SIGFRIED GIEDION'S "SPACE, TIME AND ARCHITECTURE": AN ANALYSIS OF MODERN ARCHITECTURAL HISTORIOGRAPHY

A THESIS SUBMITTED TO
THE GRADUATE SCHOOL OF SOCIAL SCIENCES
OF
MIDDLE EAST TECHNICAL UNIVERSITY

BY

ZEYNEP CEYLANLI

IN PARTIAL FULLFILMENT OF THE REQUIREMENTS
FOR
THE DEGREE OF MASTER OF ARTS
IN
HISTORY OF ARCHITECTURE

SEPTEMBER, 2008

Approval of the Graduate School of Social Sciences

Prof. Dr. Sencer AYATA
Director

I certify that this thesis satisfies all the requirements as a thesis for the degree of Master of Arts.

Assoc. Prof. Dr. Güven Arif SARGIN
Head of Department

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts.

Assoc. Prof. Dr. Belgin TURAN ÖZKAYA
Supervisor

Examining Committee Members

Assoc. Prof. Dr. Belgin TURAN ÖZKAYA (METU, AH) _____

Asst. Prof. Dr. Elvan ALTAN ERGUT (METU, AH) _____

Instructor, Dr. Haluk Zelef (METU, ARCH) _____

I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

Name: Zeynep CEYLANLI

Signature:

ABSTRACT

SIGFRIED GIEDION'S "SPACE, TIME AND ARCHITECTURE":
AN ANALYSIS OF MODERN ARCHITECTURAL HISTORIOGRAPHY

CEYLANLI, Zeynep
M. A., Department of History of Architecture
Supervisor: Assoc. Prof. Dr. Belgin TURAN ÖZKAYA
September 2008, 172 pages

This thesis investigates the key aspects of modern architecture in the first half of the twentieth century by an extensive reading of Sigfried Giedion's book on modern architecture: *Space, Time and Architecture – The Growth of A New Tradition*. Giedion's life, his education, his other writings and his relationships with the pioneers of the era are considered as significant influences on the writing of the book. After giving an informative summary of the book, the key themes of the book are analyzed. While analyzing these themes, the opinions of other architectural historians on these themes are also taken into consideration. The reviews on the book are elucidated in order to grasp the first reactions of architectural history circles, and then they were followed by the later impressions. The claim is that *Space, Time and Architecture* is an influential resource for the understanding of how modern architecture is written about in the first half of the twentieth century. The proof of this influence is both the written sources on the book and its rule in Manfredo Tafuri's formulation of 'operative criticism'.

Keywords: Sigfried Giedion, Modern Architecture, Space-Time, Operative Criticism.

ÖZ

SIGFRIED GIEDION'IN "SPACE, TIME AND ARCHITECTURE" KİTABI:
BİR MODERN MİMARLIK TARİHYAZIMI ANALİZİ

CEYLANLI, Zeynep
Yüksek Lisans, Mimarlık Tarihi Bölümü
Tez Yöneticisi: Doçent Dr. Belgin TURAN ÖZKAYA
Eylül 2008, 172 sayfa

Bu tez, yirminci yüzyılın ilk yarısında modern mimarlığın gelişmesini Sigfried Giedion'ın *Mekan, Zaman ve Mimarlık – Yeni Bir Geleneğin Gelişimi* başlıklı kitabının kapsamlı okumasıyla incelemektedir. Giedion'ın hayatı, eğitimi, diğer yazıları ve dönemin önde gelen kişilikleriyle olan ilişkilerinin bu kitabın yazımında önemli etkilere sahip olduğu kabul edilmektedir. Kitabın kapsamlı bir özeti verildikten sonra, kitaptaki anahtar temalar incelenmiştir. Bu temalar incelenirken, diğer mimarlık tarihçilerinin bu temalar hakkındaki görüşleri de değerlendirmeye alınmıştır. Kitap üzerine yapılan eleştiriler, kitaba verilen ilk tepkilerin ve daha sonraki tepkilerin kavranması açısından ele alınmıştır. Bu tezde *Mekan, Zaman ve Mimarlık* başlıklı kitabın yirminci yüzyılın ilk yarısında modern mimarlık tarihi yazımını ilk ağızdan anlamak için etkili bir kaynak olduğu savunulmaktadır. Buna kanıt olarak da kitap üzerine yazılmış yazılar ve Manfredo Tafuri'nin 'etkin eleştiri' önermesine uygun bir örnek olarak algılanması gösterilmiştir.

