself from anything that would impose a number of rules or strictures in the process of form generation. He is opposed to all binary oppositions in architecture. Tschumi searches for the independence of architectural elements like 'form', 'function', 'structure' and 'meaning'. He suggests a fragmented, unstable, dynamic and autonomous architecture that is perceived as a text that is to be re-written in future. Thus, architectural production is accepted as a 'step' in the ever-lasting process of transformation. In order to understand better the notion of autonomous architecture whose framework is defined above, it is necessary to investigate the dissolution of binary oppositions between form and other architectural elements like function and meaning over the discussions on the discourse of 'structuralism' with the beginnings of 1960s.

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[51] Ibid., p. 204.

2.3.6 Theorising Architecture: Structuralism and Poststructuralism

Here, structuralism should be discussed in the light of its' interpretations based on a criticism of Modernism, where it searches for new definitions in order to understand the form-function interrelationship and the concept of 'autonomy' in architecture. Rosalind E.Krauss talks about the role of structuralism in the process of understanding the generation of meaning and the relationship between timeless forms and meanings in them. For her:

> …during the years that Art and Culture's impact was felt in a New York-based art world, other sections of American cultural intellectual life were affected by a discourse coming from abroad and challenging the historicist premises on which almost all the critical thinking of this country had been based. That discourse was, of course, structuralism, with its later poststructuralist modifications, the analytic methods of which produced a radical inversion of the position on which Art and Culture depended. On the one hand, structuralism rejected the historicist model as the means to understand the generation of meaning. On the other, within the work of poststructuralism, those timeless, transhistorical forms, which had been seen as the indestructible categories wherein aesthetic development took place, were themselves opened to historical analysis and placement.[52]

Structuralism, not only questioned the generation of meaning and its relationship with architectural forms, but also criticized all the classical and traditional modes and their relations with other fields of studies such as art and architecture. Also Ignasi de Sola and Morales Rubio draw our attention to the influence of 'structuralism' on the society during the 1960s alluding that its

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[52] Krauss, Rosalind. 1985. *The Originality of the Avant Garde and Other Myths*. Cambridge, MA. p. 2.

critiques were directed through the avant-garde's assumptions. They point out that, "the avant-garde's assumptions about history, time, change, and social relations were subjected to a radical critique during the 1960s. Symbolized by the images of 1968, these critiques consisted of a broad series of attacts on the teleological and progressive model that had invested works of art and architecture with meaning. This model was swept away in whirlwind: youthful and utopian, yet at the same time pessimistic and self-critical.[53] For Ignasi de Sola-Morales, it was the 'structuralist thinking' during the sixties that destroyed the conception of history as "the limitless progress of humanity". Also they point out that 'structuralism' is a "method", a "tool for explaining reality." They continue to say that, "born of the formalist linguistics of the Praque circle, structuralism extended easily into the cultural fields of anthropology, the social sciences, law, literature, and art. On the basis of analogies with verbal language, structuralism went on to dissect parallel processes in any field of reality whatsoever."[54] As Ignasi de Sola-Morales informs us with the diffusion of the linguistic paradigm, "any cultural product or process" was started to be realized as a "language", a "communication", or as a "process of signification."[55]

Because of the linguistic identity of 'structuralism', another concept gained significance in the cultural world: 'autonomy'. As stated by Ignasi de Sola-Morales,

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[53] Ignasi de Sola-Morales. 1997. *Differences. Topographies of Contemporary Architecture.* Ed., by Sarah Whiting. Trans., by Graham Thompson. Massachusetts Institute of Technology. p. 73.
… this work originally appeared in Spanish under the title *Differencias. Topografia de la arquitecture contemporanea*, Ignasi de Sola- Morales Rubio, Editorial Gustavo Gili, S.A., Barcelona, 1995.
[54] Ibid., pp. 73-74.
[55] Ibid., p. 74.

structures and languages are "by definition, autonomous, closed, purely and exclusively devoted to their own self-sustenance." Ignasi de Sola-Morales mentions that, "once a structural system has been identified, what should then be examined is its internal mechanism, the protocols governing the economy of its movements, and, finally, the system's potential to deploy itself.[56] Immediately, the important developments in cultural fields due to this structuralist vision and linguistic paradigm caused consequent changes upon the field of art concerning the understanding of artistic creation. An artistic product becomes an autonomous structure, a tool for communication that has the power to produce 'new' and 'unexpected' meanings and relations in future. Ignasi de Sola-Morales gives reference to Joseph Kosyth's statement: "art indeed exists for its own sake" which mentions the importance of art's autonomy in artistic production and also points out that, "the rediscovery of Marcel Duchamp by conceptual artists signified, on the one hand, the disappearance of all reference to anything beyond the universe of artistic products itself and, on the other, the prioritization of the communicative-lingustic orientation in the understanding of artistic activity."[57] Furthermore, Ignasi de Sola-Morales draws our attention to the process of artistic creation claming that "the process is more important than the finished object."

> Art is not the object: it cannot be identified with an artifact that we appropriate independently of the process by means of which it was conceived and realized. The process is more important than the finished, isolated object are the ideas that made it possible. Artistic communication is produced at the moment we are able to understand the object as the result of a structure, as an always provisional

[56] Ibid., pp. 74-75.
[57] Ibid., p. 75.

> state that proceeds from prior studies and that will make subsequent developments possible. Only from the structure of the complex whole and the successive systems of signifiers and signifieds are we given the possibility of receiving the idea, of participating in the self –referential and autonomous messages of the processes of artistic production.[58]

With the assistance of the cited paragraph, we can establish a connection between the two fields of culture; art and architecture. Although it is not easy to draw the line between art and architecture, the definition of 'autonomy' in art can help to understand the declared autonomy of architecture in the period dominated by 'structuralism'. Art is, as defined by Ignasi de Sola-Morales, a means of communication, an autonomous, self-referential structure which not only represents a 'provisional state' but also makes possible 'subsequent developments' in the process of artistic production. With the help of this definition, artistic production becomes 'unstable' and 'dislocated' which suggests the "possibility of future regroupings" in "new and unexpected relations" as defined for architecture by Bernard Tschumi.

Tschumi's definitions emphasize the importance of a structure that is autonomous, in a state of process and always on the verge of discovering new horizons and relationships by expanding its' limits. Without a doubt, this kind of an optimist and self-referential understanding of a structure can only be possible through a radical critique against history and a priori rules. Structuralist thinking was one of the strongest dominating powers behind these discussions. For Ignasi de Sola-Morales:

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[58] Ibid., pp. 75-76.

> Poststructuralist thought has begun the task of thinking the world from the absence of foundation and the decomposition of historical time. Thinkers such as Gilles Deleuze have demonstrated the nonexistence of a platform from which it is possible to construct a vision of the world. There is no such platform, but rather *mille plateaux* (a thousand plateaus), a limitless multiplicity of positions from which it is possible only to erect provisional constructions. Nor is the reality of things and events organized along some continuous thread extended in the orderly succession of time. What we do today does not derive substance from reference to past experience, nor do we have the authority necessary to justify what we produce now in relation to what is to come. The notion of *le pli*, the fold, as glossed by Deleuse himself, supposes that space in this poststructural situation is made up of platforms, fissures, folds, infills, surfaces, and depths that completely dislocate our spatial experience. Our experience of time is also one of discrete occurences.[59]

Structuralist thinking, later with poststructuralist developments, had created an environment which not only criticises and "dislocates our spatial experience" in history, but also investigates ways to construct new visions of space production for the sake of an autonomous architecture. For Ignasi de Sola-Morales, since 1960s, "the call for an autonomous understanding of architecture reveals the influence of structuralist thinking upon the domain of architecture." [60]

Structuralism suggests a fragmented system composed of independent parts that are capable of constructing their own logic of transformation in the process of artistic production. Rem Koolhaas(1944-), in his book titled *S,M,L,XL* draws our attention to the structuralist climate arose in 1968 and questions the effects of the notion of 'fragmentation' on the relationship between 'form' and 'function.' For Koolhaas, it was with the assistance of the concept of 'dismantling' that transforms

[59] Ibid., p. 86.
[60] Ibid., p. 76.

architecture into an autonomous 'system' composed of fragments. For Koolhaas, the dissolution of the conciliation between form and function can be assured by decomposing program into its "smallest functional particles." Koolhaas points out that:

> In the first, the world is decomposed into incompatible fractals of uniqueness, each a pretext for further disintegration of the whole: a paroxysm of fragmentation that turns the particular into a system. Behind this breakdown of program according to the smallest functional particles looms the perversely unconscious revenge of the old form-follows-function doctrine that drives the content of the project – behind fireworks of intellectual and formal sophistication – relentlessly toward the anticlimax of diagram, doubly disappointing since its aesthetic suggests the rich orchestration of chaos. In this landscape of dismemberment and phony disorder, each activity is *put in its place*.[61]

With the assistance of the paragraph above, it can be claimed that Koolhaas also opposed to all binary oppositions in architecture and suggests the dismantling of architectural elements like 'form', 'function', 'structure', 'space' and 'meaning' into their smallest parts. That is to say; form is accepted as isolated from the insistences posed by any architectural element stated above in the process of form generation and is given 'autonomy'.

Koolhaas's interpretation of architecture as a fragmented, autonomous system reveals his interest on the discourse of 'structuralism'. In fact, structuralism offers the necessary tools to criticize and re-evaluate the Modernist theory in architecture. Structuralism questions and criticizes not only the dogmatic and utopic character of Modernism, but also its' methods and aesthetic endeavours concerning

the relationship between 'form,' 'program', 'function' and 'design process' for the sake of a 'new architecture'.

Alan Colquhoun was criticizing the dogmatist thinking of Modernism in his book titled *Modernity and the Classical Tradition*. For Colquhoun, the architectural environment of that period "makes a connection with the architectural tradition through such generalized themes as 'column,' 'room,' 'corridor,' 'window,' 'roof'" whereas it is "concerned with notions of surface, limit, symmetry and difference, all of which bring into play the idea of the limits of architecture and open the possibility of architectural discourse as a critique rather than as a dogmatism."[62] On the other hand, the editors of *The Harvard Architectural Review* were also examining the architectural environment of the period by questioning "utopist' and 'positivist' thinking of Modernist theory:

> The last few decades have seen a gradual erosion of such Utopian and positivist convictions. The design of housing, for instance, has become less generalized and more attuned to the problems of specific locations and particular users. The social, economic, and physical (i.e. building) convections of the local population may now form an integral part of the design and programming process, producing more idiosyncratic and contextually responsive solutions. Underlying this approach is the conviction that architecture can profit more by working with what 'is' rather than what 'should,' on dealing with the messiness and imperfectability of the present rather than the clarity and order of an ideal world. It reflects a growing awareness of the limited impact architecture may have on the tastes and preferences

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[61] Koolhaas, Rem. 1998. *Small, medium, large, extra-large: Office for Metropolitan Architecture*. Ed., by Jennifer Sigler. New York, N.Y.: Monacelli Press. p. 506.
[62] Colquhoun, Alan. 1989. *Modernity and the Classical Tradition. Architectural Essays 1980-1987*. Cambridge, MA.: M.I.T. Press. pp. 193-196.

> of its users, and that-to make a more meaningful environment may not suggest that it be more revolutionary, but more a product of shared sensibilities.[63]

Moreover, in *The Harvard Architectural Review*, "methods and aesthetic guidelines" of Modern Movement are also criticized. It is noted that, however, "traditional languages of form" and "traditional notions of organization, composition, and design process" were rejected by Modern Movement, the "methods and aesthetic guidelines which were developed to replace them are now being questioned and re-considered." Besides, within these developoments in the understanding of architectural production, Peterson presents another critique on the 'Modern' interpretation of form creation and point out the changing role of architect in this framework:

> All these facets reinforce the architect's traditional role as the willful creator of form, in direct contrast to the notion of the architect as the mere translator of economic, social, and technical forces into an appropriate architectural expression.[64]

It is also stated that the idea of 'program', "once the basis of architectural organization and expression", is losing its' "pre-eminence" on the process of design which values means of organization more general than those provoked by the specifics of each project."[65] As mentioned in *The Harvard Architectural Review*, all of these developments whose framework is define above, with their interpretations on the relationship between 'form,' 'program' and 'design process', caused the

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[63] "Anti-Utopianism". Spring 1980. *Beyond The Modern Movement.* The Harvard Architectural Review, vol. 1. Cambridge, Mass.: M.I.T. Press, c1980. p. 6.
[64] Ibid., p. 7.
[65] Ibid., p. 7.

arising of a new 'tendency' in architectural environment. Peterson points out that this new tendency affected designers and theorists for years "without any thought of a 'Post-Modern Movement.'"[66]

Post-Modernism, like 'structuralism', is born out of critiques and re-interpretations on a number of concepts of Modernism; and as mentioned by *The Harvard Architectural Review*, it is a 'fragmented phenomenon'. As it is stated:

> …the Modern Movement is not dead, as some writers have proclaimed. It has not been replaced by any comprehensive body of thought, and it still forms the basis of architectural production for the great majority of architects. Post-Modernism, being a fragmented phenomenon, will promote change only incrementally, and only in particular areas of concern.[67]

As it can be understood from the cited paragraph above, Post-Modernism was not totally opposed to all of the notions of Modernism. For Alan Colquhoun, one of Post-Modernism's important discussions was on the relationship between form and function. Colquhoun tells that Post-Modernism was not against the concept of 'function' whereas its' attack was on the concept of 'functionalism' and the idea of "form follows function". By this very nature, 'Post-Modernism' can be seen as having the same intentions with the discourse of 'Structuralism'. As mentioned by Alan Colquhoun in the article titled "Postmodernism and Structuralism: A Retrospective Glance":

> …one of the chief objects of the postmodern attack was this notion of a set of functions, tied to the particular work, but having a prior and external existence to it. The attack was not against the idea of a building having a purpose, but against the

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[66] Ibid., p. 7.
[67] Ibid., p. 8.

> idea that the aesthetic form of the building should be utterly transparent to this purpose, defined by a set of more or less quantifiable functions. Such ideas had been questioned before, both by the 1960s, just at the time that some architects had reduced the idea of functionalism to a would-be behavioristic system, a weapon of attack against functionalism became available – a weapon that itself seemed to possess all the credentials of a positive science. – Structuralism.[68]

With the assistance of the statement above, it can be argued that, for Colquoun, 'Post-Modernism' and 'Structuralism' were born out of the same intentions, ideas and conditions in order to create an environment that is critical with Modernism.

Moreover, Stanford Anderson also criticises the 'functionalist' attitude of Modernism because of its' inadequacy in the process of architectural production and criticises Post-Modernism. For him, Post-Modernism's attack on functionalism "implies the rejection of Modernism." Anderson states that, "the advocates of so-called Post-Modernism adopt the still more untenable position that it is a functionalist line of demarcation that separates all of modernism from successor positions. They brand the whole of modernism as functionalism; the naivete and/or inadequacy of functionalism is cogently argued; the rational rejection of functionalism then implies the rejection of modernism."[69]

On the other hand, it was Aldo Rossi(1931-1997) and Oswald Mathias Ungers who showed their response to 'functionalism' and presented their discussions and interpretations concerning an 'autonomous' architecture under the

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[68] Colquhoun, Alan. February 1998. "Postmodernism and Structuralism: A Retrospective Glance," *Assemblage 5*, p. 246.
[69] Anderson., Stanford. February 1987. "The Fiction of Function". *Assemblage*, No.2. pp. 19-32.

discourse of 'Rationalism'. Heinrich Klotz points out that, "Ungers rebelled against the functionalist levelling of the process of design, which had only the most general answer ready for any function and which assimilated the differentiation of the individual case into the universal validity of general use."[70] Ungers was searching for new methods and ways that will create an autonomous architecture which will destroy the 'one-sideness' of functionalism by articulating diversity. Klotz makes the following statement:

> For the functionalists, what determined the look of a form was the purpose for which it was most generally used; for instance, a door remained a door as long as one did not expect anything other than a passage through a wall. But Ungers demanded with his first Rationalist designs that additional, more refined definitions should be possible – that a door should be possible – that a door should be able to assume the special character of a portal or a gate – and that architects should strive to express these differences…The different forms and types of a door, a portal, and a gate were reduced to "a passage," and the differentiating features were lost. In contrast, Ungers wanted to bring to light the manifold possible morphological transformations of an idea, of a primal form, of a basic concept – to thwart sameness and to articulate diversity.[71]

As it can be understood from Klotz's remarks, Ungers suggests an autonomous architecture which is capable of constructing its' own definitions and relations in order to destroy the reductive mentality of Modern 'functionalism' and to articulate diversity in the process of space production.

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[70] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. pp. 213-219.
[71] Ibid., pp. 213-219.

It was Aldo Rossi who developed a different understanding of autonomous architecture "based on the body of theory intrinsic to it"[72] by questioning the relationship between 'form' and 'function'. Heinrich Klotz points out that, although Rossi was not opposed to the notion of 'function' in a building, he "wanted to bring about a loosening of the strictures imposed by functionalism."[73] Moreover, for Klotz, what Rossi demanded was to "transcend the one-sideness of functionalism."[74] Rossi believed in the autonomy of architectural forms. Ignasi de Sola-Morales claims that, "Aldo Rossi criticised the functionalist tradition, the dependence of architectonic form on something beyond its own logic and the internal processes of this transformation."[75]

In fact, the reason of Rossi's anti-functional understanding of architecture was his passion for investigating new formal relationships in the process of producing an autonomous architecture. He was searching for ways to get away from all relationships between form and function defined in Modern architecture. He criticised Modern architecture for being devoid of the autonomous character because of the functionalist idea of 'form follows function'. On the contrary, he suggested an architecture whose forms attain their autonomy not from 'function' but from their own internal relationships throughout the ever-lasting process of producing architecture. So, Rossi suggested the independence of architectural forms

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[72] Ignasi de Sola-Morales. 1997. *Differences. Topographies of Contemporary Architecture.* Ed., by Sarah Whiting. Trans., by Graham Thompson. Massachusetts Institute of Technology. p. 76.
[73] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 211.
[74] Ibid., p.211.
[75] Ignasi de Sola-Morales. 1997. *Differences. Topographies of Contemporary Architecture.* Ed., by Sarah Whiting. Trans., by Graham Thompson. Massachusetts Institute of Technology. p. 76.

from any historical 'conciliations' insisted by other architectural elements like 'function', 'program' or 'structure' in his search for an autonomous architecture.

Heinrich Klotz also investigates the methodology of generating independent forms in the process of producing autonomous architecture. He suggests the independence of "formal vocabularies from their ideological referents" in order to use them "side by side or to be mixed." This kind of a method provides freedom to architect in his quest for "new vocabularies he encounters." For Klotz, "this vitalization process draws its potential force from the method" called by himself as "the *fictionalization* of architecture."[76] In fact, this kind of a fictional architecture that is composed of forms capable of producing their own meanings by refusing their dependence on "ideological referents" indicates freedom in architecture.

By this definition, fictional architecture becomes related with the discussions of Robert Venturi(1925-) who suggests the presence of 'complexity' and 'contradiction' in order to produce a "valid architecture". Venturi also draws our attention to the uncertain and indeterminate character of contemporary architecture in which the requirements of even basic architectural elements like 'function', 'form' and 'structure' are "diverse" and "conflicting". For Venturi:

> Architecture is necessarily complex and contradictory in its very inclusion of the traditional Vitruvian elements of commodity, firmness, and delight. And today the wants of program, structure, mechanical equipment, and expression, even in single buildings in simple contexts, are diverse and conflicting in ways previously unimaginable. The increasing dimesion and scale of architecture in urban and regional planning add to the difficulties. I welcome the problems and exploit the

[76] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 5.

> uncertainities. By embracing contradictions as well as complexity, I aim for vitality as well as validity.[77]

In fact, it can be claimed that Venturi's critiques were focused on the orthodox character of Modern architecture and its' paradigms. For Klotz, Venturi is against the notions of 'sameness', 'uniformity' and 'one-sideness' in Modern architecture whereas he suggests 'complexity' and 'contradiction' of the program by the help of which an autonomous architecture can be produced. Klotz mentions that, "Venturi turned against the anonymous, uniform, multi-purpose space in which the complexity of a program dissolved without any contradiction."[78] His interpretation of an autonomous architecture suggests a fragmented architecture whose elements present "many levels of meaning". Venturi explains his opinions in the following paragraph:

> I like elements which are hybrid rather than "pure," compromising rather than "clean," distorted rather than "straightforward," ambiguous rather than "articulated," perverse as well as "impersonal," boring as well as "interesting," conventional rather than "designed," accomodating rather than excluding, redundant rather than simple, vestigal as well as innovating, inconsistent end equivocal rather than direct and clear. I am for messy vitality over obvious unity. I include the non sequitur and proclaim the duality. I am for richness of meaning rather than clarity of meaning; for the implicit function as well as the explicit function. I prefer "both-and" to "either-or," black and white, and sometimes gray, to black or white. A valid architecture evokes many levels of meaning and combinations of focus: its space and its elements become readable and workable in several ways at once.[79]

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[77] Venturi, Robert. 1977. *Complexity and Contradiction*. New York: Museum of Modern Art ; Boston : distributed by New York. p. 22.
[78] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. pp. 213-219.
[79] Venturi, Robert. 1977. *Complexity and Contradiction*. New York: Museum of Modern Art ; Boston : distributed by New York. p. 23.

In this framework, it can be claimed that Venturi uses the notions of 'complexity' and 'contradiction' as 'design tools' in order to reach to a vital architecture; like Tschumi uses 'dismantling' and 'distanciating' whereas Rossi uses internal "autonomy" of forms in the process of architectural production.

Just like Tschumi and Rossi, Venturi is said to be opposed to the idea of a single relationship between 'form' and 'function', or 'form' and 'meaning'; on the contrary he believes the presence of many relationships between these architectural elements. Moreover, Venturi relates his discussions with Modern architecture and criticizes the understanding of 'façade' whose only 'function' is to inform the viewer of spatial organization of the interior of the building. Venturi suggests an understanding of an autonomous façade which is not only a "vehicle for signs"[80] but also able to "be informed by its own particular functions."[81] Klotz states that, "with his assertions that "the exterior is not the interior" and "the interior is not the exterior," Venturi once against a normative prescription of modern architecture: that the organization of a building's interior should be observable in its exterior."[82]

Thus, within all of these theorethical developments seen in the cultural environment of contemporary world, new architecture and its properties have to be understood in the light of the discussions above. In general, in the understanding of this new architecture that showed a reaction against Modern architecture, we can

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[80] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 150.
[81] Venturi, Robert. 1977. *Complexity and Contradiction*. New York: Museum of Modern Art ; Boston : distributed by New York. pp 71-89.
[82] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 150.

speak of an autonomous architecture whose forms attain their autonomy not from the strictures imposed by any other architectural element like ‘function’, but from its own internal relationships defined by the designer. Moreover, in order to be in conformity with the changing demands of ‘program’, ‘site’ and even ‘society’, architectural forms of today have to suggest a number of solutions that will organise and generate possible future transformations between the spaces of any building. Within this framework, ‘fragmentation’ and ‘transparency’ are accepted as design tools that define these transformational relations between spaces. Thus, in the following chapter, ‘fragmentation’ and ‘transparency’ and their effects on the process of form generation will be discussed respectively.

CHAPTER 3

FRAGMENTATION

On the basis of the discussions on 'fragmentation' lies the desire to produce an architecture whose own autonomy is reflected in its' internal relations, in accord with the demands of social, technical and cultural developments in future. Within this framework, any architectural production is perceived as a step, a snapshot in the long-standing process of transformation. In order to provide this kind of a flexibility in an architectural work, each 'fragment', 'part' or 'element' in the design process is suggested as independent units whose own autonomies lies in their capabilities to produce "new and unexpected relations"[83] in the future. Within this framework, architectural elements like 'function', 'form', 'space' and 'program' are accepted as 'fragments' and have their own rules of transformation in the process of producing architecture. Thus, in this chapter, the effects of 'fragmentation' on the design process will be analyzed and discussed. The different interpretations and definitions of 'autonomous architecture' presented by three architects, Bernard Tschumi, Peter

[83] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. p. 189.

Eisenmann and Aldo Rossi will help to construct the guidelines of the conceptualisation of the design tool called fragmentation.

Bernard Tschumi mentions that, in the contemporary society, architecture is "constantly unstable and on the verge of change." For him, future of any building is indeterminate. He also points out that, one of the considerable reasons of this feature is the "unstable programs" seen in the period.[84] Within this kind of an environment, Tschumi's discussions are focused on the 'fragments' of architecture and the relationships between them. In order to produce an architecture that will compete with the 'unstable demands' of the society, he presents an architecture of 'fragments' which are open to interpretations and transformations in the future. For Tschumi, these fragments cannot only be 'real' like 'walls', 'rooms' or 'spaces'; but also be 'virtual' like 'ideas' and even 'program'. Tshumi suggests the presence of 'splits' in order to perceive and read the relationships between these fragments. He points out that:

> Fragments of architecture (bits of walls, of rooms, of streets, of ideas) are all one actually sees. These fragments are like beginnings without ends. There is always a split between fragments that are real and fragments that are virtual, between memory and fantasy. These splits have no existance other than being the passage from one fragment to another. They are realys rather than signs. They are traces. They are in-between.[85]

[84] Ibid., pp. 19-21.
[85] Ibid., p. 95.