Anahtar Kelimeler: Sigfried Giedion, Modern Mimarlık, Zaman-Mekan, 'Etkin Eleştiri'

To whoever believed in me,

ACKNOWLEDGMENTS

I would like to express my gratitude to my supervisor, Assoc. Prof. Dr. Belgin Turan Özkaya, whose guidance and suggestions were precious for me. I am also indebted to Assist. Prof. Dr. Elvan Altan Ergut for her invaluable patience and for the support she provided me, and Inst. Dr. Haluk Zelef for his suggestions and comments. I am also thankful to Assoc. Prof. Dr. Cânâ Bilsel and Assist. Prof. Dr. Lale Özgenel for their contribution.

I am grateful to my friend Oya Dinler for her endless support and constant existence in my life, in addition to her illuminating critiques in our philosophical debates and exchanges of knowledge during my graduate program. And I would like to thank my other friends for their continuous moral boost.

I am also grateful to Pia Ducrey, who works in the Archive Department of the *Neue Zürcher Zeitung*. Without her tremendous sympathy and understanding, I would not be able to reach Giedion's early articles.

Finally, I express my deepest gratitude to my family who has been supporting me throughout my life.

TABLE OF CONTENTS

LIST OF FIGURES

FIGURES

CHAPTER 1

INTRODUCTION

The debates on modern architecture have been continuing since the beginning of the twentieth century. What caused the desperate need for a new architecture? What was the starting flame for modern architecture? To which extend could modern architecture legitimize itself? Throughout the time passed, these questions were asked in order to understand the very idea of modern architecture and the notions it introduced to the history of architecture. Various historians looked at different sources to find the answers to these questions. In the beginning of this thesis, the same questions were also asked, however later, those lead to the search for a more specific area of research. Various sources have handled the issue of modern architecture from various points. What would have been 'more accurate' in order to understand the evolution of modern architecture from a distinct frame of reference? The answer given to this question was to limit the search with a book on modern architecture, which was written during the formation period of modern architecture by a historian, who had a close contact with the pioneers of modern architecture, even he himself would be a part of the development of modern architecture. There should have been arguments and discussions about the notions the writer presented in this book, in the context of modern architectural history and theory. The answer was Sigfried Giedion and his "ambitious" and "significant"[1] *Space, Time and Architecture – The Growth of A New Tradition*, which is envisaged as having an important role in

[1] These characterizations are used by these authors in the following sequence: Nikolaus Pevsner, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Burlington Magazine for Connoisseurs* 82, no.478 (January, 1943), Turpin C. Bannister, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Art Bulletin* 26, no.2 (June, 1944)

constructing the history of modern architecture.[2] This thesis aimed to understand and analyze *Space, Time and Architecture* in the first place. In order to understand the book, the thesis focuses on Giedion's past and his environment, and sees the book as a model of history and theory of modern architecture. Most importantly it leads to a new method of 'history writing and criticism' which is called 'operative criticism'.

The main argument of the thesis is constructed with the guidance of Sigfried Giedion's *Space, Time and Architecture*, and it is planned to understand the book's notion of modern architecture and the way the book operated in the field of history and theory of modern architecture. However, the book itself is not enough to get into the very issue of modern architecture; the necessity for looking into the background of the book emerged during its examination. So the frame is set accordingly: in connection with *Space, Time and Architecture*, Giedion's education and professional life, and the milieu within which Giedion took place before the book was written are taken into account. To consider and evaluate *Space, Time and Architecture* as a book on modern architecture, and reading it without being aware of the existing contemporary thoughts of the architectural circles would have remained imperfect. This thesis offers a specific reading of the history and theory of modern architecture in *Space, Time and Architecture* in the light of Giedion's academic and social background. Mainly by following the sources that include any information on Giedion and/or his writings, the way that Giedion pursued to construct the theory and the notion of modern architecture in *Space, Time and Architecture* is aimed to reveal. Before the book was prepared and published, the Bauhaus, which was founded by Walter Gropius in 1919, was closed because of the Nazi Regime in Germany, the Second World War was at the door, and Gropius moved to America along with many others. Gropius's immigration to America was important for Giedion, since he was the one who invited Giedion to