3.1 Sequence

In the light of this statement, it can be claimed that, although these 'splits' define a number of relationships between 'fragments', they do neither limit nor deny the possibility of new connections. For Tschumi, each fragment is 'unstable' and in a process of 'transformation'. New relationships between these 'transformed fragments' are obtained in time. Thus, for Tschumi, architecture is also in a state of 'transformation'. Within this conception, Tschumi defines the states of this transformation by the help of the notion 'sequence'. In order to understand the notion of 'fragment' as a design tool, first of all, the relationship between each fragment, after each transformation, has to be investigated with the assistance of the notion of 'sequence'.

In general, 'sequences' not only define the relationships between the steps of the transformation of any fragment, but also organises the connections between the fragments within a process of an overall transformation. Therefore, Tschumi defines the first kind as 'transformational sequence' whereas calls the latter as 'sequencial transformation". Within this framework, the 'transformational sequence' can be accepted as a system of a number of "devices" or "rules" which controls the modifications over the fragments of architecture such as 'spaces' and 'programs' in their particular. For Tschumi:

> Transformational sequences tend to rely on the use of devices, or rules of transformation, such as compression, rotation, insertion, and transference. They can

> also display particular sets of variations, multiplications, fusions, repetitions, inversions, substitutions, metamorphoses, anamorphoses, dissolutions.[86]

On the other hand, the 'sequencial transformation' is presented as a set of rules defining the 'image', the 'snapshot' of an architecture that is in a process of transformation. Tschumi points out that:

> The sequential transformation then becomes its own theorethical object, insofar as the process becomes the result, while the sum of transformations counts at least as much as the outcome of the final transformation.[87]

Moreover, for Tschumi, sequences also have their own 'rules' in order to direct this process. He states that, "this sequence can also be based on a precise, rational set of transformational rules and discrete architectural elements."[88] Besides, sequence is also defined as a 'fragmented' mechanism whose parts are also indeterminate for the sake of an 'unstable architecture'. Tschumi mentions the importance of the 'indeterminacy' of 'frames' in a sequence, in the following statement:

> Partial control is exercised through the use of the frame. Each frame, each part of a sequence qualifies, reinforces, or alters the parts that precede and follow it. The associations so formed allow for a plurality of interpretations rather than a singular fact. Each part is both complete and incomplete. And each part is a statement against indeterminacy; indeterminacy is always present in the sequence, irrespective of its methodological, spatial, or narrative nature.[89]

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[86] Ibid., p. 154.
[87] Ibid., p. 154.
[88] Ibid., p. 154.
[89] Ibid., p. 162.

Tschumi relates his discussions on 'frame' with the conception of 'sequences of space'. For him, space can be accepted as a 'fragment' whose own autonomy is reflected by its internal relations governed by the "devices" of 'transformational sequences'. In this sense, spaces of architectural production can also be organised according to a number of organisational rules that are imposed by 'transformational sequences' into the design process. Within this conception, each space designed according to the rules of this 'transformational sequence' is accepted as 'frames' of that sequence. Thus, space formed out of the combinations of these spaces is perceived as a "sequence of space". For Tschumi:

> Sequences of space, configurations-en-suite, enfilades, spaces aligned along a common axis – all are specific architectural organizations, from Egyptian temples through the churches of the quattrocento to the present. All have emphasized a planned path with fixed halting points linked by continuous movement.[90]

Therefore, with the assistance of the statement above, each space in the sequence can be accepted as a "frame" that "qualifies, reinforces, or alters the parts that precede and follow it". Each space is "both complete and incomplete" and also "a statement against indeterminacy". Moreover, for Tschumi, the relationships defined between the spaces causes "plurality of interpretations"[91] along a "path with fixed halting points linked by continuous movement." This creates 'simultaneity' and assures the perception of a number of spaces as one. Tschumi defines the spaces of this kind of a building with the assistance of the conception of 'contracted sequences'. He points out that:

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[90] Ibid., p. 155.
[91] Ibid., p. 162.

> Contracted sequences fragment individual spaces and actions into discrete segments. In this manner, we might see the beginning of a use in space followed immediately by the beginning of another in a further space. Contracted sequences have occasionally reduced architecture's three dimensions into one.[92]

3.2 Programming

In the light of the statement above, it can be claimed that, for Tschumi, each space in the 'contracted sequence' is accepted as a 'fragment' and creates an indeterminacy. Moreover, for him, 'program' is also an indeterminant fragment, like the spaces of 'contracted sequences' and open to any transformation in future. He states that, "the program plays the same role as narrative in other domains: it can and must be interpreted, rewritten, deconstructed by the architect." Within this understanding, program gains an autonomous character such as the 'text' does in literature. Tschumi points out that there are also kinds of 'programming' which define the relationship between different programs as there are 'contracted' and 'expanded' sequences to organise the connections between spaces. Each kind of 'programming' is also fragmented and made up of individual 'programs' which are also open to transformations. Tschumi defines the types of programming as follows:

> Crossprogramming: Using a given spatial configuration for a program not intended for it, that is, using a church building for bowling. Reference: crossdressing.

> Transprogramming: Combining two programs, regardless of their incompatibilities, together with their respective spatial configurations. Reference: planetarium + rollercoaster.

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[92] Ibid., p. 165.

> Disprogramming: Combining two programs, whereby a required spatial configuration of program A contaminates program B and B's possible configuration. The new program B may be extracted from the inherent contradictions contained in program A, and B's required spatial configuration may be applied to A.[93]

From Tschumi's remarks it can be claimed that, each program in any kind of 'programming' acts like a 'frame' in the sequence. In this manner, each program is 'independent' in its internal transformations whereas it "qualifies, reinforces, or alters" the other programs. Thus, as long as the programs are unstable, the final production in architecture can never be a closed and a finished object; instead it defines a stage in a process of overall transformation.

Tschumi assigns the reason of suggesting a number of kinds of transformational series to the 'unstable' condition of contemporary world. For him, a fragmented, autonomous architecture whose rules of transformation are defined by 'sequences' "suggests the possibility of future regroupings" with "new and unexpected relations."[94] So, Tschumi proposes an architecture that is seen as "the object of permutation and the combination of a large set of variables."[95] Anthony Vidler, in his essay titled "Trick/Track", mentions the importance of 'permutations' and 'fragmentation' in the architecture of Bernard Tschumi. For Vidler, "there are no limits to Tschumi's series or to their permutations." Vidler points out that, Tschumi's "pleasure" lies in his passion for "trangression of traditional canons." As Vidler informs us:

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[93] Ibid., p. 205.
[94] Ibid., p. 189.
[95] Ibid., p. 181.

> …and yet Tschumi's pleasure principle is consistent enough. As he describes it, it resides in the calculated transgression of traditional canons, in questioning the idea of order, reexamining the concept of unity, departing from the orthodoxies of formalism and functionalism, that is, in testing the very limits of architecture. Substituting for the traditional terminology of "form and function, space and event, structure and meaning" a vocabulary of transformation and operation, Tschumi allies himself firmly with a present condition characterized by fragmentation and dissociation.[96]

3.3 Text as the Source for an Autonomous Architecture

Moreover, for Vidler, the reason of Tschumi's pleasure in 'fragmentation', 'dissociation' and 'dismantling' can be understood by his interest on the 'text'. Vidler gives reference to Roland Barthes' article titled "Pleasure of Text" and his discussion on the notion of the 'text'. Vidler mentions that, Barthes was "against the traditional idea of a work, defined as a concrete, finite object, closed within its aesthetic limits, single, authored, institutionalized, and ready for explication, interpretation, and consumption." Vidler makes the following statement:

> The text, in Barthes's terms, would not be, like the work, "displayed" and ready for consumption, but would have to be demonstrated. Impossible to subsume within the traditional artistic genres, the text would be potentially unlimited. Open to the play of associations, contiguities, dislocations, overlappings, it would be a plural condition, set in an intertextual matrix that denied any secure individuality. In this sense the text would not be an object to be passively "read" or appreciated but an object of play, to be written.[97]

Besides, Vidler points out that, "Tschumi's lack of pleasure in the 'great works' of architecture might be explained in similar terms." For Vidler, Tschumi is

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[96] Vidler, Anthony. 1994. *The Architectural Uncanny – Essays in the Modern Homely.* Cambridge,

opposed to an architectural production which is "closed" and which "does not enter into play". As Vidler informs us, what Tschumi aims in architecture is to create not only something that "had the status of what Barthes has called a 'text' in literature" but also "equivalent of a philosophical or literary deconstruction."[98]

Thus, in the light of these discussions, it will be useful to relate the theorethical framework discussed above with the project of Parc de La Villette designed by Bernard Tschumi. In general, Parc de La Villette is composed of horizontal and autonomous layers of points, lines and surfaces; superimposed on another. Bernard Tschumi mentions the importance of these 'fragmented layers' in the search of an 'autonomous' architecture in the following statement:

> Each represent a different and autonomous system (a text), whose superimposition on another makes impossible any "composition," maintaining differences and refusing ascendency of any privileged system or organizing element. Although each is determined by the architect as "subject," when one system is superimposed on another, the subject - the architect – is erased.[99]

Superimposition of the layers defined above, in a literal sense, reinforces the indeterminant character of any fragment and gives them a potential to be in accord with the several transformations in future. Tschumi defines the steps of this transformation by the help of a number of variations between 'follies'. In this manner, the process of transformation of 'follies' is also defined by the 'devices' or 'rules' of "transformational sequences" by Tschumi. Kenneth Frampton mentions

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Massachusetts, London: The MIT Press. p.103.
[97] Ibid., pp. 104-105.
[98] Ibid., p. 105.
[99] Tschumi, Bernard. 1987. "Parc de la Villette, Paris." *Cinégramme Folie*. New York, NY: Princeton Architectural Press. p. 6.

the presence of a system ordering the process of this transformation. As Frampton informs us:

> Tschumi differentiates between one folly and the next by ringing the changes on a series of "prisms, cylinders, ramps, stairs and canopies" that reflect to a limited extent basic differences in the structure's content.[100]

Besides, as defined by Vidler above, an organization which is capable of being in accordance with "contradictory expectations" refer to the discussions of Tschumi on the notion of 'programming'. Within this understanding, because of the mis-match between program and form in Parc de La Villette, 'follies' can be seen as autonomous fragments which have diverse programs and whose programmatic and spatial relations are defined in a 'transformational sequence' in time. Thus, this kind of an architecture can be accepted as providing not only a "a built-in flexibility of use"[101] but also a "programmatic instability."[102]

On the other hand, for Vidler, Tschumi is not alone in his passion for producing an autonomous architecture which is based on the idea of the 'text' in literature. It is in this context that Eisenman's discussions can also be related with the idea of 'fragmentation'. For Eisenman, architecture is a fragmented and autonomous text based on the idea of 'generation of form' that is able to be re-written and re-read throughout the process of design. That is to say; 'text' is used

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[100] Frampton, Kenneth. 1980. *Modern Architecture: A Critical History*. London: Thames and Hudson Ltd, p. 313.
[101] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. pp. 97-98.
[102] Tschumi, Bernard. 1987. "Parc de la Villette, Paris." *Cinégramme Folie*. New York, NY: Princeton Architectural Press. p. 6.

for Eisenman in his desire to control and read the transformations in the process of form production. Mario Gandelsonas mentions that:

> For Eisenman, his own general model of the syntactic dimension is enlarged and considered within a dialectic relation between the "writing" of architectural form (as the generation or transformation of form), and the "reading" of architectural form (for relating implicit and explicit relationship) through the design as a device allowing these readings.[103]

Gandelsonas points out that, what lies on the basis of an architecture, which investigates the nature of 'generation of form', is the "re-examination of the functionalist tradition." As he informs us, "there is an emerging tendency that views the system of architecture as a system of cultural meaning; it attempts to explain the nature of form itself, through viewing the generation of form as a specific manipulation of meaning within a culture."[104] He also states that Eisenman can be seen within this kind of an approach. It is also within this kind of an approach that he is opposed to 'dialectics' seen in Modern architecture between arcitectural elements like 'form' and 'function', or 'form' and 'structure'. In this manner, for Gandelsonas, one of the characteristics of Eisenman's architecture is his effort to reduce the "concern for function". Gandelsonas claims that, for Eisenman, the house is "welcomed" because, although its "program is known", in physical terms "there is an infinite set of combinations for its solutions." Therefore, form is

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[103] Gandelsonas, Mario. 1972. "On Reading Architecture." *Progressive Architecture* Volume 3, p. 71.
[104] Ibid., p. 69.

accepted as no more dependent on the function of house on which "there is little polemic or new meaning available in the particular arrangement of its functions."[105]

It is within these discussions that the 'generation of form' can best be understood. Eisenman, by providing the independece of 'form' from other architectural elements like 'function' and 'structure', attains the possibility of reaching to an infinite number of formal solutions in the design. Therefore, each fragment is said to have its own autonomy in the design process whereas they are dependent on each other in an architectural system that gains its autonomous character from the relationships between these 'unstable' fragments. Gandelsonas also mentions the importance of an architectural system which controls not only the transformations of each fragment in particular but also the relationships between them in an overall design. He points out that, "Eisenman's concern is with the building as the manifestation of a system of relationships; that is, with the architectural system as the generator of architectural form as well as its meaning."[106] Moreover, Gandelsonas points out the features of this 'system' as follows:

> The relationship between units are based on complex systems of oppositions which develop from line, plane and volume. These elements, meaningless in themselves, become a system of equally weighted elements (as opposed to the traditional aesthetic distinction between primary, secondary, and tertiary systems), or a system of relations defined by a dialectic between elements. In this system, volume can be seen as an extension of the plane, while line or column can be seen as a residue of the plane. This understanding is possible through

[105] Ibid., p. 80.
[106] Ibid., p. 81.

> recognizing what Eisenman calls transformational rules, which mark and link deep structure with the specific column or wall.[107]

As seen from his remarks, what Eisenman calls as 'elements' in this system defined above refers to Tschumi's 'fragments'. Therefore, the architectural elements like 'plane', 'line', 'column', 'wall' and 'volume' can be accepted as 'fragments'. Moreover, just as Tschumi controls the relationships of fragments according to the rules of 'transformational sequences', Eisenman defines these connections by the help of 'transformational rules'.

3.4 Layering as the Generator of Architectural Form

For Gandelsonas, the system, "defined by a dialectic" between these equally weighted 'elements' or 'fragments', is based on the idea of 'layering'. Gandelsonas points out that:

> All of these elements represent only the combination of simple, explicit elements in Eisenman's work. These elements are further conditioned, however, through systems of implied movement linked to the notion of systematic parallel or diagonal layering, which has a unique role in his architecture.[108]

Gandelsonas mentions the relationship between layering and architectural elements in Eisenman's architecture with the following statement:

> …Layering, in this sense, becomes dominantly notational, as well as generative of the entire system because it establishes the arrangement and relationship of elements…The result is the assembling of complex relations into an ordered series generating from a given plane or point or reference, either actual or conceptual…In this method the notion of layering refers not only to the actual

[107] Ibid., p. 82.
[108] Ibid., p. 82.

> manifestation of explicitly layered elements, but to implicit relationships between relational elements.[109]

It is in this context that Eisenman uses the notion of 'layering' in order to define a number of relations between autonomous fragments that are capable of producing "new and unexpected relations"[110] throughout the changing architectural requirements in future. Moreoever, in Eisenman's understanding, architecture can never represent the final product; on the contrary it is defined as a 'phase' or 'snapshot' in the long 'process' of transformation. In this manner, it can be claimed that his passion for "process" can be explained in terms of his critiques to a number of notions seen in Modern architecture. For Anthony Vidler, Eisenman not only "rejects the inscribed history of the architectural tradition" but also he is opposed to "anthropomorphic analogies, closed formal systems, and functionalist derivations."[111] Moreover, it can be claimed that, for Eisenman, architecture is interpreted as a 'self-referential', 'autonomous' text that is re-written and re-read in the 'ever-lasting process' of transformation. Robert A.M.Stern mentions this 'autonomous' and 'self-referential' character of Eisenman's architecture although he criticizes the "very physicality" of his buildings because of the danger of "becoming merely an object." As he informs us:

> It is in this context that Eisenman's position can best be understood. His proposal to make architecture autonomous is anti-historical and anti-symbolic; his endeavors to produce an architecture that is autonomous and self-referential – that is hermetically sealed from all concerns except the process of its own fabrication and fabulation – make his works virtually impenetrable. Eisenman's houses become

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[109] Gandelsonas, Mario. 1972. "On Reading Architecture," *Progressive Architecture*, vol. 3, p.82.
[110] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. p. 189.

> symbolic of their own process of conception, but that process is so cut off from contemporary culture, history, and pragmatism that in the end, the effectiveness of the symbolic gesture ceases to be symbolic of anything outside itself; the building runs the danger of becoming merely an object which can, at best, make its appeal on a sensuous and hedonistic level. Although it struggles to free itself from all cultural references, by its very physicality it cannot but remind the viewer of some object previously seen or experienced.[112]

3.5 Process

For Anthony Vidler, the idea of 'process' is also stressed in the series regarding the projects House 1 through the Fin d'Ou T Hou S by Eisenman as a critique to Modern architecture. However, Vidler criticizes Eisenman for producing a 'sequence' with a beginning and an end, what makes these series important is the process which defines the transformational relations between Houses whose intention is to "destabilize their apparent object." In this framework, Eisenman re-interprets each 'element' as a 'fragment' freed from 'functional derivations' so he succeeds in destroying the inter-dependence of 'form' and 'content' in the design process. Besides, the final production is said to be not only emptied from all 'analogies', 'significations', 'derivations' and 'relations' that gives a 'house' its definition but also freed from all constraints insisted by the collaboration between 'form' and 'meaning'.

It is in this context that the final house is mentioned as "the house of 'houseness'" by Vidler. As he informs us:

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[111] Vidler, Anthony. 1994. "Shifting Ground." *The Architectural Uncanny,* Volume 3, p. 118.
[112] Stern, Robert A.M. Spring 1980. "The Doubles of Post-Modern," *The Harvard Architectural Review*, vol. 1. p. 75.

> Nevertheless, despite authorial and critical injunctions to the contrary, it is tempting, now the series seems finished, to regard the projects entitled House 1 through the Fin d'Ou T Hou S as an exercise in the rational exploration of certain preestablished formal constructs; a self-conscious, logical sequence with a beginning and an end…What makes this ascription even more complelling, in terms of classical form, is the postulation of a final coda to a series, a kind of resume, or grand finale, in the two postseries projects, House El Even Odd and the Fin d'ou T Hou S, that accompany a shift in the professional life of their architect...Certainly their ostensible and often repeated intention to destabilize their apparent object – the house, nucleus and origin of architecture – by attacking all its elements of structure and signification systematically, from the roof to the basement, leaving no functional or mental assumptions untouched and stripping, finally, the house of "houseness" and nostalgia, would seem to propose an unassailable unity of purpose.[113]

Besides, Vidler draws our attention to the compulsion that the word 'house' causes in the phrase "house of houseness". For Vidler, the word 'house' can be accepted as a 'meaning' attached afterwards. In this manner, 'meaning' is suggested as an independent 'fragment', like 'function', 'space' or 'structure', which provides "instability" to the process of architectural production as long as it is open to new relations in future. As Vidler informs us, "the very act of impressing meaning on meaningless material, the fact that, however embedded in form, this meaning will remain always external to the material, gives a particular instability to the arctistic process. And architecture, as the beginning of all art, partakes in this instability in a direct way."[114]

On the other hand, besides Tschumi and Eisenman, Aldo Rossi was another architect who suggests an architecture whose autonomy is reflected by its'

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[113] Vidler, Anthony. 1994. "Shifting Ground." *The Architectural Uncanny,* Volume 3, pp. 118-119.
[114] Ibid., p. 123.

fragments open to transformations and re-interpretations in future. This tendency is focused on the independence of the fragment 'form' as an architectural element. Therefore, for Rossi, architectural form is defined as independent from other elements like 'function' or 'structure'. Besides, his discussion can be accepted as opposed to all relationships defined by 'functionalism'.

Ignasi de Sola-Morales points out that, "In *L'architettura della citta* of 1966, Aldo Rossi critiqued the functionalist tradition, the dependence of architectonic form on something beyond its own logic and the internal processes of this transformation."[115] Moreover, for Sola-Morales, this kind of approach can be accepted as "the call for an autonomous understanding of architecture based on the body of theory intrinsic to it."[116] Ignasi de Sola-Morales mentions the importance of the "interplay" between types and images within this conception of an autonomous architecture. As they inform us:

> An architecture that neither starts nor finishes with the object, Rossi's production shows itself to be an endless structural interplay between types and images in constant interaction, such that the presentation of the idea, as a play of figures, constitutes the fundamental aim of his work.[117]

Thus, in the conceptualization of an architecture that "neither starts nor finishes", Rossi gives attention to "process" as an important notion in the understanding of an 'autonomous architecture'. This is why, for Ignasi the Sola-

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[115] Ignasi de Sola-Morales. 1997. *Differences. Topographies of Contemporary Architecture.* Ed., by Sarah Whiting. Trans., by Graham Thompson. Massachusetts Institute of Technology. p. 76.
[116] Ibid., p. 76.
[117] Ibid., pp. 76-77.

Morales, the "construction of the building" is seen as an "episode" in the transformation process. Sola-Morales point out that:

> The sense of disillusion experienced by many upon seeing a Rossi building constructed on an actual site and from concrete materials derives from the fact that the building thus asks to be considered objectively or functionally, while its author tries to call attention instead to the process revealed in his drawings, so that the construction of the building is an episode in an architectonic discourse understood as autonomous and thus indifferent to construction or use.[118]

Thus, architectural form is understood as an autonomous element whose presence is no more dependent on 'use' or 'function' but on its internal relationships defined in the process of transformation.

One of the reasons of this kind of an anti-functionalist attitude can be accepted as the environment dominated by 'Rationalism' with the beginnings of 1970s. For Klotz, "Rationalism - the contemporary architectural trend initiated by Aldo Rossi and Oswald Mathias Ungers - has proved to be the most successful response to functionalism in Europe."[119] In fact, Klotz points out that Rossi was not against the idea of a 'function' in architecture. For Klotz, "as a Rationalist he demands that the one-sidedeness of functionalism be transcended." Rossi opposes the idea of a 'function' that determines the 'form' of a building. For Rossi the "original intentions of classical modernism" as well as the 'relationships between form and function' has to be discussed and re-examined. As Klotz informs us:

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[118] Ibid., p. 77.
[119] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 210.

> Rossi did not wish to renounce the classical modernism of the 1920s or to imply that the revival of historical forms would create a theatrical realm for human activity; rather, he wanted to bring about a loosening of the strictures imposed by functionalism by encouraging a reexamination of the original intentions of classical modernism.[120]

Moreover, Rossi was searching for a number of new formal relationships that will provide expression to architectural form. He was questioning the modern idea that a building is thought to be attractive only when architectural form reflects and follows the functions it fulfills. Rossi suggested an architecture that gains its' expression from the autonomy of its' forms that define the internal relationships throughout the everlasting process of architectural production. Klotz makes the following statement:

> To derive something worthwhile and impressive from the banalities of boxes – this was what Rossi was searching for. As he saw it, the correction of modernism was anchored in the admission that functionalism was not the last word but that from it a metaphysical drama could be made to spring. Simplicity was not devoid of expression![121]

As it can be understood from his remarks, architectural form is defined as an element whose autonomy is not dependent on 'function' but on its own language that defines the relationships between 'objects' within the process of producing architecture. Klotz points out that, "In a counterattack on means-ends rationalism, Ungers insisted on "the right of architecture to an autonomous language of its

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[120] Ibid., p. 212.
[121] Ibid., p. 212.

own"[122] - an insistence that also served to stress that architecture's aesthetic autonomy had to be brought to bear again on the outcome of design, and consciously."[123] Besides, Klotz mentions the importance of the definition of a new typology by Rossi within this kind of an approach and points out that:

> Rossi sought the fictional contents of architecture in the recovery of the archetypal in building forms. He defined the forms of his buildings by turning back to the primordial ideas of what a house can be.[124]

In fact, the reason of "turning back to primordial ideas" was because of Rossi's passion to get away from all 'conciliations' and 'relationships' defined in Modern architecture. Besides he wanted to re-interpret the typology of forms in history independent from the insistences of 'function' or other elements, within an understanding of autonomous architecture. For Rossi, Modern architecture was devoid of the autonomous character of architecture because of the functionalist interpretation of form obeying the rules of function. So, any effort to destroy the bonds between form and function resulted in "free geometry" with the absence of an 'autonomous form'[125]. Klotz informs us:

> Rossi's answer to functionalism consisted in restoring what the exclusive concentration on utility had taken away: the possibility of viewing a building as a form obeying its own autonomous architectonic laws. Attempts to free architecture

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[122] Ungers, Oswald Mathias. 1988. "Das Recht der Architektur auf eine autonome Sprache," *Kunst und Gesellscahft* – Grenzen der Kuntst, ed. H. Klotz . Frankfurt, pp. 69-93
[123] Klotz, Heinrich. 1988. *The History of Postmodern Architecture*. Trans. Radka Donnell. London, Cambridge, Massachusetts: The MIT Press. p. 211.
[124] Ibid., p. 211.
[125] Ibid., pp. 211-213.

> from the bonds of utility often end in whimsicality, in subjective expressionism, in toying with "free geometry."[126]

Moreover, Rossi not only believed in the importance of an autonomous form in the process of architectural production but also the 'weakness' of 'function' in determining the form as well. For Rossi, 'function' was seen as an architectural 'element' or a 'fragment' important as any other fragment but not more. Klotz mentions that, "Rossi was set against the belief that one can produce important architecture on the basis of the mere definiton of function."[127] In this sense, for Klotz, Rossi was against to 'functionalism'. Klotz points out that, "Rossi imposed new constraints, under which architecture is possible only when it can relate to historically given elements or to a typology"[128] in order to "combat functionalism."[129] Within this conception, 'typology' becomes an important concern for Rossi. Klotz gives reference to one of Rossi's explanations about what he meant by typology: "Not Durand and his collection of building types. I mean life. Typology is life." Rossi believed that architectural forms attain their autonomies from life and its' conditions, given elements or typology. So his discussions on architectural form focuses on typology and "typologically fixed forms of architecture" which can be accepted as a principal 'critique' on Modern architecture. Because, instead of "reducing forms to pirimary figures" marked by certain functions, for Klotz, Rossi suggested the reduction of forms to "a few forms

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[126] Ibid., p. 247.
[127] Ibid., p. 250.
[128] Ibid., p. 247.
[129] Ibid., p. 250.

marked by typical chacteristics."[130] What Rossi aimed was to break the bonds that fix the 'form' to other architectural elements like 'space', 'structure' or 'function'. It is within this approach that he uses the word "characteristics" to define the relationship between architectural form and life. By this definition, form, suggested as an object which gains its' autonomy from life and its' sanctions, stops to be somewhat which is dependent on function. On the contrary, for Rossi, as stated by Klotz, "history has proved that function has to adjust itself to form in the course of time."[131] Moreover, for Rossi, 'function' was seen as an architectural 'element' or a 'fragment' which has the tendency to adapt itself to 'form'. It is in this context that the Modern architecture is seen as a play of free geometry in which certain functions are inserted. Besides, this is why Rossi gives examples of buildings from history in which function adjusts itself to form. Klots makes the following statement:

> As examples Rossi mentions the amphitheater of Arles, which was turned into residential complex, and the Roman Coliseum, which by order of Sixtus was supposed to house the workshops of shoemakers. In his "Comment on the German Edition" Rossi writes: "The city of Split [Yugoslavia], which grew up within the walls of Diocletian's Palace and gave new uses and new meaning to unchangeable forms, is emblematic of the meaning of architecture and of the relationship between architecture and the city, where the broadest adaptability to a multiplicity of functions corresponds to an extreme precision of form."[132]

Moreover, for Klotz, Rossi's statement is "the opposite of the functionalist credo." Klots mentions that, for Rossi, "the definition of function is actually of

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[130] Ibid., p. 250.
[131] Ibid., p. 253.
[132] Ibid., p. 253.

secondary importance, for function adapts to the given form if the form is significant enough."[133] Klotz gives reference to Rossi's "Architettura Razionale" presented in The Fifteenth Triennale in 1973. For Klotz, the incunabulum is important for explaining the "contemporary controversy between functionalism and Rationalism."[134] At the beginning of the catalog, a particular passage from Adolf Behne's book titled *Der Moderne Zweckbau* is accorded by Rossi:

> The rationalist is not mere indifferent toward the purpose of a building than is the functionalist; he does not take the side of the braque genius contemptuously disregarding that purpose, but seeks to escape the tyranny of a purpose that has become preponderant. While the functionalist attempts the greatest possible adaptation to a highly specific purpose, the rationalist produces the best possible solution applicable to a great number of cases. Whereas the first seeks the solution best fitted to a particular case – something unique – the latter seeks the solution most appropriate for general use – a norm. The former is selflessly concerned with adaptation, relation, a minimum of form, and an approximation, while the latter heeds also the promptings of self-will, self-awareness, play, form.[135]

[133] Ibid., p. 253.
[134] Ibid., p. 211
[135] Behne, Adolf. 1923. *Der Moderne Zweckbau*. Repr; Berlin, 1964. p. 59.

CHAPTER 4

TRANSPARENCY

With the beginnings of the 20th century, the concept of 'transparency' became one of the most important dynamics of modern era. As Anthony Vidler informs us, "Modernity has been haunted by a myth of transparency; transparency of the self to nature, of the self to the other, and of all selves to society. All this was represented, if not constructed, from Jeremy Bentham to Le Corbusier, by a universal transparency of building materials, spatial penetration, and the ubiquitous flow of air, light, and physical movement."[136] Moreover he states that transparency was the epitome of social morality through which no secret can exist.

The developments and social changes in the theoretical field also enabled the development of architectural idea and practice. 'Glass' as a material praised for its neutral character of transparency had became the most important material of 'new architecture'.

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[136] Vidler, Anthony. 1991. "Transparency." In Cynthia C. Davidson. *Anyone*. Anyone Corporation, p. 232.

Glass, according to Walter Benjamin, as providing transparency, is the enemy of all secrets, and possessions.[137]

The relation between glass and architecture did not start in the 20th century. For two thousand years it was being used as a material for windows. The first break with convention was the Gothic exoskeleton of medieval cathedrals. Baroque was another break point by which great glass surfaces could be made unlike the fragmented glass surfaces of earlier times. The next leap occurred in the 19th century, with the introduction of the skeletal structural frame after industrial revolution and some technological developments in world.

The last point for the marriage of glass and architecture was at the beginning of the twentieth century. From that time on glass is seen as the reflection of a new consciousness of social morality. According to Newt Gingrich:

> …the technology of glass guaranteed a world without boundaries in which information would be available to everyone, unimpeded by conventional spatial limitations. The democratization of information was an important theme in the ideology of the modern movement, and glass was considered a material of truth, an instrument of disclosure. The dematerialization of the wall would lead to a more open and healthy society: a transparent architecture for a society with nothing to hide.[138]

Moreover, in 1914, *Glasarchitektu*r was published by Paul Scheerbart:

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[137] Benjamin, Walter. "Erfahrung und Armut" ["Experience and Poverty"] *Gesammelte Schriffen*, vol.2 part 1, pp. 217-218, cited by Christopher Reed in "Introduction," *Not at Home*; The Suppression of
Domesticity in Modern Art and Architecture, ed. By Christopher Reed, (London: Thames and Hudson Ltd, 1996) p. 10.

[138] Gingrich, Newt as paraphrased by Liz Diller, 1997, "In Plain View", *ANY Magazine* No.18, p. 31.

> In order to raise our culture to a higher level, we are forced, whether we like it or not, to change our architecture. And this will be possible only if we are free the rooms in which we live of their enclosed character. This, however, we can only do by introducing a glass architecture…[139]

According to Walter Benjamin, for the first time in history social conditions for glass's increased utilization as a building material only came into being with *Glasarchitektur*. Furthermore, he makes the following statement:

> To live in a glass house is a revolutionary virtue per excellence. It is also an intoxication, a moral exhibitionism, that we badly need.[140]

Furthermore, Le Corbusier, to mention the importance of this new glass architecture, appoints that:

> The curtain has fallen, a new dimension has opened up before us and the whole world has plunged into its space.[141]

However, glass architecture was a period of transition which searched for only the material advantages of glass. In fact, they had not yet explored completely the potentials of a 'transparent' architecture. Furthermore they could not succeded in producing a new vocabulary for that original architecture.

Later, throughout the process of searching the limits of this new architecture, the period witnessed the development of the concept of 'transparency' both in theory and practice. Transparency had become an important 'tool' for

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[139] Scheerbart, Paul, *Glassarchitektur*, 1914 cited by Kenneth Frampton, *Modern Architecture: a Critical History*, (London: Thames and Hudson, 1980) p.116.
[140] Benjamin, Walter, "Surrealism," in *Reflections: Essays, Aphorisms, Autobiographical Writings*, ed. By Peter Demetz, trans. By Edmund Jephcott (New York: Schocken Books, 1986) first published in 1978, p. 180.

producing forms and developed its' own definitions and compositions in modern architecture. Thus; in this framework, I will try to search for the relationship of 'transparency' – as organizator of form – with the notions like 'simultaneity', 'expansion', 'anti-space', 'flexibility', 'peripheric composition' and 'Cubism'.

From the beginning of the first half of this century, the concept of transparency had become a very popular issue in architecture. When Sigfried Giedion(1888-1968), in his book *Bauen in Frankreich* says, "The houses of Le Corbusier define themselves neither by space nor by forms: the air passes right through them! The air becomes a constitutive factor! For this, one should count neither on space nor forms but uniquely on relation and on compenetration! There is only a single, indivisible space. The separations between interior and exterior fall."[142] Moreover in his book *Space, Time and Architecture*, Giedion says:

> Two major endeavors of Modern architecture are fulfilled here, not as unconcious realization of an artist's intent; there is the hovering, vertical grouping of planes which satisfies our feeling for a relational space, and there is the extensive transparency that permits interior and exterior to be seen simultaneously, *en face* and *en profile*,…[143]

In order to understand the exact use of the concept of 'transparency' in modern architecture and to distinguish between what they call 'literal' and

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[141] Kohlmaier, Georg and Sartory, Barna von, *Houses of Glass, A Nineteenth-Century Building Type*, p. 21.
[142] Giedion, Sigfried. 1991. *Bauen in Frankreich*. Berlin, 1928, p.85. Cited in Vidler,Anthony. "Transparency," Anyone. New York, p.232.
[143] Giedion, Sigfried. 1954. *Space,Time and Architecture*. Cambridge, Mass, p.493.

'phenomenal' transparency, it is necessary to dwell upon the article "Transparency: Literal and Phenomenal"[144] written by Colin Rowe and Robert Slutzky .

4.1 Transparency: Literal and Phenomenal

The article "Transparency" was written by Colin Rowe, architectural historian and critic, and Robert Slutzky, painter and scholar, between the years 1955 and 1956. But the essay was published seven years later, in 1963 in "Perspecta 8", The Yale Architectural Journal under the title *Transparency: Literal and Phenomenal.*

The essay was introduced in the Journal as "an example of a methodology for modern architectural criticism that the authors feel will help to place this notoriously imprecise subject on a more rigorous basis." [145] Also Bernhard Hoesli says, "here lies the fundamental value of the work of Rowe and Slutzky, it demonstrates by way of example that theoretical bases can be obtained from what has been developed empirically."[146] Also Ayşen Savaş mentions the importance of the essay by pointing out that "It is through a discussion of Cubist and post-Cubist painting that Rowe revealed certain levels of meanings with which the term "transparency" has become endowed."[147]

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[144] This essay was first published in the *Yale Architectural Journal Perspecta 8*,1963
[145] The article " Transparency: Literal and Phenomenal" was introduced in *Perspecta 8, The Yale Architectural Journal*, New Heaven, 1963.
[146] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p.8.
[147] Savaş, Ayşen. "Shallow Spaces," *Archiscope*. 1998, vol.1, no.1, p.84.

The article reads the works of art and architecture by constructing a new means of the issue "transparency" in which Robert Slutzky and Colin Rowe try to differentiate between 'literal' and 'phenomenal' transparency.

Literal transparency has a dictionary definition of "the quality or state of being transparent" where transparent refers to having the property of transmitting rays of light, so that bodies can be seen through; pervious to light.[148]

The term transparency becomes related with the works of art, being distinct from any physical quality, by the definition of Gyorgy Kepes in *Language of Vision*: "If one sees two or more figures overlapping one another, and each of them claims for itself the common overlapped part, then one is confronted with a contradiction of spatial dimensions. To resolve this contradiction one must assume the presence of a new optical quality. The figures are endowed with transparency; that is they are able to interpenetrate without an optical destruction of each other. Transparency however implies more than an optical characteristic, it implies a broader spatial order. Transparency means a simultaneous perception of different spatial locations. Space not only recedes but fluctuates in a continuous activity. The position of the transparent figures has equivocal meaning as one sees each figure now as the further one."[149]

Kepes' description of "simultaneous perception of different spatial locations" refers to phenomenal transparency. So, therefore; whereas literal

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[148] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. pp. 21-22.
[149] Kepes, Gyorgy. 1994. *The Language of Vision*. Paul Theobald, Chicago, p.77.

transparency is the property of material, phenomenal transparency is the inherent quality of organisation.

In the first part of their article, Rowe and Slutzky make a distinction between literal and phenomenal transparency through different examples of cubist painting.

As an example of literal transparency Moholy-Nagy's "The New Vision and Abstract of an Artist" is examined and they claim that "the picture destroys the logic of deep space with the translucent elements introduced, and it can be submitted to only one reading in which materials and lights are the main concerns. However in "Three Faces" by Fernand Leger, the objects introduced are opaque colored and the picture becomes charged with an equivocal depth reading of figure-ground relationships in which the structure of forms is the main concern."[150] Moreover they also claim that "literal transparency is associated with translucent objects in a deep, naturalistic space; while phenomenal transparency becomes related with the presentation of frontally displayed objects in a shallow, abstracted space."[151]

In the second part of their article, they talk about architectural transparencies.

Sigfried Giedion, in his book titled *Space, Time and Architecture* mentions that, "Bauhaus, with its extensive transparent areas shows the hovering relations of

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[150] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. pp. 30-32.
[151] Ibid., p.32 .

planes and the kind of overlapping"; and he gives reference to Alfred Barr's "transparency of overlapping planes" in analytical cubism.[152]

As Rowe informs us, in Picasso's "L'Arlesienne", "through the compilation of larger and smaller forms all of which having a kind of transparency, the picture offers is the limitless possibilities of alternative readings while only one kind of reading possible at Bauhaus. Bauhaus is free of this quality."[153] Furthermore, Giedion points out that "glass walls flow into each other , wrap around the building and contribute to that process of loosening up a building which now dominates the architectural scene."[154] Moreover, according to Rowe and Slutzky, "one may enjoy the sensation of looking through a glass wall and thus perhaps be able to see the exterior and the interior of the building simultaneously; but in doing so he will be conscious of few of those equivocal sensations which derive from phenomenal transparency."[155]

In this sense it can be affirmed that Bauhaus is an example of 'literal transparency', whereas Le Corbusier's Villa at Garches is an example of 'phenomenal transparency'. In order to understand the concept of 'phenomenal transparency' clearly and explore its perceptual paradigm as well as physical properties, we should examine in detail the Villa at Garches.

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[152] Giedion, Sigfried. 1954. *Space,Time and Architecture*. Cambridge, Mass, pp. 490-491.
[153] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. pp. 34-35.
[154] Giedion, Sigfried. *Walter Benjamin*. New York, 1954, pp. 54-55.
[155] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p.43.

In Le Corbusier's Villa at Garches there are vertical and horizontal layers by the help of which Rowe and Slutzky read the plan and facade organisation. As they inform us, the five vertical layers are as follows:

- the physical plane of glass and concrete,
- imaginary (though scarcely less real) plane of which the ground floor, the freestanding walls, and the inner reveals of the doors all form a part,
- plane defining the rear wall of the terrace and the penthouse,
- plane defining the garden stairs and the terrace,
- plane defining the second-floor balcony.

All of these layers are 'fragmented' and 'incomplete' in themselves; and they "interpenetrate without optical destruction of each other." This integration in the interior of building as "layerlike stratification" provide "spaces travelling one behind the other" as Rowe defines.[156]

According to Rowe and Slutzky, "in Leger's Three Faces, two of his panels have almost equivalent depth relationship, and working as a picture plane, whereas the third constitutes a 'coulisse' effect. Similarly, in Villa at Garches Leger's picture plane finds its place in Le Corbusier's second plane; other planes are either imposed upon, or subtracted from. Deep space is contreived in similar coulisse fashion with the facade cut open and depth inserted in the ensuing slot."[157] From their remarks, it can be claimed that the same coulisse effect can also be obtained

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[156] Ibid., p.38.

within the horizontal layering of any building. We can rotate our picture plane, by making it parallel to any layering system to read the relationships between layers and spaces.

> A complement of Leger's picture plane is now offered by the roofs of the penthouse and elliptical pavilion, by the summits of the free-standing walls, and by the top of the rather curious gazebo-all of which lie on the same surface. The second plane now becomes the major roof terrace and the coulisse space becomes the cut in this slab which leads the eye down to the terrace below.[158]

With the assistance of the cited paragraph, similar readings can be done in Villa at Garches to read the space by layers: "…deep space is introduced by the double height of the outer terrace and by the void connecting living room with entrance hall; and here, just as Leger enlarges spatial dimensions through the displacement of the inner edges of his outer panels, so Le Corbusier encroaches upon the space of his central area."[159]

Colin Rowe and Robert Slutzky point out that the discovery of 'shallow space' was in Paris, which also housed the idea of picture plane as a uniformly activated plane instead of a passive one under the subject of 'cubist painting'. To them, picture plane is both a negative and also a positive space.[160] Bernard Hoesli mentions that Le Corbusier attempts to break up the formal organisation clearly and unambiguously into actual planes, using the 'picture plane' concept.[161] Also as he informs us, "Le Corbusier's purist image is correspondingly built up in layers in the

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[157] Ibid., p.38.
[158] Ibid., p.40.
[159] Ibid., p.40.
[160] Ibid., p.41.
[161] Ibid., p.60.

Cubist tradition." Moreover, Peter Collins points out that the source of the architecture of Le Corbusier was Purism that can be accepted as the developed form of Cubism in architecture. He informs us:

> Cubism, in fact, was only of direct importance to architecture because it was developed by Le Corbusier into 'Purism' : a type of painting which, by its interpenetration of contours, suggested what Giedion has called 'the interpenetrations of inner and outer space', and which, by its use of traditional standardized objects, such as bottles, glasses and guitars, suggested the aesthetic possibilities of manipulating simple standardized geometric forms.[162]

In fact, modern architecture was strongly affected by Cubism; not only its concepts but also its formal compositions defined the limits of the International Style. For Kenneth Frampton, "in many respects, the International Style was little more than a convenient phrase denoting a cubistic mode of architecture which had spread throughout the developed world by the time of the Second World War."[163] Moreover Rowe points out that, "the Cubist experiment – which could be seen not as an arbitrary break with tradition, but as necessary development of an existing situation - was the single most striking artistic event of the early twentieth century." He also mentions that:

> Its influence and that of abstract painting in general upon the modern movement in architecture have been consistently emphasized, and their effects are obvious: simplification and intersection, plane as opposed to mass, the realization of

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[162] Collins, Peter. 1965. *Changing Ideals In Modern Architecture 1750-1950*. London, Faber and Faber. p. 279.
[163] Frampton, Kenneth. 1980. *Modern Architecture: A Critical History*. London: Thames and Hudson Ltd. p. 248.

> prismlike geometrical forms; in fact the developed manner of the modern movement in the twenties.[164]

Furthermore, specifically cubism can be accepted as the main stream of modern architecture. Werner Oechslin, in the introduction of the book *Transparency*, draws our attention to this point and mentions that "the Museum of Modern Art in New York had provided a genealogy for the origins of modern form in 1936 in their exhibition called Cubism and Abstract Art, and had thereby suggested that modern architecture was the synthesis of Purism, De Stijl and the Bauhaus."[165]

4.2 Plane

De Stijl was seen as one of the constituent styles of Cubism, at the same time, for Collins, "the architectural importance of Cubism lies mainly in the fact that it was the source of the *de Stijl* (or Neo-plastic) and Constructivist movements, since it was the first attempt in painting to imply the existence in nature of angular space-defining planes."[166] Thus, plane - as a space defining element and a source for the new interpretations to the relationship between architucture and time – can be seen as the common space characteristic of both Cubism and De Stijl.

To understand better the importance of 'plane' in the process of defining and generating spaces, it is necessary to examine a number of related interpretations

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[164] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. p. 40.
[165] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p.13.

within the De Stijl idea. For Yve Alain Bois, in De Stijl understanding, plane is an important element that defines the relationships between spaces. Bois suggests a relationship between plane and De Stijl's two main operations: 'elementarization' and 'integration'. For Bois, plane is both 'elementarized' and 'integrated'. Bois explains 'elementarization' and 'integration' and the relationship between each other with the following statement:

> Although this principle was never explicitly formulated as such by any of the movement's members, I would say that it involves two operations that I would like to call "elementarization" and "integration". Elementarization, that is, the analysis of each practice into discrete components and the reduction of these components to a few irreducible elements. Integration, that is, the exhaustive articulation of these elements into a syntactically indivisible, nonhierarchical whole. The second operation rests upon a structural principle (like the phonemes of verbal language, the visual elements in question are meaningful only through their differences). This principle is a totalizing one: no element is more important than any other, and none must escape integration. The mode of articulation stemming from this principle is not additive (as in minimalism, for example) but exponential (hence De Stijl's blanket rejection of repetition).[167]

As he informs us, 'elementarization' and 'integration' are two notions that cannot be seperated from each other in the De Stijl idea. For him, the presence of any of these 'components' in a system by themselves, without forming a unity, would mean nothing as well as a totality that cannot unite all of its' components, would not be accepted as a totality. It is in this context that, for Bois, plane is accepted as a 'component' both 'elementarized' and 'integrated'. It is defined as a part in a whole. On the other hand, in order to increase the formal variations and

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[166] Collins, Peter. 1965. *Changing Ideals In Modern Architecture 1750-1950.* London, Faber and Faber. p. 279.

provide an infinite number of possibilities between parts of a whole, De Stijl also interpreted the concept of 'limit' as a 'component' both elementarized and integrated. Bois makes the following statement:

> The logic of this shift goes something like this: as a constitutive element of every form of artistic practice, the limit (frame, boundary, edge, base) must itself be both elementarized and integrated; but its integration will remain incomplete as long as the inside and the outside (which the limit articulates) lack a common denominator, that is, as long as the outside itself has not also been subject to the same treatment.[168]

Thus, the situation of an individual part in the design which is restricted in a totality as well as given the choice of expanding its' limits creates a tension. In a position like this an individual, like plane, is 'integrated' but 'incomplete' and this provides the possibility of infinite variations in a formal composition.

New conception of 'plane' as a tool that is 'elementarized' and 'integrated' just as any other tool in the composition assured the development of a new kind of space. Space was composed of planes sliding into each another, thus the volumes of the space and their articulation was also very fluid. They had used all the potentials of the 'plane' to create new spaces:

> The entire architecture of the last two Rosenberg projects, as the groundbreaking axonometric drawings van Doesburg executed for the show demonstrate, stem from the limitation of the constructive vocabulary to this new element, the screen. For the screen combines two contradictory visual functions (in profile it appears like a vanishing line, frontally it is a plane that blocks spatial recession), and this contradiction promotes the visual interpenetration of volumes and the fluidity of their articulation. Thus, the desire to integrate painting and

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[167] Bois, Yve-Alain. 1990. *Painting as Model*. Cambridge, Mass. p. 103.
[168] Ibid., p.103.

> architecture, to establish a perfect coincidence between the basic elements of painting (the color planes) and architecture (the wall), led to a major architectural discovery-walls, floor, ceiling as surfaces without thickness that can be duplicated, or unfolded like screens and made to slide past one another in space.[169]

Indeed, the plane had become an important tool for architecture. With the evolution of the 'plane', some other conventional elements of design like 'walls', 'floors' and 'ceilings' were transformed into planes to form a flow of space sliding into each other. This created a spatial continuity and limits of the spaces, both interior and exterior, were blurred and even ceased to be percieved. Because of all these developments, the known rules of perspective became invalid. It was impossible to stand at a selected single view point and percieve the whole composition. Kenneth Frapton gives the example of Schröder House to define this new type of architecture:

> The new architecture is anti-cubic, that is to say, it does not try to freeze the different functional space cells in one closed cube. Rather, it throws the functional space cells (as well as the overhanging planes, balcony volumes, etc.) centrifugally from the core of the cube. And through this means, height, width, depth, and time (i.e. an imaginary four-dimensional entity) approaches a totally new plastic expression in open spaces.[170]

4.3 Expansion

In fact the attitude of planery flow to exterior was related with the idea of spatial continuity. The space forces the limits in order to provide the sense of continuity. It should be interpreted as the tendency to emphasise a peripheric rather

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[169] Ibid., p. 116.

than a central expression of the building that would lead to an asymmetrical organisation of plan. Another peculiarity of this kind of space, in the De Stijl idea, is to give the impression of 'expansion'. The vertical and horizontal planes flow into each other and through outside of the building creating an effect of expansion. As the limits cannot be perceived clearly because of the spatial continuity, the sense of expansion increases.

The concept of 'expansion' gains more significance with the introduction of the discussions on 'simultaneity' by Cubism. In fact, Cubism was using hovering planes, penetrating into each other, to create not only a feeling of expansion but also 'simultaneity' between planes. At the basis of this kind of a space understanding was to 'disrupt the unification of vision that De Stijl insisted' and to 'reach phenomenal transparency'. Begüm Terim points out that, "Rowe and Slutzky criticise the De Stijl idea for its opposition to figural dominancy in pictorial and architectural representation, thus their bringing forward unification of vision in favour of what they call literal transparency."[171] The process of reaching to 'phenomenal transparency' was not only a matter of searching for different combinations of sliding planes and physical arrangements but also a matter of 'perception'.

Begüm Terim states that, Colin Rowe and Robert Slutzky 'detach transparency from its physical attribute' and 'transform into an immaterial paradigm

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[170] Frampton, Kenneth. 1980. *Modern Architecture: A Critical History*. London: Thames and Hudson Ltd. p. 145.

manipulated in favour of Post-Modern formal discourse. She also indicates that 'the article appears to be about the revelation of transparency's significance in terms of visual experience.'[172] Just to understand the relationship between transparency and perception, it is necessary to mention the following statement of Bernard Hoesli:

> In general: Transparency arises wherever there are locations in space which can be assigned to two or more systems of reference- where the classification is undefined and the choice between one classification possibility or another remains open.[173]

In this sense, it can be affirmed that the horizontal and vertical layering systems in Villa at Garches can be accepted as 'systems of references.' Therefore when the observer experiencing these layers in the horizontal or vertical system, he or she would perceive the space by concentrating on one layer and would try to establish relationships between the other layers. Bernhard Hoesli, by refering to Rowe's and Slutzky's definitons, points out that, "…the observer can see himself in relation to one or the other, 'and by means of the resultant tension, reading after reading is enforced"[174]; so multiple readings of spaces becomes possible. Sigfried Giedion thinks of 'the plane' as one of the constituent facts of space-time representation.[175] Thus, it can be claimed that the perceptance of that space can be changed from time to time as you travel around in and out of that space. I think

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[171] Terim, Begüm. "Architecture,vision and visuality: a study on the impact of technological developments on the perception of architectural space." M. Arch Thesis (unpublished). Middle East Technical University. Ankara, 1998, p.31.
[172] Ibid. p. 31.
[173] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p. 61.
[174] Ibid., p.61.
[175] Giedion, Sigfried. *Space,Time and Architecture*. Cambridge, Mass. 1954, p.437.

Moholy-Nagy's statement best describes the situation; "some superimpositions of form overcome space and time fixations."[176]

4.4 Anti-Space

The perception of space through movement and time was one of the main issues in Cubism. Peterson also makes contact with this important property of modern architecture:

> It has been the primary formal concern of Modern art and architecture to analyze this mode of perception and explore the appearance of form through movement and time. This analysis is exemplified by cubism, where the transformations of shape and space derive from the movement of the viewer in the fluid, non-sequential medium of anti-space.[177]

For Peterson, the three characteristics of 'anti-space' help us to understand that, "form can be perceived relative to its appearance through motion and time." He defined these three characteristics as follows:

- the interpretation of form as a relative state; its basic characteristics and appearances can be transformed by the events of moving and observing over time.

- the interpretation of solid mass as if it were both present and conceptually dematerialized by the permeation of space, or is a sense transparent.

- the acceptance of the incompleteness of collage, the juxtaposition of fragmented figures as satisfactory method of finished composition.[178]

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[176] Moholy-Nagy. 1947. *Vision in Motion*. Paul Theobald, Chicago, p.157.
[177] Peterson, Steven Kent. 1980. "Space and Anti-Space," *Beyond the Modern Movement.* Cambridge, Mass.: M.I.T. Press, c1980. p. 100.
[178] Ibid. p. 100.

In general, the notion of *anti-space* is first defined in cubist painting. Peterson also gives the main properties of 'anti-space' in cubist painting in his essay. If these characteristics are to be examined, then it can be claimed that all of the properties of 'anti-space' in cubist painting gives reference to 'phenomenal transparency'. That is to say; we can interpret the properties of 'anti-space' as the main characteristics of 'phenomenal transparency' in modern architecture as defined by Colin Rowe and Robert Slutzky. At this point, it is necessary to list some of these properties in order to establish relationships between two concepts:

- *Anti-space* moves. The transformation of the objects illustrated is a result of a moving observer in a dynamic space.

- *Anti-space* is indepenedent of geometry, and geometry is itself an independent structure, a grid appearing in both solids and voids.

- *Anti-space* exists within physical mass. Everything has an aspect of transparency. Nothing is totally solid. All objects have the potential of perceptual penetration.

- *Anti-space* is uniform and infinite. It obliterates distinctions between figure and ground; there is neither a background nor a limit to the space.

- *Anti-space* promotes collage. Composition is achieved through the juxtaposition of fragments and the acceptance of incompleteness.[179]

In this framework, one is free to relate each of these properties as in phenomenal transparency. The first one is strongly related with the idea of 'movement and time' in order to percieve the space of phenomenal transparency

[179] Ibid. p. 101.

whereas the second one is related with the ‘gridding of space’ through layers. The third one draws our attention the importance of ‘perception’ in phenomenal transparency as an immaterial paradigm. On the other hand, the fourth one of the properties of ‘anti-space’ can be made related with the idea of a limitless space that is on the verge of expanding its’ limits both horizontally and vertically. The last one establishes a connection with the concept of ‘layering’ in phenomenal transparency with the interlocking planes in its space understanding. However, in general, these characteristics institute a unity in themselves and each one can be seen as the match of any other notion of phenomenal transparency. Thus, throughout these connections between ‘anti-space’ and ‘phenomenal transparency’, can we accept the space of Villa at Garches as ‘anti-space’ or a Cubist space?

4.5 Simultaneity

If we are to define the space of cubism as ‘anti-space’, and relate this kind of space with the space of Villa at Garches, then we can claim that the concept of ‘simultaneity’ is one of the main concerns for ‘phenomenal transparency’. Because the notion of ‘simultaneity’ is made related with modern architecture with the new interpretations made by Cubists on the subject of movement and time. Giedion points out that, “the cubists did not seek to reproduce the appearance of objects from one vantage point; they went round them, tried to lay hold of their internal constitution. They sought to extend the scale of feeling, just as contemporary science extends its descriptions to cover new levels of material phenomena.” He also makes the following statement:

> The presentation of objects from several points of view introduces a principle which is intimately bound up with modern life – simultaneity. It is a temporal coincidence that Einstein should have begun his famous work, *Elektrodynamik bewegter Körper*, in 1905 with a careful definition of simultaneity.[180]

Moreover, by the help of the concept of 'simultaneity' and the interpenetrating planes, the logic of perspective converging to single focal point had now became history. Giedion mentions that:

> Cubism breaks with Renaissance perspective. It views objects relatively: that is, from several points of view, no one of which has exclusive authority. And in so dissecting objects it sees them simultaneously from all sides –from above and below, from inside and outside. It goes around and into its objects. Thus, to the dimension of the Renaissance which have held good as constituent facts throughout so many centuries, there is added a fourth one-time.[181]

Throughout this new understanding of perspective and the perception of space through movement and time, the classic relationship between spaces and the borders defining the limits of these spaces has altered. The limits between spaces were interpenetrating into each other, creating an effect of 'expansion' which would break up the central focus and push the borders through the extremities and outside of the building. So it becomes even impossible to perceive the whole impression of the building unless you go around it. Rowe points out that:

> …at Garches, it is never possible to stand at any point and receive a total impression. For at Garches the necessary equidistance between floor and ceiling conveys an equal importance to all parts of the volume in between, and thus the development of absolute focus becomes an arbitrary, if not an impossible,

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[180] Giedion, Sigfried. 1954. *Space,Time and Architecture*. Cambridge, Mass, p.432.
[181] Ibid. p. 436.

> proceeding. This is the dilemma propounded by the system; and Le Corbusier responds to it. He accepts the principle of horizontal extension; thus, at Garches central focus is consistently broken up, concentration at any one point is disintegrated, and the dismembered fragments of the center become a peripheral dispersion of incident, a serial installation of interest around the extremities of the plan.[182]

4.6 Grid

For Rowe, grid was an important 'tool' for the process of expansion because, for him, grid was responsible for breaking up the "centralisation" of the building. He says that, "the repetitive nature of the grid", both in vertical and horizontal planes, "tends to prohibit the condensation of the building into one block". He points out that, grids "emphasise the idea of an extension, of a pulling outwards rather than a concentration of space."[183]

Rosalind E.Krauss also dwells upon the subject of grid and through centrifugal reading mentions the importance of 'expansion' in the nature of grid. For Krauss:

> …the grid extends, in all directions, to infinity. Any boundaries imposed upon it by a given painting or sculpture can only be seen – according to this logic – as arbitrary. By virtue of the grid, the given work of art is presented as a mere fragment, a tiny piece arbitrarily cropped from an infinitely larger fabric. Thus the grid operates from the work of art outward, compelling our acknowledgement of a world beyond the frame.[184]

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[182] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. p. 12.
[183] Ibid. p. 128.
[184] Krauss, Rosalind. 1985. *The Originality of the Avant Garde and Other Myths*. Cambridge, MA. pp. 18-21.

Furthermore, Rowe points out that, the nature of grid - as being a tool for destroying the centralisation of a building by pushing the limits outwards and for creating an effect of 'extension' – helps the creation of a new kind of space called by Van Doesburg as 'peripheric composition'.[185]

According to Rowe, at Garches, "the abolition of the centre, and a new concept of equilibrium concerned with peripheric rather than concentric developments are conducted more than at either Bauhaus or Barcelona Pavilion and the full relevance of the peripheric idea becomes evident."[186]

> At Garches the central focus has been consistently broken up, concentration at one point is disintegrated, and replaced by a peripheral dispersion of incident. The dismembered fragments of the central focus become, in fact, a sort of serial installation of interest round the extremities of the plan.[187]

From the statement above, it can be claimed that the space at Garches has freed itself from the fixations of space and time; and can be called as 'flowing space.' But this flowing of space is seen in all planes, not only in horizontal or vertical, but also in oblique plane it shows itself. This is strongly related with the concept of 'continuity' as Alden B. Dow appoints in *The Continuity of Idea and Form* in order to describe the space in architecture of Frank Lloyd Wright:

> Space began to expand into other space, so that when you stepped into a space, you were really not aware of its size. Part of it disappeared around to the left, part of it over a case on the right, so that you didn't know where the area ended…Space not only went this way and that way, but it went up and over into

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[185] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. p. 128.
[186] Ibid. p.143.

> another space, so that no matter where you were or which way you looked you never did see all of the area around.[188]

Harry Holzman and Martin S. James claim that, "the new (abstract) vision does not start from a single given point, but takes its viewpoint everywhere, from no fixed place. It assumes independence of time and place. Thus the work of architecture appears as a multiplicity of planes, not of prisms as in volumetric construction. Nor is there any danger of lapsing into facade architecture; its ubiquitous point of view prevents this error. Because it is exclusively abstract, the plurality of planes becomes a plane image."[189]

It is certain that this is the case in Garches. With this kind of a spatial experience, movement becomes an important tool to understand that place. According to Le Corbusier modern eyes move, and because of that, vision in his architecture depends on movement. He sees architecture as an event, and something that has to be read by the help of movement. He introduces the term 'architectural promenade' to describe his architecture.[190] To understand the space, to realise changing and unexpected views, and to experience the events, planes have to be perceived simultaneously. This is a kind of experimental reading. According to Le Corbusier, the point of view of modern architecture is never fixed and it is always in

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[187] Frampton, Kenneth. 1996. *Modern Architecture – A Critical History*. London: Thames and Hudson Ltd, p. 158.
[188] A verbatim record of a symposium held at the School of Architecture from March to May 1961. *Four Great Makers of Modern Architecture-Gropius, Le Corbusier, Mies van der Rohe, Wright.* New York, Da Capo Press. 1970, p. 24.
[189] Holzman, Harry and James, Martin S. ed. And tr., 1986, *The New Art – The New Life: The Collected Writings of Piet Mondrian* (Boston: G. K. Hall), p. 197.
[190] Le Corbusier, *Ouevre complete*, ed. Willi Boesiger. 1929-1934, vol. 2, p. 24.

motion.[191] He also mentions in *Precisions* that, "I exist in life only on condition that I see," or "this is the key: to look…to look/observe/see/imagine/invent, create."[192] Experiencing space through movement and time was also an important aim for Le Corbusier. By using the abstract grid system with the help of horizontal and vertical layers, he not only provides 'simultaneity' through movement, but also he reaches to 'phenomenal transparency'.

4.7 Flexibility

This condition of spaces following up into each other creating a feeling of continuity and simultaneity at the same time can also be seen as the basis for 'flexibility' of space. "A built-in flexibility" is a characteristic of phenomenal transparency. However, the condition of flexibility cannot only to be achieved with physical arrangements in a building. It has something to be perceived beyond its' physical character. Phenomenal transparency ensures the interpretation of a new kind of flexibile space with many alternatives in sense of physical arrangement and also perception. Bernard Hoesli had also mentioned the interdependence of flexibility and transparency. He makes the following statement:

> A transparent organization of space has, because it allows and even encourages multiple readings of the interconnections between the parts of a whole system of related spaces, a built-in flexibility of use. Flexibility is provided and exists through possible interpretation, through flexible use of supply of possibilities

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[191] "The New House" (1926), reprinted in *Le Corbusier in Perspective*, ed. Peter Serenyi (Englewood Cliffs, New Jersey: Prentice-Hall, 1975), p. 33.
[192] Colomina, Beatriz. "The Split Wall: Domestic Voyeurism," in Beatriz Colomina, ed., *Sexuality and Space* (New York: Princeton Architectural Press, 1992), p.107.

> inherent in a given arrangement of spaces and not through physical flexibility of, say, mavable partitions.[193]

Within this context that transparency is accepted as "an organizator of form" that defines both the physical and the conceptual relationships between the spaces of a building. For Hoesli:

> 'Transparency as organization of form' produces clarity as well as it allows for ambiguity and ambivalence. It assigns each part not only one definite position and distinct role in a whole but endows it with a potential for several assignments, each of which though distinct can be determined from time to time by deciding in which connection one chooses to see it. Transparency then is imposed order and freedom of choice at the same time. The transparent organization of ambiguousness would seem a particularly useful way to create order at a time seeking emancipation from obligation, at a time of multiple and often irreconcilable conditions for a building, and perhaps contradictory expectations that ought to be met by successful design."[194]

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[193] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p. 98.
[194] Ibid. pp. 97-98.

CHAPTER 5

RETHINKING ARCHITECTURE

Within the defined framework discussed in the previous chapters, this research study investigates a number of different interpretations criticising the intricate relationship between architectural form and function in the 20th century. The discussion was based on the concept of 'function' and its' inadequacy in the generation of architectural forms.

Here, I supported the argument that there exists no longer a function based architecture and perhaps never existed. It is in this context that function is accepted as an architectural element that is not more significant than any other element like 'structure', 'program' or 'space' in the process of form generation.

Within this conception, form is accepted as an architectural element that attains its autonomy not from the strictures imposed by 'function', but from its own internal relationships defined by the designer throughout the design process. Form and function are thought as independent elements whose presences are not able to restrain or define each other.

It is Stanford Anderson who questioned the role of function in the process of form generation in modern architecture and asserted that function is not only a weak concept but also incapable of determining the final form.[195]

Moreover, Bernard Tschumi makes a critique of the relationship between form and function in the process of form generation. For Tschumi, in our contemporary society, "programs are by definition unstable." So, architecture is "constantly unstable, constantly on the verge of change"[196] In order to be in conformity with the changing conditions, Tschumi suggests a fragmented architecture. For Tschumi, contemporary architecture is seen as a system concerned with a "large set of architectural domains as different as the act of running, double expansion joints, and the free plan"[197] in which any element is not important than the others in the process of space production. Within this conception he opposes to the idea of 'function' defining the 'form' of architectural spaces; whereas he suggests an "endless array of uncertainities" between the two.[198] He points out that this kind of a fragmented architecture gives the system an opportunity to not only resist the transformations but also create 'new' and 'unexpected' relations in the future.[199]

It is in this context that architectural production of today can be accepted as an unstable and dynamic system that attains its own autonomy from its capacity to

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[195] Anderson, Stanford. February 1987. "The Fiction of Function". *Assemblage*, No.2. pp. 19-22.
[196] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. pp. 20-21.
[197] Ibid., p. 181.
[198] Ibid., pp. 19-21.
[199] Ibid., p. 189.

be in conformity with the changing demands of the ‘program’, ‘site’ and even ‘society’ in future. It has to suggest a number of solutions that will organise new relationships between architectural elements like ‘function’, ‘form’ and ‘structure’ in return for each problem or demand. Thus, architectural production is defined as a ‘step’ or a ‘snap-shot’ in the ever-lasting process of transformation.

It is after this conclusion that it will be possible to propose a project for ‘A Multi – Functional Hall at METU’ which has the capability of expanding not only its limits physically, as a professional practice; but also the borders of conceptual disciplinary discussions as an architectural production. Within this framework, ‘fragmentation’ and ‘transparency’ are accepted as ‘design tools’ that will organise and formulise the steps of transformations in the process of design. The building is expected to be autonomous and have the capacity not only to house new programs that will be added in the future but also transform itself by the assistance of the relationships defined by ‘fragmentation’ and ‘transparency’. Here, I will investigate both the theoretical and practical extensions of design tools ‘fragmentation’ and ‘transparency’ respectively; with respect to their effects on form generation in the design process of “A Multi – Functional Hall at METU.”

In general, ‘fragmentation’ provides a broad theoretical background that re-defines and criticises a number of related concepts which help the designer in his/her search for expanding the limits of architecture, both physically and conceptually. Therefore, fragmentation can be accepted as the ultimate source for theorethical discussions that are necessary to construct a conceptual infrastructure for the project; whereas ‘transparency’ is defined as a set of rules that helps to

create an architectural method which defines the physical relationships in the design process with respect to the fundamental concepts searched by ‘fragmentation.’

Within this framework, in order to start the project, I believe in the importance of finding a key concept that would relate and unite the necessities and concepts imposed by fragmentation and transparency in the form generation. Thus, ‘layering’, with its both conceptual extensions and formal compositional concerns, is accepted as the main idea of design. Therefore, a number of related concepts like ‘expansion’, ‘flexibility’, ‘sequence’ and ‘limit’, which were investigated in the previous chapters with respect to ‘fragmentation’ and ‘transparency’, are exposed to re-interpretation by the discussions directed by ‘layering’ throughout the process of design.

At this point, what is crucial is to be aware of the dialectic that these design tools pointed out above are present. However fragmentation and transparency, as providing conceptual and physical complementary information to the design process, can be accepted as independent and autonomous notions that have their own rules and consequences; they are utterly related and integrated to each other in an overall design process. Therefore, as a design principle, none of these design tools were given more concentration and significance thoroughout the design. On the contrary, what was taken into consideration is to accept the notion of ‘layering’ as the main concept of design and to observe the formal transformations born out of an interaction between fragmentation and transparency in the design process with respect to a number of related notions they present. Thus, in order to understand the

process of form generation of “A Multi – Functional Hall at METU”, the project has to be read according to the relationships that ‘layering’ imposes.

In general, the building is composed of twentyseven layers superimposed on each other in both horizontal and vertical. The names of the layers are as follows:

- The layer showing the present situation of the site with its nearby environment. (Fig 5.1)

Figure 5.1 Site Section 1 (Layer 1).

- The layer of green. (Fig 5.2)

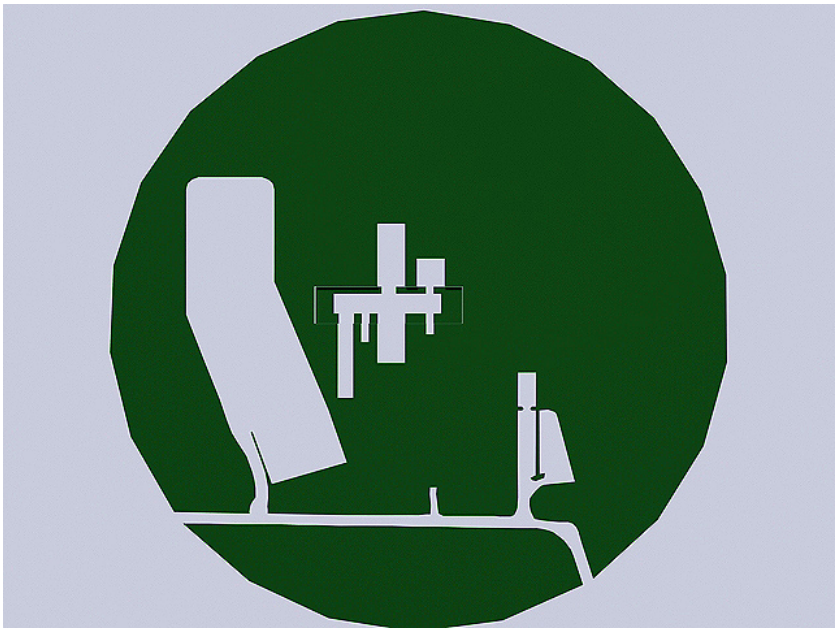

Figure 5.2 Site Section 2 (Layer 2).

- The layer of green mixed with paving stone. (Fig. 5.3)

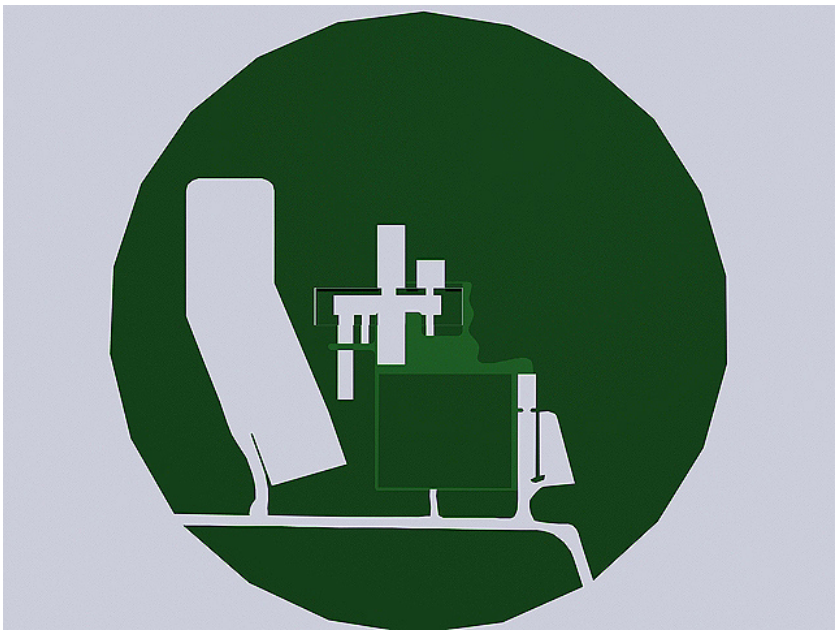

Figure 5.3 Site Section 3 (Layer 3).

- The layer of endemic flowers. (Fig. 5.4)

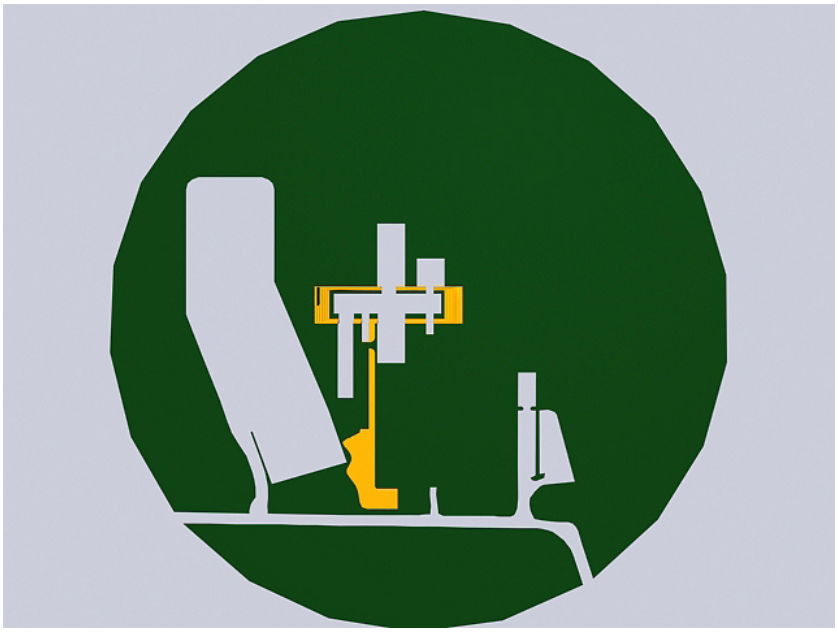

Figure 5.4 Site Section 4 (Layer 4).

- The layer of courtyard. (Fig. 5.5)

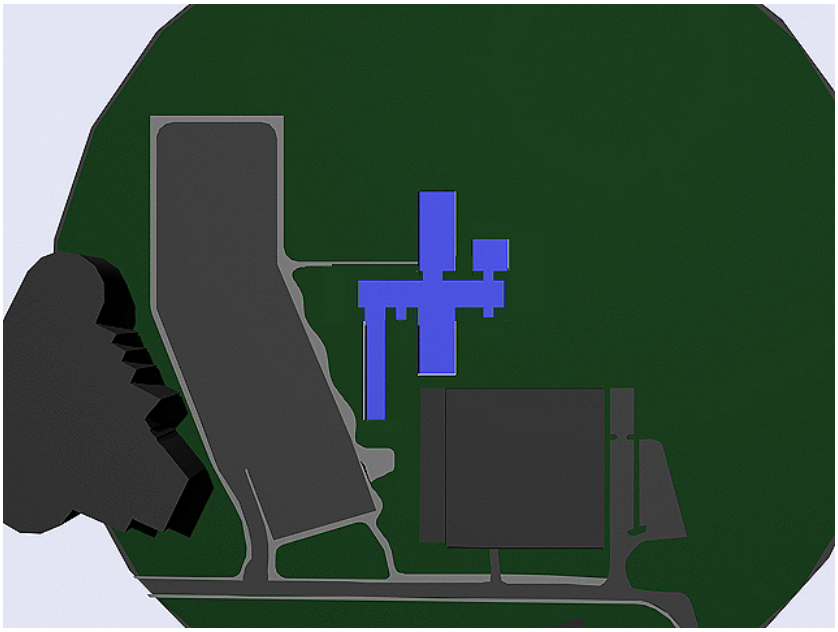

Figure 5.5 Site Section 5 (Layer 5).

o The layer of entrance floor. (Fig. 5.6)

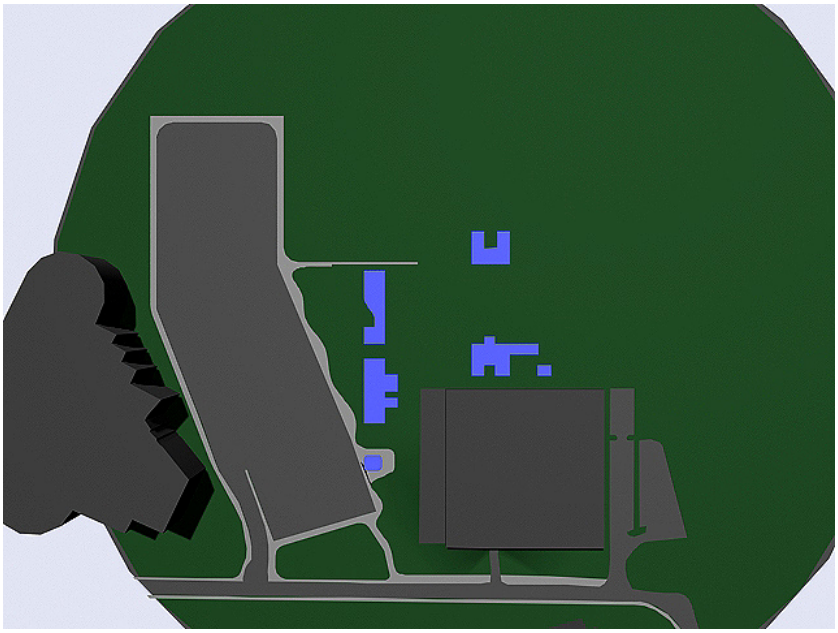

Figure 5.6 Site Section 6 (Layer 6).

o The layer of first floor. (Fig. 5.7)

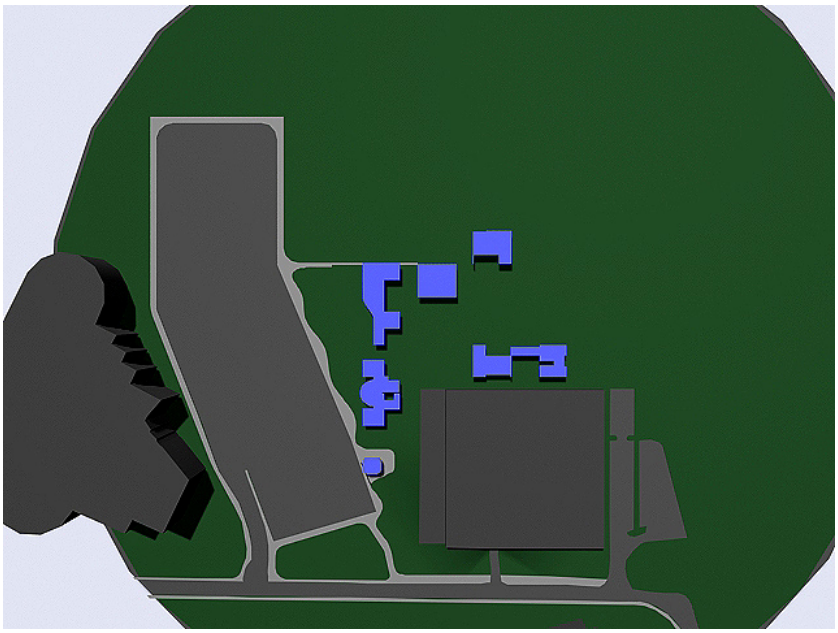

Figure 5.7 Site Section 7 (Layer 7).

- The layer of second floor. (Fig. 5.8)

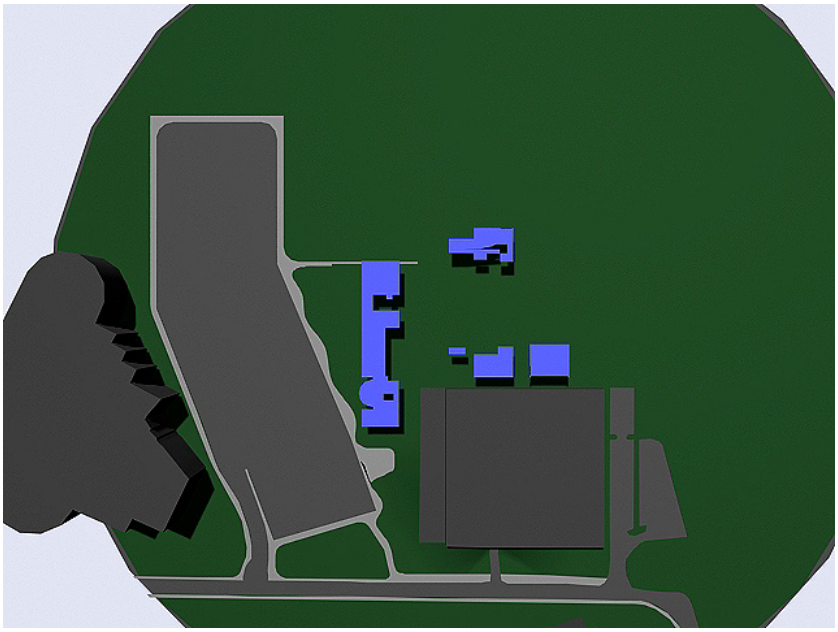

Figure 5.8 Site Section 8 (Layer 8).

- The layer of walls of basement floor. (Fig. 5.9)

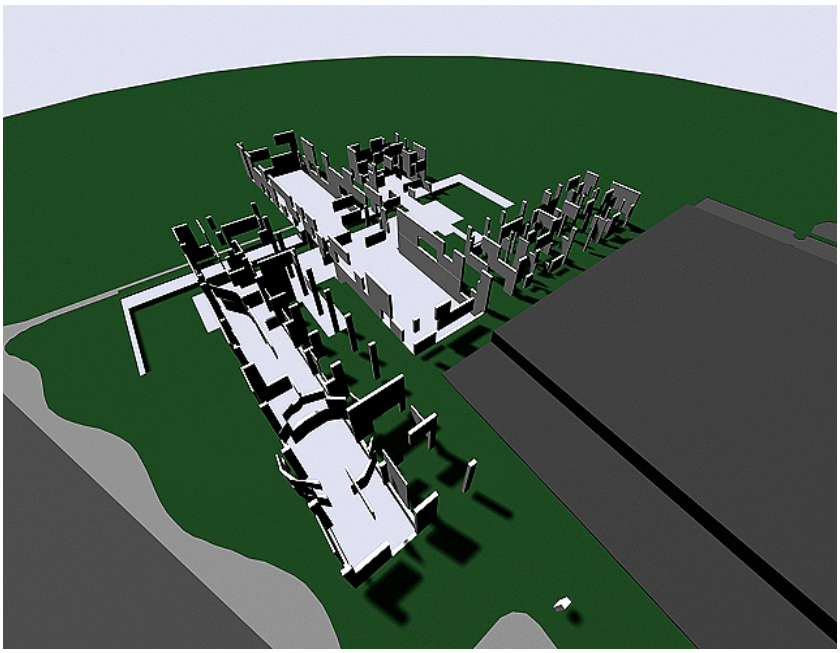

Figure 5.9 Site Section 9 (Layer 9).

- The layer of walls of entrance floor. (Fig. 5.9)

- The layer of walls of first floor. (Fig. 5.9)
- The layer of walls of second floor. (Fig. 5.9)
- The layer of terrace (Fig. 5.10)

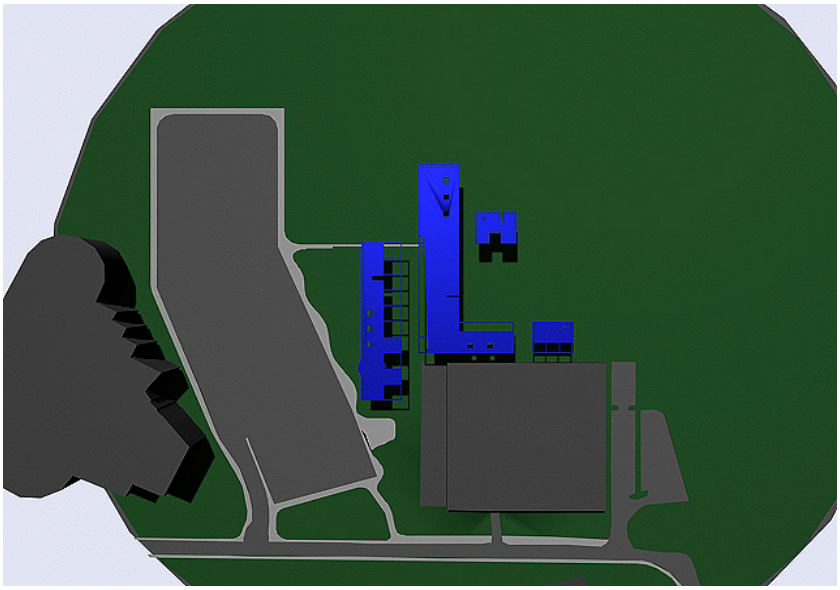

Figure 5.10 Site Section 10 (Layer 10).

- The layer of circulation 1. (Fig. 5.11)

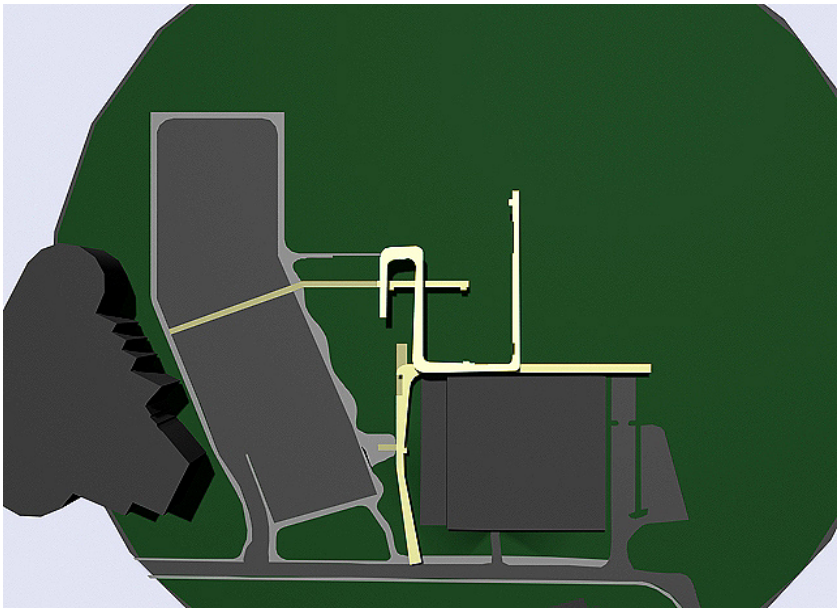

Figure 5.11 Site Section 11 (Layer 11).

- The layer of circulation 2. (Fig. 5.11)
- The layer of circulation 3. (Fig. 5.11)
- The layer of elevation. (Fig. 5.12)

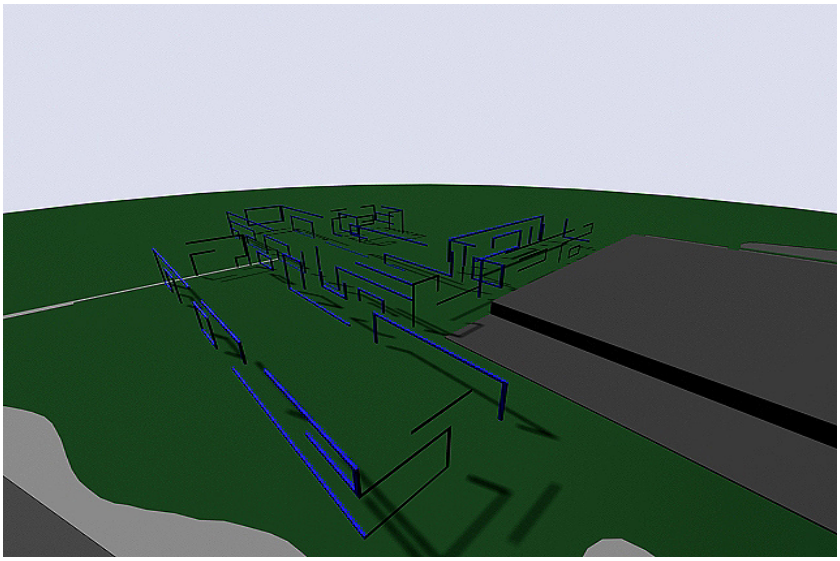

Figure 5.12 Site Section 12 (Layer 12).

- The layer of stairs and ramps. (Fig. 5.13)

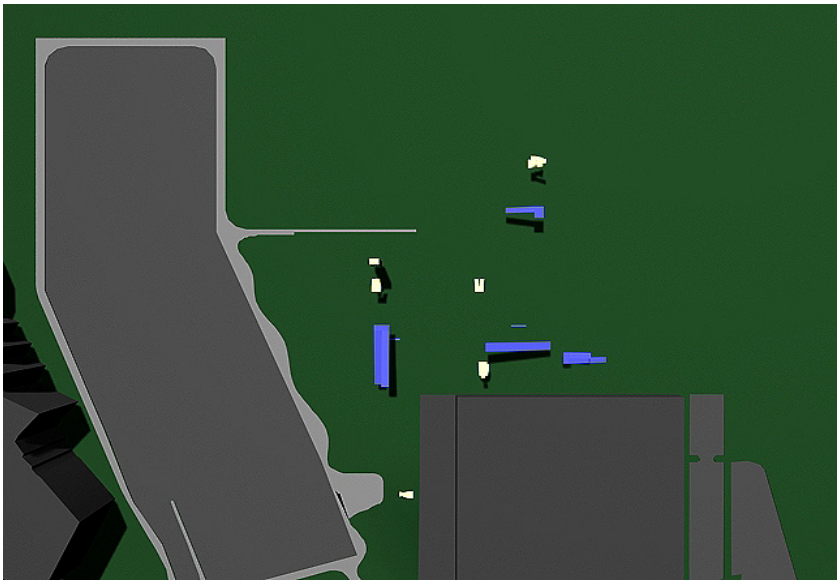

Figure 5.13 Site Section 13 (Layer 13).

- The layer of ramps. (Fig. 5.13)
- The layer of sun breakers. (Fig. 5.14)

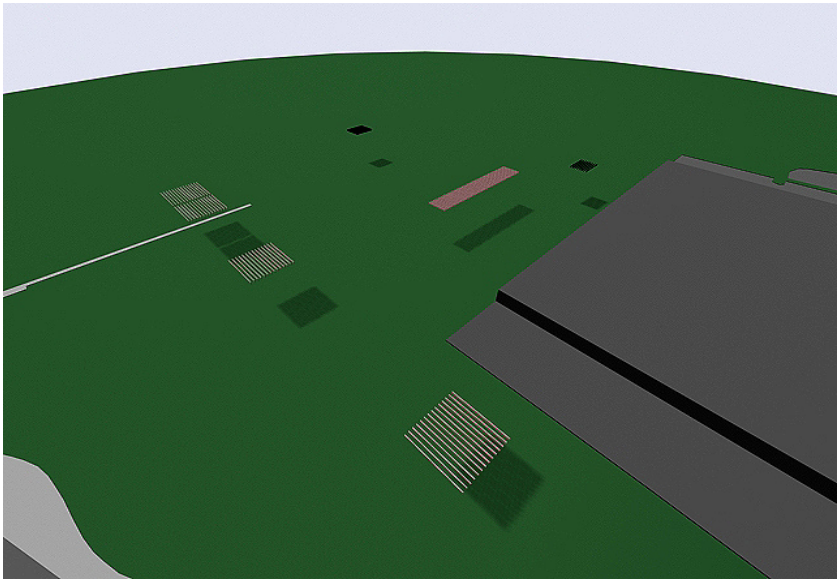

Figure 5.14 Site Section 14 (Layer 14).

- The layer of lighting elements. (Fig. 5.15)

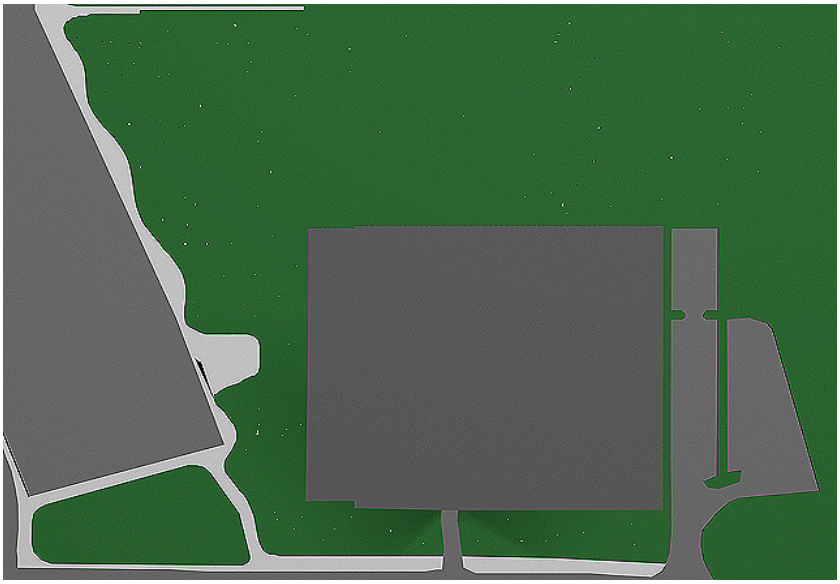

Figure 5.15 Site Section 15 (Layer 15).

- The layer of information walls (Fig. 5.16)

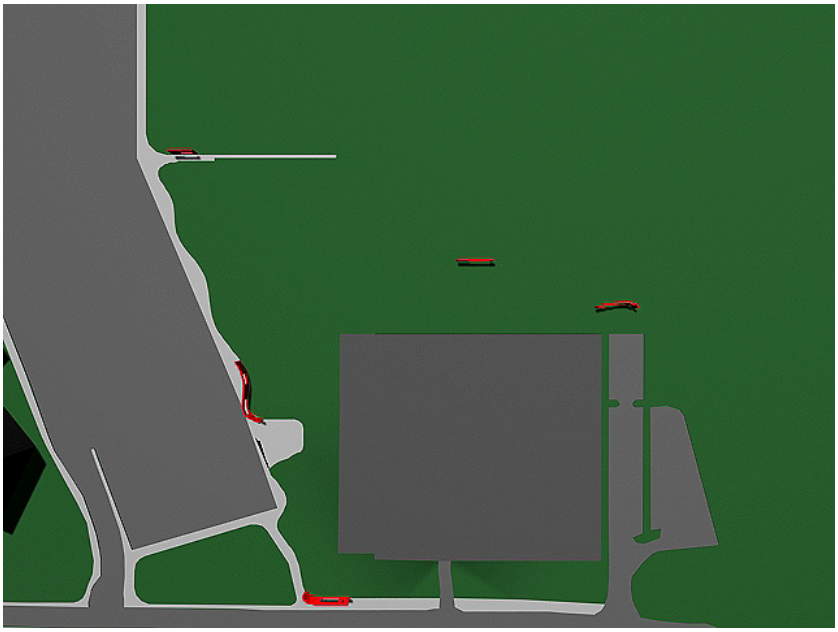

Figure 5.16 Site Section 16 (Layer 16).

- The layer of advertisement. (Fig. 5.17)

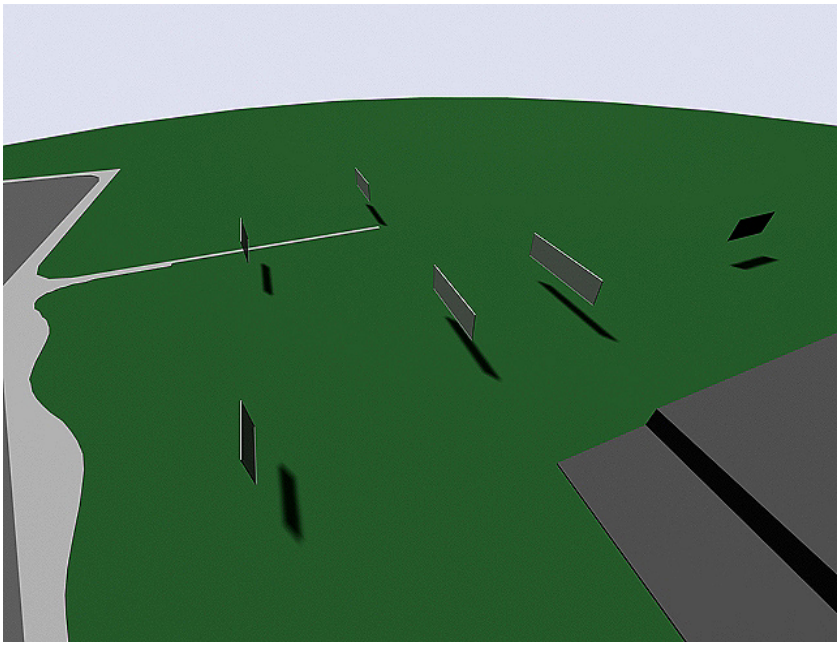

Figure 5.17 Site Section 17 (Layer 17).

- The layer of statue. (Fig. 5.18)

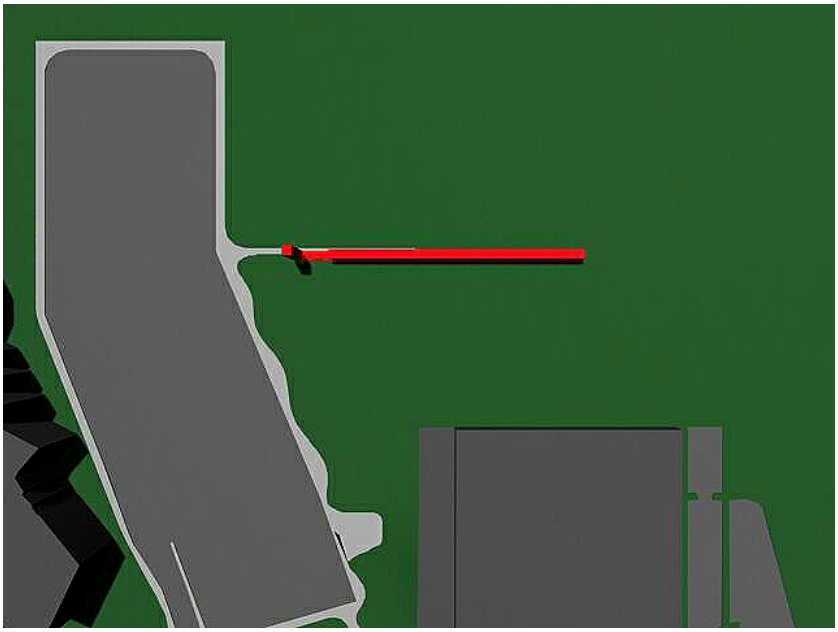

Figure 5.18 Site Section 18 (Layer 18).

- The layer of top lighting. (Fig. 5.19)

Figure 5.19 Site Section 19 (Layer 19).

- The layer of trees. (Fig. 5.19)

o The layer of program. (Fig. 5.20)

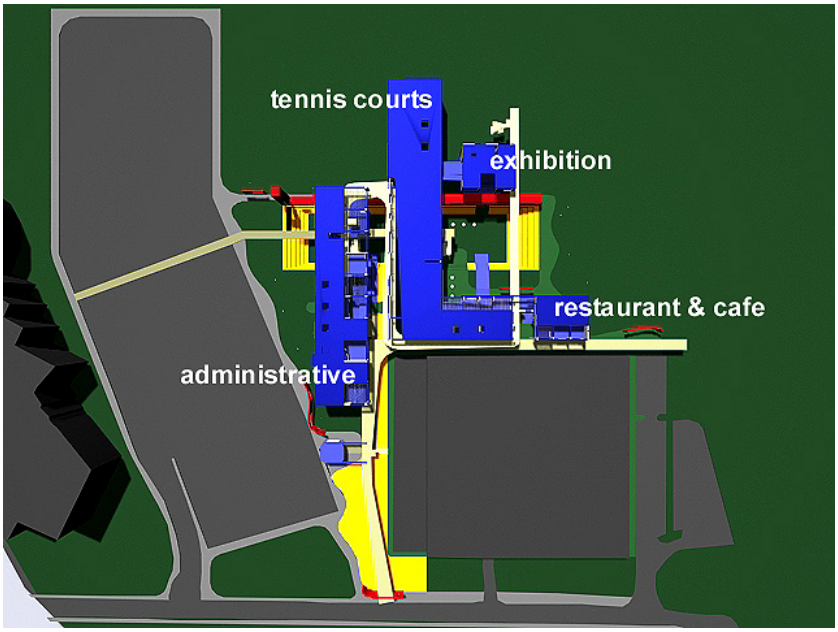

Figure 5.20 Site Section 20 (Layer 20).

All of the layers defined above help us to relate the concept of 'layering' to 'fragmentation'. In this sense, these layers are accepted as "fragments of architecture."[200] Here, what lies behind the idea of layering is to reduction of architecture to its basic fragments and letting them gain their own autonomies. Because, in general, on the basis of the discussions on 'fragmentation' lies the desire to produce an architecture whose own autonomy is reflected in its internal relationships defined by the fragments of architecture. Within this conception, fragments are introduced as independent units whose own autonomy lies in their

[200] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. p. 95.

capability to produce "new and unexpected relations"[201] in the future. So, as the number of architectural fragments increases, the capability of producing recent permutations and relationships between fragments also increases. Thus, it would not be wrong to claim that as the number of layers (fragments) increases, the building becomes more flexible. However, a reduction in the number of layers (fragments) is acceptable for a designer as a means for controlling the relationships between those layers in the search for an artistic contamination. At this point, what is crucial is to decide on the number of fragments and define their character. Within this conception "The Multi – Functional Hall at METU" is composed of twentyseven layers both virtual and real. Moreoever, It was Bernard Tschumi who asserted that the fragments of architecture can be 'real' like 'walls', 'rooms' or 'spaces' as well as 'virtual' like 'ideas' and even 'program'. He says that architecture is in a state of 'transformation' as long as its fragments are unstable. For him, fragments are unstable and open to transformations in future. Within this conception, Tschumi defines the states of this transformation by the help of the notion 'sequence'.[202]

Sequence, in this sense becomes an important tool of fragmentation and is used as an organisator of form in the process of designing "A Multi – Functional Hall at METU".

'Sequences' not only define the relationships between the steps of the transformations of fragments in their particular, but also organise the connections between different fragments within a process of an overall transformation. In

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[201] Ibid., p. 189.
[202] Ibid., p. 154.

general, there are two kinds of sequences; transformational sequences and sequential transformations.

Within this framework, the transformational sequence is accepted as a system of a number of "devices" or "rules" which defines the steps of transformations of fragments of architecture such as 'program', 'wall' or 'space'. For him, each fragment has the ability to adapt itself to the transformations, either by using the rules of kinds of tranformations such as "compression, rotation, insertion and transference", or by "displaying particular sets of variations, multiplications, fusions, repetitions, inversions, substitutions, metamorphoses and dissolutions."[203] However all of those transformations listed above seem to define a physical set of rules and relationships, the virtual fragments such as 'program' and 'space', or a number of ideas and concepts also adapt themselves to transformations with the use of listed transformational devices. Within this understanding, if we imagine an architectural work that is done according to the relationships defined by an overall concept like 'transparency', and if we accept 'transparency' as an architectural fragment; then it would not be wrong to expect the possible transformations in future in the understanding of the concept of 'transparency' to be controlled by the rules of 'sequence.' In such a case, what deserves attention is the way that the concept of transparency is reflected throughout the design process, and how the spaces will be re-arranged due to possible variations, multiplications,

[203] Ibid., p. 154.

fusions, repetitions, inversions, substitutions, metamorphoses and dissolutions"[204] seen in the concept of transparency.

On the other hand, the sequential transformation is defined to present the necessary set of tools and rules in order to provide the unity between a set of transformational fragments in an overall composition. It defines the relationships between fragments in order to define the steps or the 'snapshots' of an architecture that is in a process of transformation. For Tschumi, the process that is defined by the rules of sequential transformation is more important than the end product. Tschumi mentions that, "the sum of transformations counts at least as much as the outcome of the final transformation."[205]

Within this broad framework defined above, it is also possible to relate the concept of 'sequence' with the twentyseven layers of "The Multi – Functional Hall at METU." As being the fragments of architecture, those layers are accepted to adapt themselves to transformations with the use of rules defined by 'transformational sequences'. Moreover, the steps of transformation of the project from 'Phase 1' to 'Phase 2' are also explained by the process of "sequential transformation." In order to understand better the notion of sequence, it is possible to reduce the number of fragments of architecture and explore the steps of the transformation over the diagrams shown below.

The crucial aim of the first diagram is to show the abundance of the possibilities of variations, in particular to each fragment, defined by the rules of

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[204] Ibid., p. 154.

transformational sequences such as rotation, insertion, transference, multiplication, fusion, repetition, inversion, substitution, metamorphose and dissolution. Here, the diagram searches for only the possibilities of two dimensional, formal fragments and explores the limits of defining a compositional sequence in its particular. However, first of all, the definition of the problem is more complicated as there are three dimensional fragments as well as conceptual fragments in reality. Secondly, the project consists of twentyseven layers and if we are to think of the possibilities of the combinations of these layers, it would not be wrong to claim that there are infinite possibilities of their compositional relations. So, instead of matching each fragment with any of the twentyseven layers in the project, by making one to one correspondence; it is more crucial to understand the basic necessities of a transformational sequence in its purest state and to develop an opinion of how the fragments of architecture can transform themselves.

Figure 5.21 Transformational Sequences

In order to understand better the diagram shown above, it has to be read according to the following information as mentioned below:

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[205] Ibid., p. 154.

- X and Y represent fragments of architecture.
- Each row shows us steps of the transformational sequences whose phases are controlled by either "rules of transformation, such as compression, rotation, insertion, and transference" or "particular sets of variations, multiplications, fusions, repetitions, inversions, substitutions, metamorphoses, anamorphoses and dissolutions."[206]
- There is no restriction in the number of the kinds of those particular sets listed above such as 'variations' and 'fusions'. A transformational sequence is always open to new transformational rules and devices such as 'expansion'. On the contrary, none of those kinds of transformations are obliged to be present in a sequence. Moreover, each kind of transformation can be used several times in a sequence.
- There is no one-to-one time correspondence between the fragments of X and Y. That is; there is no obligation that each step of the transformation of the X fragment has to match with the same step of the transformation of the Y fragment in the diagram. The transformational sequences of X and Y are independent from each other; so, each step in the sequence of a fragment can be equivalent to many steps in the sequence of the other fragment. Moreover, there is no definite direction in the sequential transformation. That is, the steps of the sequence do not have to produce different fragments at each interval; on the contrary it can turn

[206] Ibid., p. 154.

backwards and transform into one of the recent conditions produced before.

- Each step in the sequences of the fragments of X and Y does not necessarily have to show variations. There can be several kinds of variations between each step as well as there can not be any. That is; a fragment can jump from the second step to the seventh in one step whereas the other can take its position and do not change in the same time period.
- Each step in the sequential transformation of the fragments of X and Y are also accepted as fragments. Thus, it would not be wrong to claim that the design tool of fragmentation is reduced from the largest part of the system to its smallest particles in the process of sequential transformation.

Within this framework defined above, it is seen that, by using the rules of different kinds of transformations such as rotation, insertion and substitution, it is possible to produce various combinations in particular to each fragment in a transformational sequence. On the other hand, as I have mentioned before, the relationships between these transformed fragments are also defined by the rules of sequential transformations. So, as long as the fragments change, the overall composition is also subjected to transformations. At this point, what is crucial is not to define all of the steps of the sequential transformations, but to be aware of the diversity of the possibilities of the formal relationships between fragments defined in an ever-lasting process of transformation. Therefore, the primary aim of the

second diagram is to show a number of different possibilities of the unity of fragments X and Y in a sequential transformation.

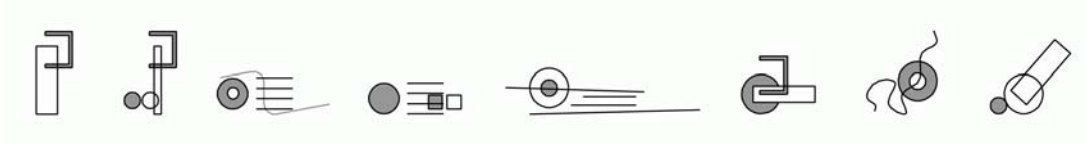

Figure 5.22 Sequential Transformations

The diagram presented above is an example of a sequential transformation that controls the relationships between fragments of X and Y as stated before in the first diagram. Here, sequential transformation is defined as an ever-lasting process whose steps are formed by the interaction between transformed fragments. So, each transformation particular to each fragment in the first diagram defines a 'step' in the sequential transformation. Therefore, although the fragments of X and Y are independent from each other in their transformation process, they are related to each other in an overall system. On the other hand, each step in the sequential transformation as shown in the second diagram is also accepted as a fragment. That is to say, each step, each fragment in the second diagram is also made up of the unity the fragments defined in the first diagram.

In fact, on the basis of the discussions of fragmentation within sequences, lies the desire to reach to an 'unstable' architecture that is open to transformations with respect to changing conditions. Within this conception, as stated in the previous paragraph, sequencial transformations are made up of several unions of fragments that are independent from each other in their transformational sequences. Tschumi calls each part, each fragment of a sequence as "frame" and he points out

that, “Each frame, each part of a sequence qualifies, reinforces, or alters the parts that precede and follow it.”[207] Moreover, he mentions the importance of the “indeterminacy” of frames that create “a plurality of interpretations.” For Tschumi, each part in a sequence is “both complete and incomplete” and “a statement against indeterminacy.” He mentions that, “indeterminacy is always present in the sequence.”[208]

The indeterminacy of the sequences gives autonomy to an architectural work. Because, as long as the sequences are indeterminate, the architectural production is subject to transformations and modifications according to changing conditions. Thus, architecture can never represent the final product; on the contrary, it is defined as a ‘phase’ or ‘snapshot’ in the long ‘process’ of transformation.

After this broad framework defined above, we can claim that the concept of sequence has provided a broad theoretical infrastructure for understanding the concept of layering and how it effects the transformation process in the project of “A Multi – Functional Hall at METU.” Therefore, at this point, it is necessary to summarize this relationship between sequences and the twentyseven layers of the project with the following conditions:

- Each layer in the project refers to an architectural fragment.
- Each layer adapts itself to changing conditions by the use of the rules defined by transformational sequences such as rotation, insertion, transference, variation, fusion and so on.

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[207] Ibid., p. 162.

- The transformed layers are also defined as fragments of architecture. Moreoever, each layer, step or transformation defined in the transformational sequences is accepted as 'frame'. Therefore, each fragment, each layer is both independent and dependent. It is both "complete and incomplete." Each transformation is "a statement against indeterminacy."[209]

- The combinations, unities or connection of layers in both horizontal and vertical directions are also accepted as fragments. That is to say; each combination of different layers (fragments) refers to a step, a fragment in a sequential transformation. Within this framework, each step or transformation defined in a sequential transformation refers to a 'phase' of the project of "A Multi – Functional Hall at METU." Therefore, each phase in the project – phase 1 or phase 2 – is accepted as a 'frame' of the sequence. So, each frame, each phase is accepted as independent from each other because of the autonomous fragments they are made of; however, at the same time, they are related and connected to each other in an ever-lasting process of transformation. In this sense, each phase is "both complete and incomplete" and "a statement against indeterminacy." In this sense, a phase, a frame is always open to transformations as long as the layers (fragments) change.

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[208] Ibid., p. 162.
[209] Ibid., p. 162.

- At each phase of the project, new layers, new fragments can be added to or removed from the sequence. This creates a kind of flexibility, in theory, in the process of architectural transformation. Therefore, architectural production is defined as an unstable and dynamic process that attains its own autonomy not from the strictures imposed by any architectural fragment such as ‘function’ or ‘program’; but from its ability to modify itself according to the changing demands of ‘program’, ‘site’, ‘economy’ and even ‘society’ in future.

- As the building is expected to transform itself in future, naturally, the number of the phases also will increase. That is to say, as long as the layers (fragments) of the project transform, the building will produce new phases of transformation. This study concentrates only on the first and the second phases of the project. Within this framework, the primary aim of this study is to construct the necessary theorethical and physical infrastructure that will direct and control the next probable phases of the ever-lasting process of transformation.

Up to that point, the design tool of fragmentation and its interaction with the concept of layering have provided a great contribution to the theorical infrastructure of the project in order to develop an understanding that dominates the steps of the possible transformations and modifications in future. However, it is impossible to make a finished interpretation on the concept of layering, without relating it to the other design tool of ‘transparency’. Because, layering, as being the ultimate source for ‘phenomenal transparency’, operates as an “organizator of form” that defines the

formal relationships between fragments in order to construct an architectural language throughout the process of transformation. Therefore, layering is used to relate the design tool of transparency with a number of notions such as 'expansion', 'simultaneity', 'flexibility', 'grid', 'elementarization' and 'integration' that are used to construct a conceptual framework necessary for defining the formal relationships between fragments of architecture. In this sense, in order to understand better the design tool of transparency with respect to layering, first of all, the concept of 'phenomenal transparency' and its necessities have to be remembered.

As stated in the previous chapter, in its simplest definition, Kepes' description of "simultaneous perception of different spatial locations without an optical destruction of each other"[210] refers to phenomenal transparency. For Kepes, we can talk of 'phenomenal transparency' in a building whenever its spaces "not only recede but fluctuate in a continuous activity." Moreoever, he points out that, "The position of the transparent figures has equivocal meaning as one sees each figure now as the further one."[211]Within this conception, what lies on the basis of this kind of a transparency is the notion of 'layering' of space in both vertical and horizontal.

Besides, Colin Rowe points out that Le Corbusier's Villa at Garches is also made up of vertical and horizontal layers. For Rowe, the "layerlike stratification" of

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[210] Kepes, Gyorgy. 1944. *The Language of Vision*. Paul Theobald, Chicago, p.77.
[211] Ibid., p. 77.

the building provides "spaces travelling one behind the other"[212] and this creates phenomenal transparency. Moreover, Rowe defines the spaces of the building as "deep space" and relates his discussion with the importance of the usage of layers like "picture planes" in order to have this kind of space. For Rowe, layers refer to picture planes in vertical as well as in horizontal and a "coullisse effect" can only be provided in case several planes "are either imposed upon, or subtracted from"[213] the other planes. Thus, for Rowe, picture plane is accepted as an activated plane instead of a passive one as used by Le Corbusier.

Within this conception, plane is no more accepted as simply a space defining element; on the contrary it is seen as an activated picture plane that is used to define new relationships between spaces. In this sense, a picture plane is subjected to the interference of several other planes by either imposing upon or subtracting from. Therefore, each plane is accepted as a 'picture plane' with reference to other planes. So, each plane belongs to several spaces both in horizontal and vertical at the same time. Thus, each plane, each layer can only be percieved with reference to the other layers.

Yve Alain Bois draws our attention to this dilemma present in the essence of plane as a space defining element. For Bois, plane is accepted as an architectural fragment both 'elementarized' and 'integrated' at the same time. As he informs us, the presence of the fragments in a space by themselves, without forming a unity would mean nothing as well as a totality that cannot unite all of its' fragments,

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[212] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel:

would not be accepted as a totality.[214] Within this conception, plane, as being an individual fragment, is accepted as independent from the other planes (fragments) and given the choice of transforming itself according the changing conditions. However, on the other hand, it is accepted as connected to other planes of the space in the process of transformation. Thus, plane is defined as an architectural element both "complete" and "incomplete".

The conception of plane as an architectural fragment that is elementarized and integrated just as the other planes in a space assures the development of a new set of relationships defined between those layers. Walls, floors and ceilings can all be treated as planes. So, the spaces can only be differentiated from each other with the use of the relationships defined by the interaction between those layers of planes in both horizontal and vertical. Each plane refers to either a border or a part of several other spaces defined by several other planes. Thus, the borders defining the limits of the spaces are blurred and even ceased to be percieved. As spaces interpenetrate into each other, in both horizontal and vertical, the central focus is broken up and the borders between spaces are pushed through the extremities and to the outside of a building. That kind of a space organisation not only provides the dissolution of borders between inside and outside of that building but also creates an effect of 'expansion'.

Within this framework, the concept of 'grid' becomes important as it accentuates the feeling of 'expansion' in a building. Rowe refers to Le Corbusier's

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Birkhauser-Verlag. p. 38.

Villa at Garches and mentions the significance of grid in the perception of extension. For Rowe, "the repetitive nature of the grid", both in vertical and horizontal planes, "tends to prohibit the condensation of the building into one block". He points out that, grids not only "emphasise the idea of an extension, of a pulling outwards rather than a concentration of space"; but also break up the 'centralisation' of the building.[215]

On the basis of the discussion of 'expansion' lies the desire to provide spatial continuity between spaces of a building. Within this conception, it is even impossible to stand at a single viewpoint and percieve the whole composition. Therefore, when the observer gets in touch with the layers both in horizontal and vertical, he/she can only percieve that space by relating himself to one or the other layer as he/she travels in and around the spaces of the building. Thus, the perception of that space changes from time to time as long as one travels in that space. Moreoever, it is Le Corbusier who believes that architecture is an event and something to be read by the help of movement. For Le Corbusier, in order to understand the space, layers have to be percieved simultaneously and with reference to each other.[216]

The condition of spaces flowing into each other and from outside, creating a feeling of expansion and simultaneity at the same time, can also be interpreted as the basis for 'flexibility' of that space. However, the condition of flexibility is not

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[213] Ibid., p. 38.
[214] Bois, Yve-Alain. 1990. *Painting as Model*. Cambridge, Mass. p. 103.
[215] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. p. 128.

only reached through physical arrangements in a building. “A built-in flexibility” is a characteristic of phenomenal transparency; so, it has something to be perceived beyond its physical character. Phenomenal transparency ensures the interpretation of a new kind of flexible space with many alternatives, both physically and conceptually.

Bernard Hoesli also mentions the interdependence of flexibility and phenomenal transparency. For him, a transparent organization of space provides a “built-in flexibility of use”, because “it allows and even encourages multiple readings of the interconnections between the parts of a whole system of related spaces.”[217] Flexibility, in this sense, is accepted as not only a physical but also an immaterial paradigm provided through possible interpretations between spaces of a building.

Within this broad framework defined above, the design tool of transparency has provided great contribution and necessary practical infrastructure to the project in order to define the physical relationships between the fragments of architecture in a process of transformation. In order to relate the notions defined in the previous paragraphs under the subject of phenomenal transparency with the parts of “A Multi – Functional Hall at METU”, it is necessary to summarize the rules and devices that will direct the steps of the transformation of the project as follows:

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[216] Le Corbusier, *Ouevre complete*, ed. Willi Boesiger. 1929-1934, vol. 2, p. 24.
[217] Colin Rowe, Robert Slutzky, Bernhard Hoesli, Werner Oechslin. *Transparency*. Berlin, 1997, p. 98.

- Several layers of the project such as the layer of walls, floors or roof is composed of either planes or sets of planes in both horizontal and vertical.

- Each plane, each layer is a fragment and accepted as a picture plane.

- Each plane, each layer is either imposed upon or subtracted from the others in order to produce "coullisse effect."[218]

- The space of the "Multi – Functional Hall at METU" is made up of a three dimensional grid that is composed of twentyseven layers of architectural fragments superimposed on each other, both in vertical and horizontal. Within this conception, several layers are made up of spaces whose borders are defined by the interaction between different planes in both vertical and horizontal. However, just as the planes are defined in a three – dimensional grid of spaces, each plane is accepted as a part of several other spaces. Therefore, each plane can only be percieved with respect to the interaction defined by its relationship with the other planes. Thus, each plane is accepted as a frame in a sequence which "qualifies, reinforces, or alters the parts that precede and follow it."[219] Within this conception, each transformation of the planes in their particular is defined as a step in the transformational sequence; whereas

[218] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p. 38.
[219] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. p. 162.

each transformation of the layers composed of transformed planes is defined as a phase in the sequential transformation.

- Therefore, each plane, each layer in a sequence is both incomplete, as it is open to transformations and modifications in future, and complete, as it is related to the other planes or layers defined in a grid of spaces. That is to say; each plane is both elementarized and both integrated. This gives each plane or layer the possibility of 'flexibility' with respect to possible transformations in future.

- Each plane, layer refers to either a border or a part of several other spaces defined by several other planes. This creates the interpenetration of spaces into each other and the borders of the spaces are blurred. Therefore, central focus is broken and each layer shows the tendency to expand itself in return for each transformation in future. That property gives each layer an autonomy and opportunity to expand its limits both physically and conceptually.

- Within this broad framework, the twentyseven layers of the fragments are architecture superimposed on each other, both in horizontal and vertical, in order to reach phenomenal transparency. Therefore, each space defined between those fragmented layers is accepted as a frame whereas the combination of these spaces is percieved as a "sequence of space."[220] Thus, the relationships defined between the spaces of the three

[220] Ibid., p. 155.

dimensional grid cause “plurality of interpretations” along a “path with fixed halting points linked by continuous movement.”[221] Within this kind of a space, “the beginning of a use in space is followed immediately by the beginning of another in a further space.”[222] Therefore, the spaces of the project of the “Multi – Functional Hall at METU” is percieved as one.

- As the spaces are percieved as one and the borders are blurred, each point in the project is accepted as being present in several spaces at the same time. Thus, each point, fragment or layer can only locate itself in space by the use of the relationships defined by a contiuous movement in the building.

In conclusion, within the framework discussed above, the design process of “A Multi – Functional Hall at METU” is based on the relationships defined by the interaction between the concept of layering and notions such as ‘sequence’, ‘elementarization’, ‘integration’, ‘simultaneity’ and ‘flexibility’, provided by ‘fragmentation’ and ‘transparency’, the so called design tools. These ‘design tools’ are suggested not only to control the relationships between fragments of architecture like ‘space’, ‘function’ or ‘program’ in the present time, but also to be unstable, indeterminate and autonomous enough to expand their own limits in order to present the rules that will control the ‘phases’ of new and unexpected transformations in future. Thus, the design process will define one ‘phase’ at each

[221] Ibid., p. 165.
[222] Ibid., p. 165.

step where each ‘phase’ refers to any transformation whose relationships between fragments also directed by these ‘design tools’. This kind of a dynamic, unstable, fragmented and indeterminant building based on ‘transformation of spaces’ and ‘constant change’ will surely resist to any prediction and determination; so it could adapt to new functions which will be added later, and resist the unpredictability of future.

5.1 A Multi-Functional Hall at METU

5.1.1 Phase 1

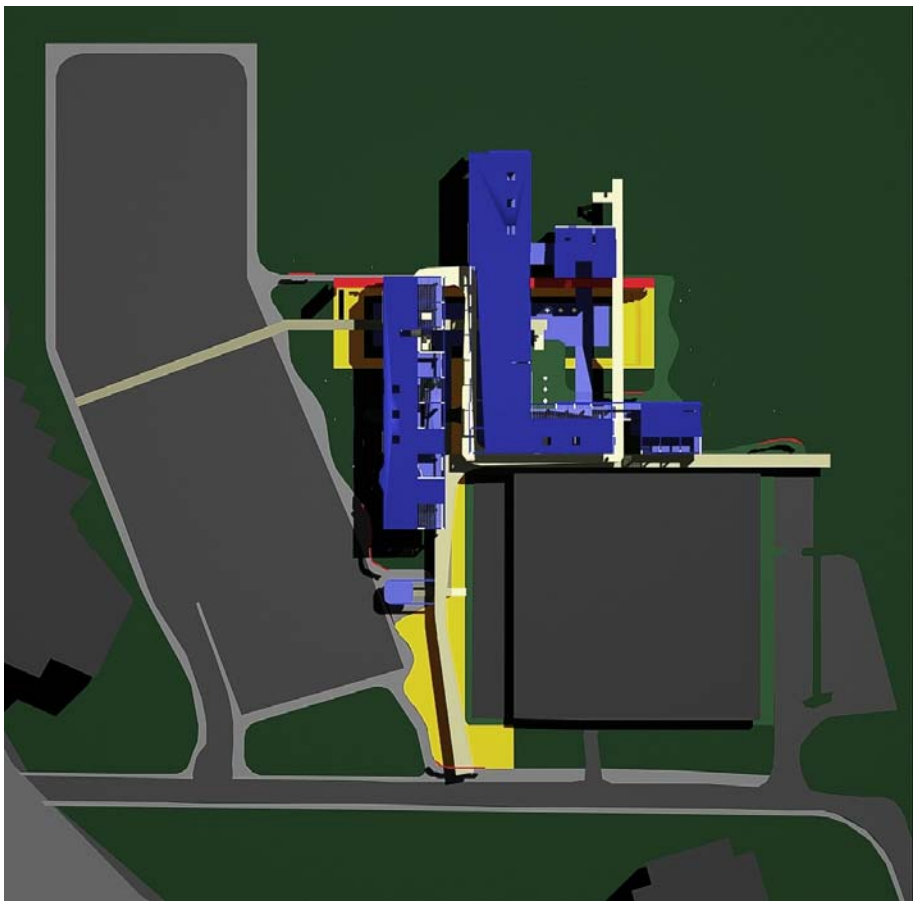

Figure 5.1.1.1 Top View.

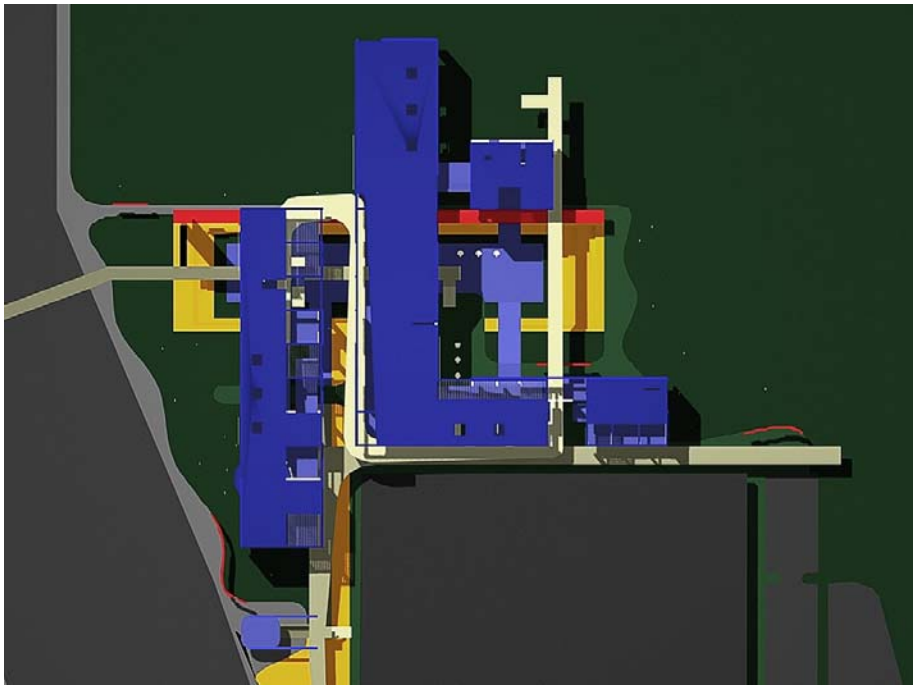

Figure 5.1.1.2 Top View (Closer).

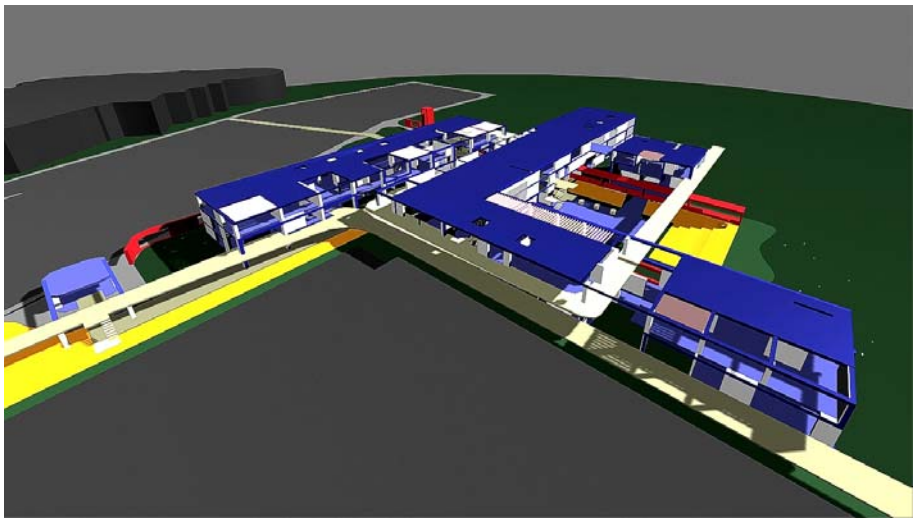

Figure 5.1.1.3 Aerial Perspective 1.

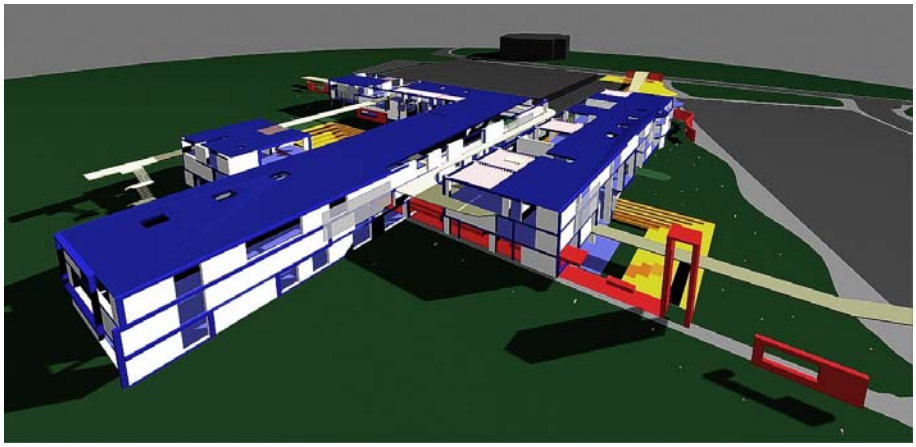

Figure 5.1.1.4 Aerial Perspective 2.

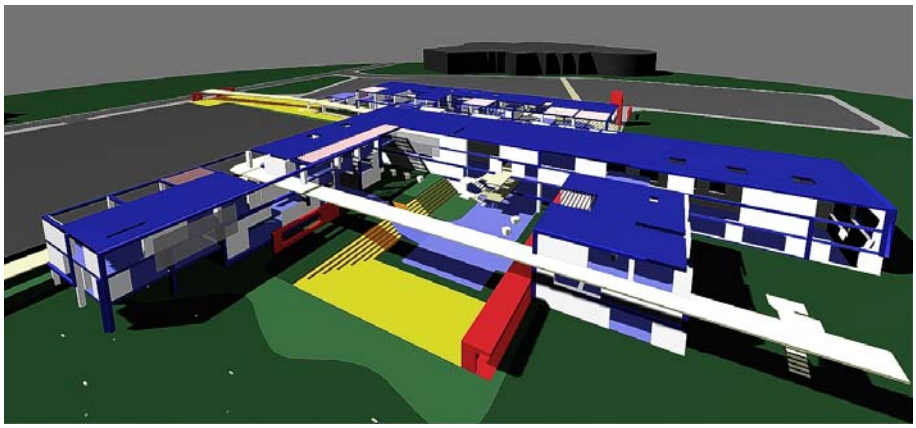

Figure 5.1.1.5 Aerial Perspective 3.

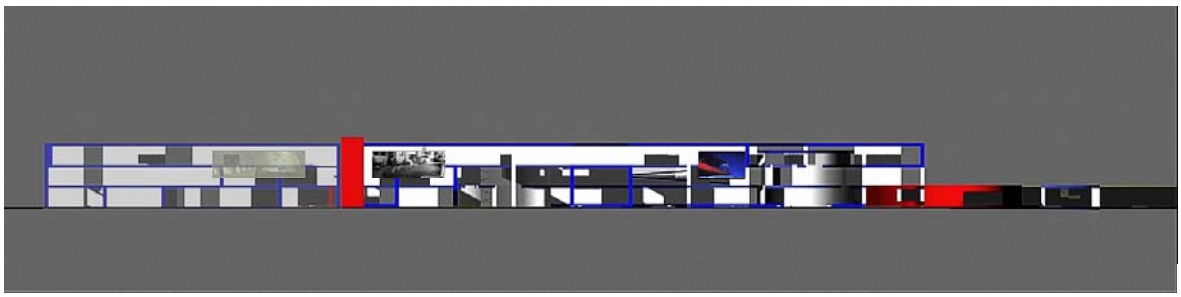

Figure 5.1.1.6 West Elevation.

Figure 5.1.1. 7 South Elevation.

Figure 5.1.1.8 Section Perspective 1.

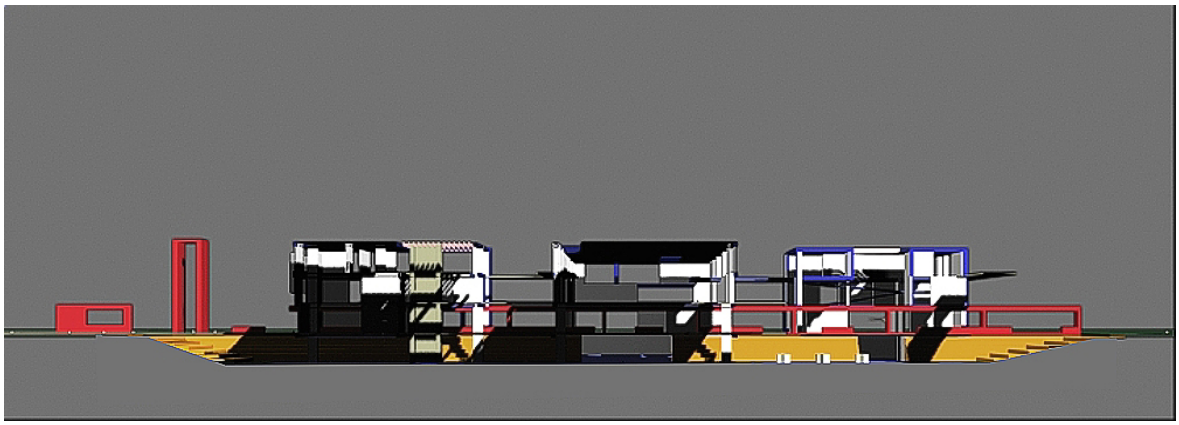

Figure 5.1.1.9 Section Perspective 2.

Figure 5.1.1. 10 Section Perspective 3.

Figure 5.1.1.11 Section Perspective 4.

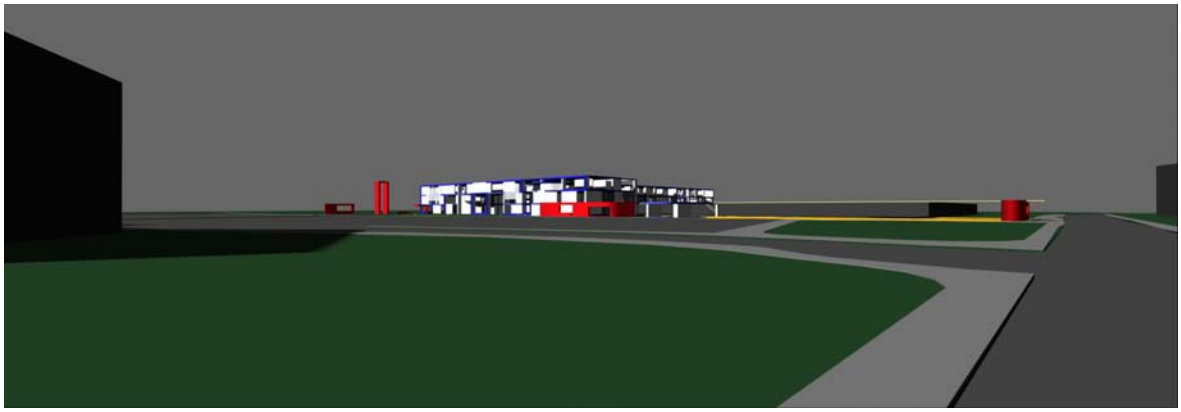

Figure 5.1.1.12 Site Perspective 1.

Figure 5.1.1.13 Site Perspective 2.

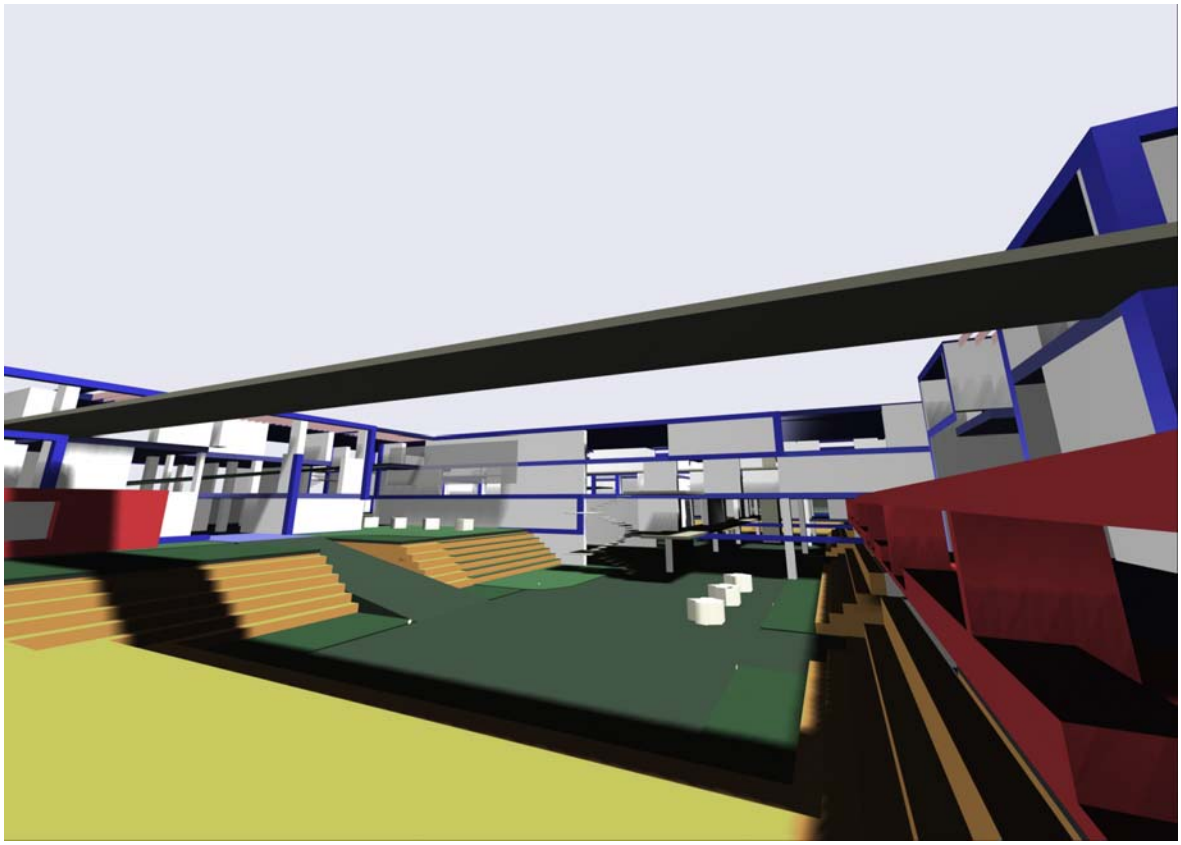

Figure 5.1.1.14 Site Perspective 3.

Figure 5.1.1.15 Site Perspective 4.

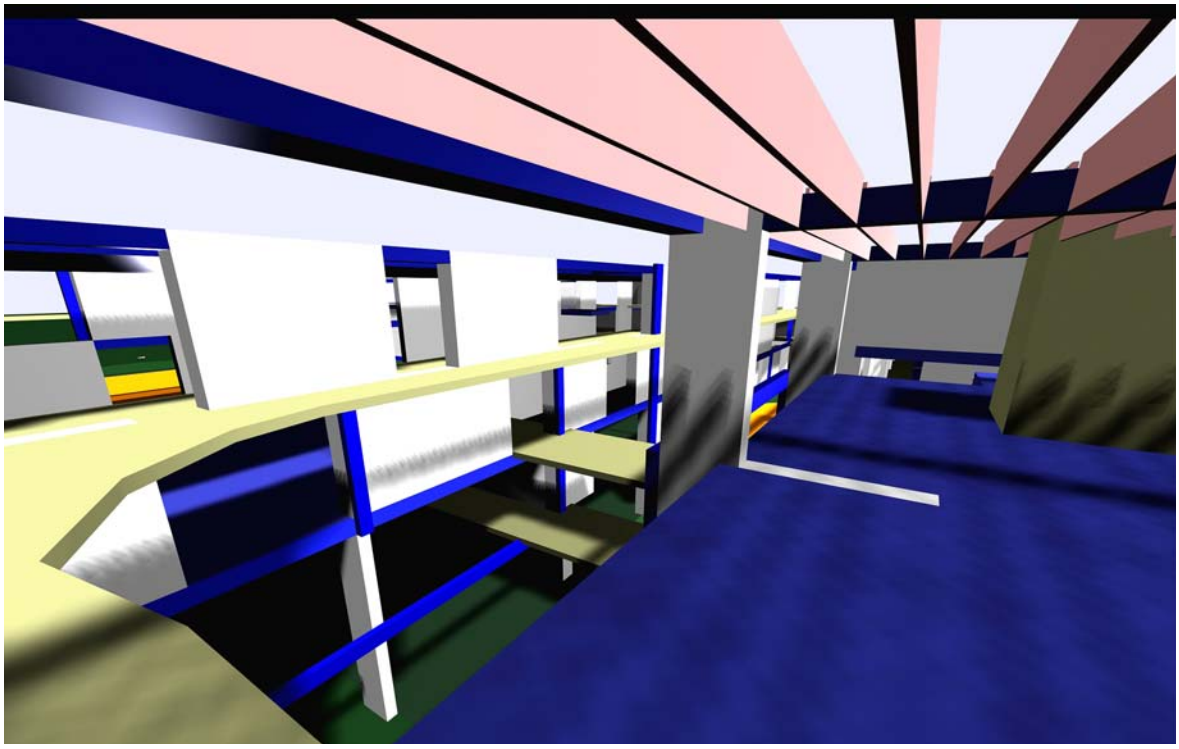

Figure 5.1.1.16 Site Perspective 5.

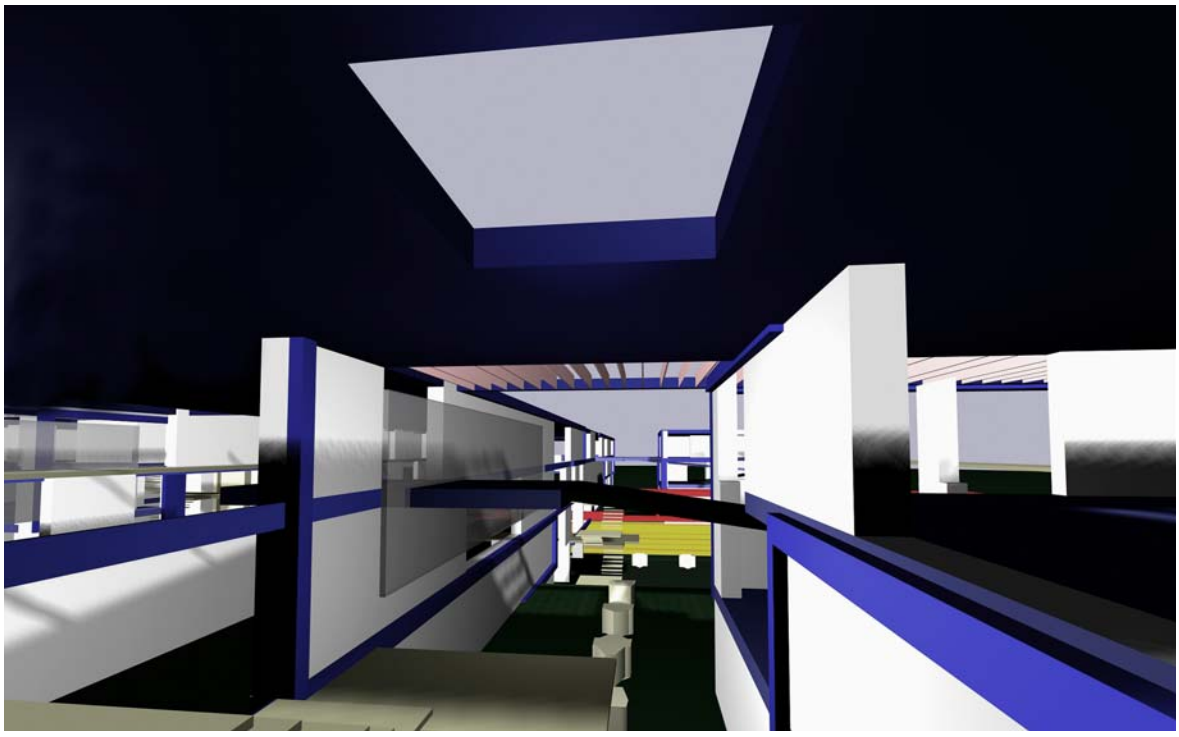

Figure 5.1.1.17 Site Perspective 6.

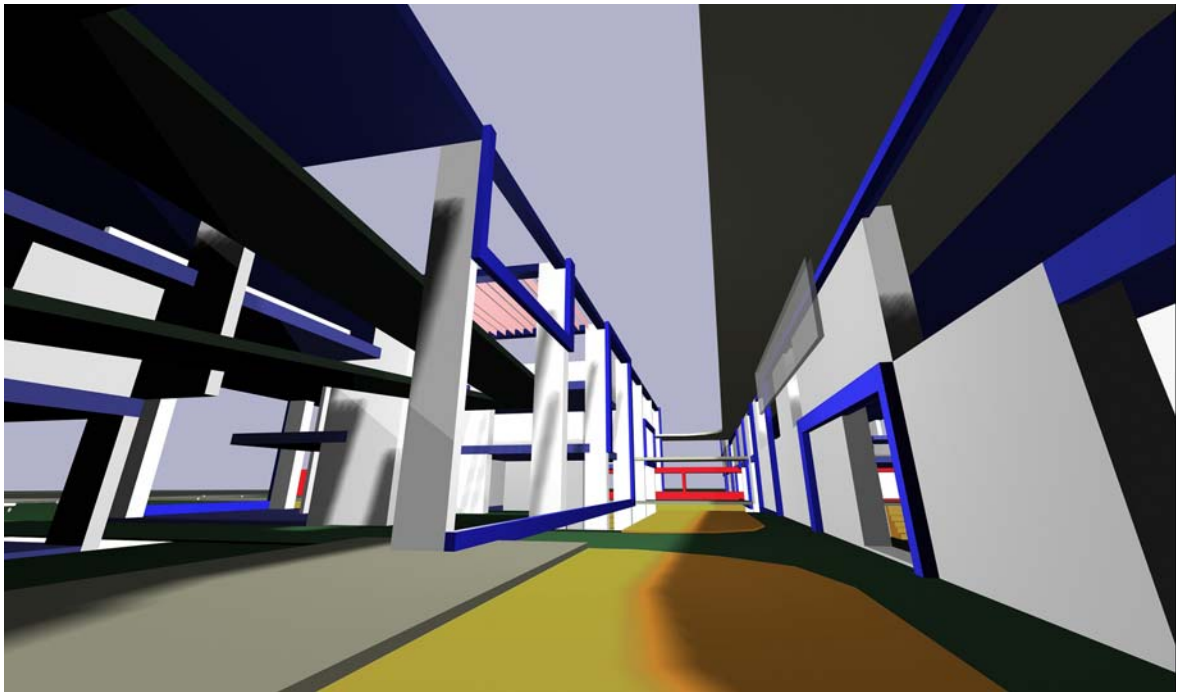

Figure 5.1.1.18. Site Perspective 7.

5.1.2 Phase 2

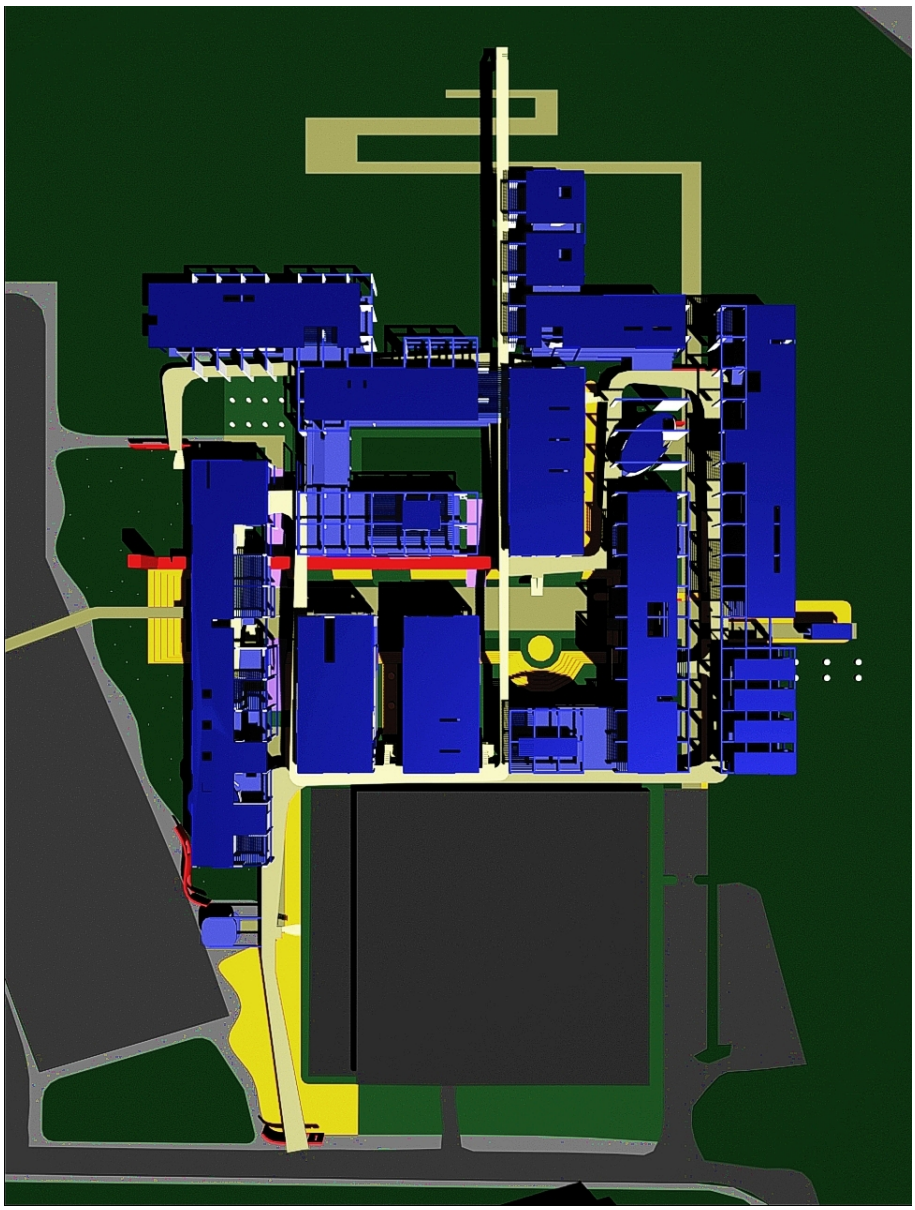

Figure 5.1.2.1 Top View.

Figure 5.1.2.2 Aerial Perspective 1.

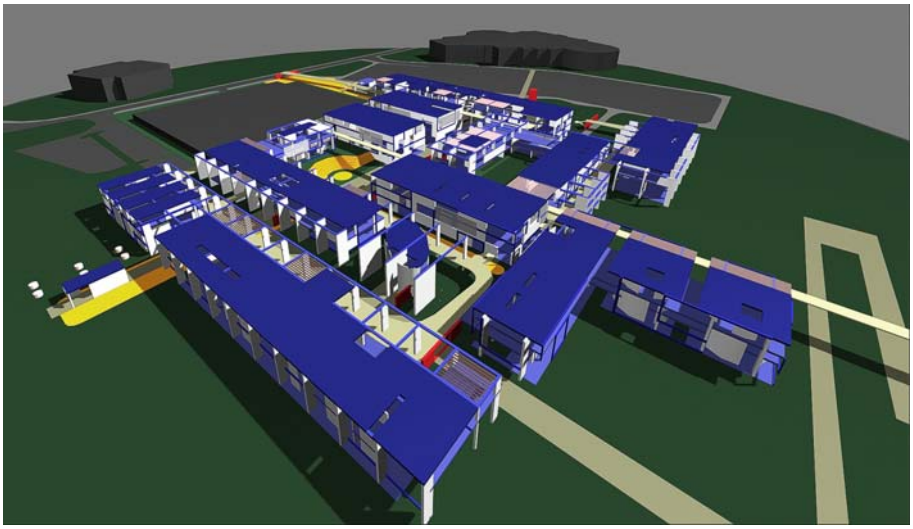

Figure 5.1.2.3 Aerial Perspective 2.

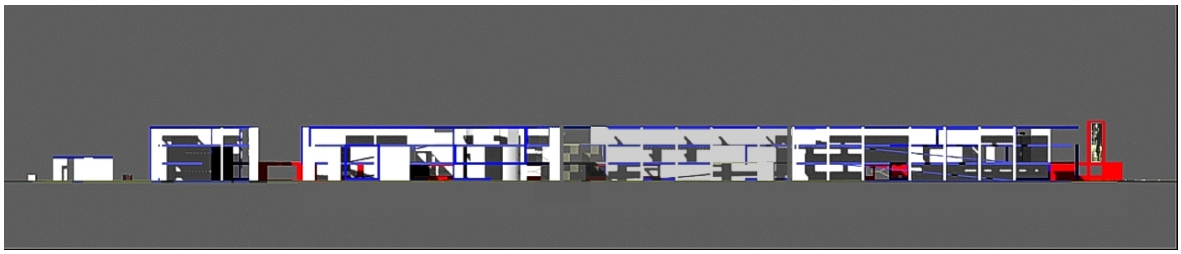

Figure 5.1.2.4 North Elevation.

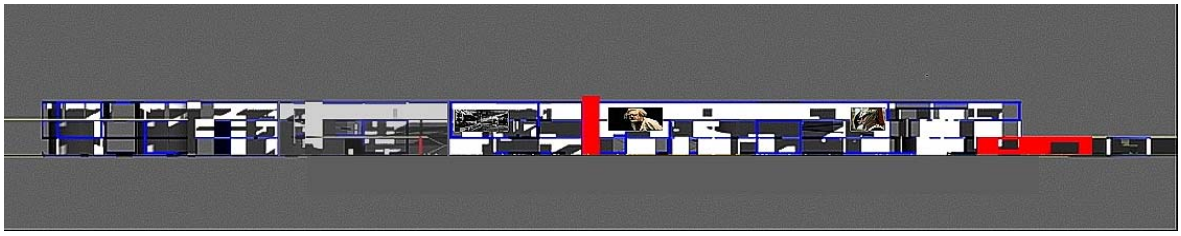

Figure 5.1.2.5 West Elevation.

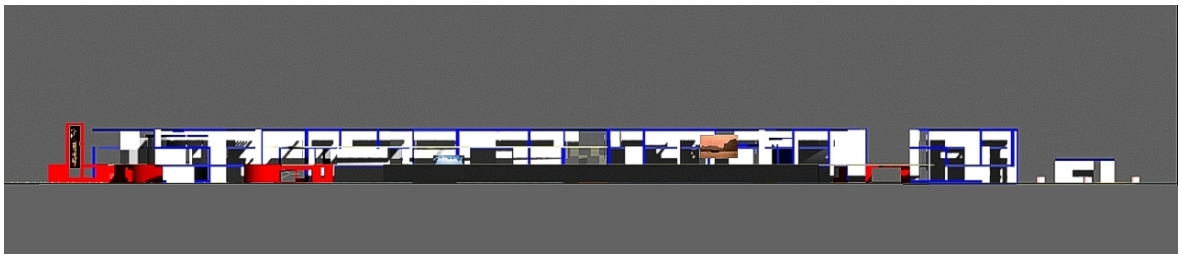

Figure 5.1.2.6 South Elevation.

Figure 5.1.2.7 Section Perspective 1.

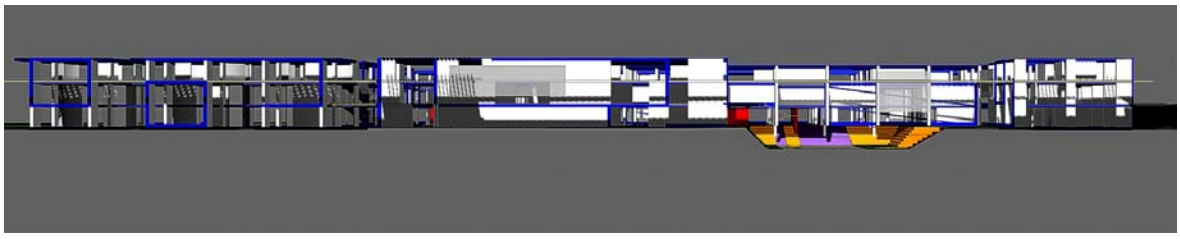

Figure 5.1.2.8 Section Perspective 2.

Figure 5.1.2.9 Section Perspective 3.

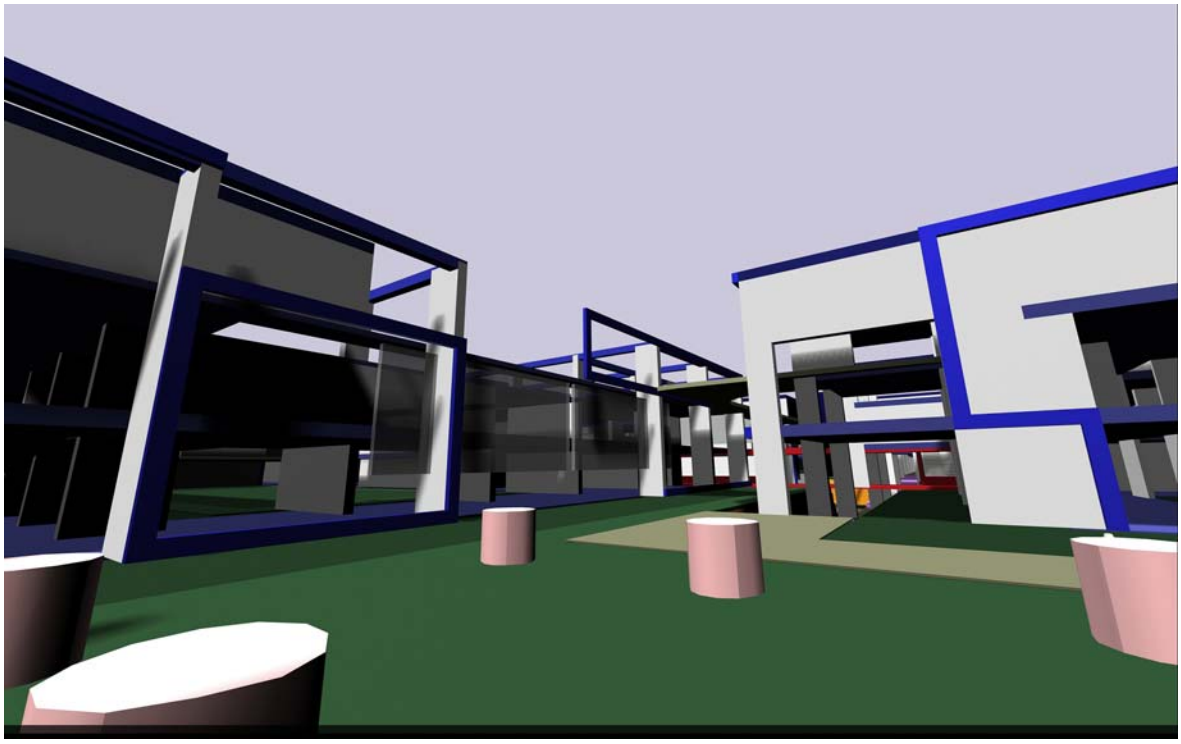

Figure 5.1.2.10 Site Perspective 1.

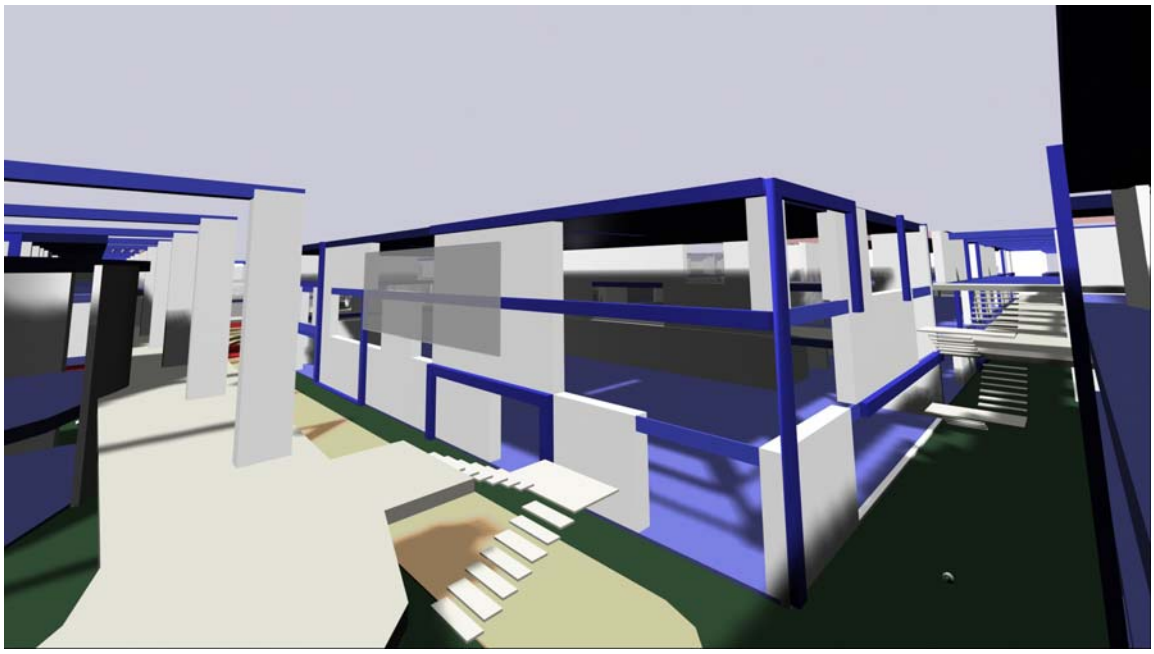

Figure 5.1.2.11 Site Perspective 2.

CHAPTER 6

CONCLUSION

The primary goal of this research is to propose a project for "A Multi – Functional Hall at METU" which has the capability of 'expanding' its limits in future, both physically and conceptually; and investigate the 'design tools' that will direct the steps of transformations in the process of architectural production. Here, the study concentrates on suggesting a different type of 'expansion' that calls for ways in order to expand the borders of architecture both as a discipline and a profession. Within this framework, the investigation is concerned with the production of a flexible, unstable and indeterminant building, focused on the concepts of 'transformation of space' and 'constant change', that could be re-designed and re-generated in respect to possible future transformations in the program, site and even society. Thus, architectural production is defined as a 'step' or a 'snap-shot', controlled by the design tools suggesting the solutions for an ever-lasting transformation.

The study investigates a number of different interpretations that scrutinize the intricate relationship between architectural form and function in the process of

architectural production in the 20th century. The conceptualization of this thesis is based on the assumption that function is an inadequate and weak concept for the generation of architectural form. Here, I supported the claim that there exists no longer a function based architecture and perhaps never existed. It is in this context that form is accepted as an architectural "fragment" that attains its autonomy not from the strictures imposed by other architectural fragments like'function', 'structure', 'program' and 'site'; but from an infinite number of internal relationships defined by the 'design tools' as we call. Therefore, form and function are thought as independent elements whose presences are not able to restrain or define each other.

It is Stanford Anderson who investigated the role of the concept of function in the process of form generation in modern architecture and asserted that function is not only a weak concept but also incapable of determining the final form.[223]

Moreover, Bernard Tschumi makes a critique of the relationship between form and function in the process of form generation. For Tschumi, in our contemporary society, "programs are by definition unstable." So, architecture is "constantly unstable, constantly on the verge of change."[224] In order to be in conformity with the changing conditions, Tschumi suggests a fragmented architecture in which any architectural element is not more important than the others in the process of space production. Within this conception he is opposed to the idea of 'function' defining the 'form' of architectural spaces; whereas he

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[223] Anderson, Stanford. February 1987. "The Fiction of Function". *Assemblage*, No.2. pp. 19-22.

suggests an "endless array of uncertainities" between the two.[225] He points out that this kind of a fragmented architecture gives the system an opportunity to not only resist the transformations but also to create 'new' and 'unexpected' relations in the future.[226]

Within this framework, 'fragmentation' and 'transparency' are accepted as 'design tools' that will organise and formulise the steps of transformations in the design process of 'A Multi – Functional Hall at METU'. The building is expected to be autonomous and have the capacity not only to house new programs that will be added in the future but also to transform itself by the assistance of the relationships defined by 'fragmentation' and 'transparency'.

In general, fragmentation can be accepted as the ultimate source for theorethical discussions that are necessary to construct a conceptual infrastructure for the project; whereas 'transparency' is defined as a set of rules that helps to create an architectural method which defines the physical relationships in the design process with respect to the fundamental concepts searched by 'fragmentation.'

Within this framework, in order to start the project, I believed in the importance of finding a key concept that would relate and unite the necessities and concepts imposed by fragmentation and transparency. Thus, 'layering', with its' both conceptual extensions and formal compositional concerns, is accepted as the main idea of design. Therefore, a number of related concepts like 'expansion',

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[224] Tschumi, Bernard. 1994. *Architecture and Disjunction*. Cambridge, Mass.: M.I.T. Press. pp. 20-21.
[225] Ibid., pp. 19-21.
[226] Ibid., p. 189.

'flexibility', 'sequence' and 'limit', which were investigated with respect to 'fragmentation' and 'transparency' in the third and fourth chapters, are exposed to re-interpretation by the discussions directed by 'layering' throughout the process of design.

In general, the building, "A Multi – Functional Hall at METU", is composed of twentyseven layers imposed on each other in both horizontal and vertical. All of these layers are accepted as "fragments of architecture."[227] In general, on the basis of the discussions on 'fragmentation' lies the desire to reduce architecture to its basic fragments and let them gain their own autonomies. Within this conception, fragments are introduced as independent units whose own autonomy lies in their capability to produce "new and unexpected relations"[228] in the future. So, as long as the number of architectural fragments increases, the capability of producing recent permutations and relationships between fragments also increases. Therefore, the building is expected to be open to transformations in future as long as its' fragments are unstable. Within this conception, the states of this transformation is defined by the help of the notion of 'sequence'.[229]

In general, there are two kinds of sequences: transformational sequences and sequential transformations.

The transformational sequence is accepted as a system of a number of "devices" or "rules" which defines the steps of transformations of fragments of

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[227] Ibid., p. 95.
[228] Ibid., p. 189.
[229] Ibid., p. 154.

architecture such as ‘program’, ‘wall’ or ‘space’ in their particular. For Tschumi, each fragment has the ability to adapt itself to the transformations, either by using the rules of kinds of tranformations such as “compression, rotation, insertion and transference”, or by “displaying particular sets of variations, multiplications, fusions, repetitions, inversions, substitutions, metamorphoses and dissolutions.”[230]

On the other hand, the sequential transformation is defined to present the necessary set of tools and rules in order to provide the unity between a set of transformational fragments in an overall composition. It defines the relationships between fragments in order to define the steps or the ‘snapshots’ of an architecture that is in a process of transformation.

Within this broad framework defined above, it is also possible to relate the concept of ‘sequence’ with the twentyseven layers of “The Multi – Functional Hall at METU.” As being the fragments of architecture, those layers are accepted to adapt themselves to transformations with the use of rules defined by ‘transformational sequences’. Moreover, the steps of transformation of the project from ‘Phase 1’ to ‘Phase 2’ are also explained by the process of “sequential transformation.”

Up to that point, the design tool of fragmentation and its interaction with the concept of layering have provided a great contribution to the theoretical infrastructure of the project in order to develop an understanding that dominates the steps of the possible transformations and modifications in future. However, it is also

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[230] Ibid., p. 154.

necessary to relate the concept of layering with the other design tool of 'transparency'. Because, layering, as being the ultimate source for 'phenomenal transparency', operates as an "organizator of form" that defines the formal relationships between fragments in order to construct an architectural language throughout the process of transformation.

In its simplest definition, Kepes' description of "simultaneous perception of different spatial locations without an optical destruction of each other"[231] refers to phenomenal tramsparency. For Kepes, we can talk of 'phenomenal transparency' in a building whenever its spaces "not only recedes but fluctuates in a continuous activity." Within this conception, what lies on the basis of that kind of a transparency is the notion of 'layering' of space in both vertical and horizontal.

Besides, Colin Rowe points out that Le Corbusier's Villa at Garches is also made up of vertical and horizontal layers. For Rowe, the "layerlike stratification" of the building provides "spaces travelling one behind the other"[232] and this creates phenomenal transparency. For Rowe, layers refers to picture planes in vertical as well as in horizontal and a "coulisse effect" can only be provided in case several planes "are either imposed upon, or subtracted from"[233] the other planes.

Within this conception, plane is no more accepted as simply a space defining element; on the contrary it is seen as an activated picture plane that is used to define new relationships between spaces. In this sense, a picture plane is

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[231] Kepes, Gyorgy. 1994. *The Language of Vision*. Paul Theobald, Chicago, p.77.
[232] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel: Birkhauser-Verlag. p.38.

subjected to the interference of several other planes by either imposing upon or subtracting from. Therefore, each plane is accepted as a 'picture plane' with reference to other planes. So, each plane belongs to several spaces both in horizontal and vertical at the same time. Thus, each plane, each layer can only be percieved with reference to the other layers. So, the spaces can only be differentiated from each other with the use of the relationships defined by the interaction between those layers of planes in both horizontal and vertical. Each plane refers to either a border or a part of several other spaces defined by several other planes. Thus, the borders defining the limits of the spaces are blurred and even ceased to be percieved. As spaces interpenetrate into each other, in both horizontal and vertical, the central focus is broken up and the borders between spaces are pushed through the extremities and outside of a building. That kind of a space organisation not only provides the dissolution of borders between inside and outside of that building but also creates an effect of 'expansion'.

Within this framework, the concept of 'grid' becomes important as it accentuates the feeling of 'expansion' in a building. Rowe refers to Le Corbusier's Villa at Garches and mentions the significance of grid in the perception of extension. For Rowe, "the repetitive nature of the grid", both in vertical and horizontal planes, "tends to prohibit the condensation of the building into one block". He points out that, grids not only "emphasise the idea of an extension, of a

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[233] Ibid., p.38.

pulling outwards rather than a concentration of space."; but also break up the 'centralisation' of the building.[234]

The condition of spaces flowing up into each other creating a feeling of continuity and simultaneity at the same time can also be seen as the basis for 'flexibility' of space. However, the condition of flexibility cannot only to be achieved with physical arrangements in a building. "A built-in flexibility" is a characteristic of phenomenal transparency; so, it has something to be perceived beyond its' physical character. Phenomenal transparency ensures the interpretation of a new kind of flexibile space with many alternatives, both physically and conceptually. For Bernard Hoesli, a transparent organization of space provides a "built-in flexibility of use", because "it allows and even encourages multiple readings of the interconnections between the parts of a whole system of related spaces."[235]

Within this broad framework defined above, transparency as a design tool has provided great contribution and necessary practical infrastructure to the project in order to define the physical relationships between the fragments of architecture in a process of transformation.

In conclusion, within the framework discussed above, the design process of "A Multi – Functional Hall at METU" is based on the relationships defined by the interaction between the concept of layering and notions such as 'sequence',

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[234] Rowe, Colin. 1977. *The Mathematics of the Ideal Villa and other Essays*. Cambridge, Massachusetts, and London, England: The MIT Press. p. 128.

‘elementarization’, ‘integration’, ‘simultaneity’ and ‘flexibility’, provided by ‘fragmentation’ and ‘transparency’, the so called design tools. These ‘design tools’ are suggested not only to control the relationships between fragments of architecture like ‘space’, ‘function’ or ‘program’ in the present time, but also to be unstable, indeterminate and autonomous enough to expand their own limits in order to present the rules that will control the ‘phases’ of new and unexpected transformations in future. Thus, the design process will define one ‘phase’ at each step where each ‘phase’ refers to any transformation whose relationships between fragments also directed by these ‘design tools’. This kind of a dynamic, unstable, fragmented and indeterminant building based on ‘transformation of spaces’ and ‘constant change’ will surely resist to any prediction and determination; so it could adapt to new functions which will be added later, and resist the unpredictability of future.

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[235] Rowe, Colin and Robert Slutzky, Bernhard Hoesli, Werner Oechslin. 1997. *Transparency*. Basel:

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