[2] Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1941) From now on *Space, Time and Architecture.*

America and provided him the opportunity to learn about the American architecture and the American industry. Besides, the practice of modern architecture was at stake because of the war, but the practitioners could find an available environment in America, away from the war. On the other hand, Le Corbusier's usage of reinforced concrete led the new architecture to achieve progress, which fascinated Giedion as well as the other modern architects. The International Congress of Modern Architecture (CIAM – Congrès Internationaux d'Architecture Moderne), in which Giedion took place as the general secretary, was in debate on how modern architecture will move on and proceed. Furthermore, Giedion had already read about the 'Russian experiment' and 'industrially developed America' by 1930 and was pursuing the developments in architecture in these countries as well.[3] Considering the architectural activity around him and concerning his position as architectural historian, it was expected from him to write on the history of modern architecture.

An overall examination of *Space, Time and Architecture* is fundamental. In the light of the background Giedion had and since he took part in an avant-garde movement, which is the modern movement, it is estimated that the formation of the book would offer a new approach to the history of architecture.[4] Along with a detailed summary of the book, there are six themes that conceptualize the notions argued in *Space, Time and Architecture*. It is stated here that these themes ('Constituent Facts', 'Zeitgeist', 'The Nineteenth Century: Denken und Fühlen', 'Morality', 'America: A Perfect Medium?' and 'Interpretations of Space') reflect the organic interrelationship that Giedion set in his book as a new way of looking at the origins of the new (modern) architecture.

[3] Sigfried Giedion, "Russland – Amerika – Frankreich", *Neue Zürcher Zeitung* no.744, 16 April 1930, p.8-9

[4] The notion of avant-garde is considered through Hilde Heynen's explanation, which is "a position that is characterized by a logic of negation and a critical attitude vis-à-vis social conditions" in *Architecture and Modernity*, (Cambridge, Massachusetts: MIT Press, 1999) p.43 Hence, here modern architecture is accepted as an avant-garde movement.

Furthermore, it is also given credit to the thoughts of other historians and architects about those very themes offered here. In fact, *Space, Time and Architecture* turned here into a basis for discussing the arguments on both modern architecture and history writing. Right after the examination of the book and the themes, the reviews on the book are analyzed. These reviews not only point out the omissions or the achievements in the book, but they also harbor latent information both on the book, on Giedion, and on the situation of modern architecture in the period that the review was written. Hence, a sequential order according to their dates is followed, in order to reveal the changing reception of the book.

The way Giedion handled history of architecture inspired a method of criticism: the Italian architectural historian Manfredo Tafuri states that Giedion's *Space, Time and Architecture* can be accepted as an example of 'operative criticism', since it is to be a historical project with its selective reading of history. For the historian, being an active participant of history is vital for producing operative criticism. Furthermore, such a criticism demolishes the division between history and theory: just like Giedion's own intention of uniting thinking and feeling. This postulate of Tafuri's had many repercussions in the course of architectural history. Along with the notions suggested in the book, they also discussed the position of *Space, Time and Architecture* in modern architectural history. Along with Michael K. Hays, Hilde Heynen and Fredric Jameson some architectural historians and theoreticians criticized *Space, Time and Architecture* as a new way of writing history and Giedion as a historian and as someone involved in modern movement.

The sources used for this thesis have a manifold character. From critical books on art history and literature from the time of its publication to this day to Giedion's own writings and newspaper articles are used. The situations both in various countries he visited and in the field of art and architecture are taken

under examination. For instance, through Harvard University's daily newspaper, the *Harvard Crimson*, Giedion was introduced to the university circle as "one of the most eminent writers on modern architecture in Europe".[5] Or we learn from the comprehensive work of Sokratis Georgiadis that he wrote a drama, called *Arbeit – Drei Akte* in 1917 and activist/expressionist lyrics around the same time.[6] Even though these information seem more or less like details, it provides knowledge on the environment Giedion spent his life in, and on the intellectual phases he went through until he came to write *Space, Time and Architecture*. More than buildings and visual evidences, the written resources are investigated in this thesis. Visual material is of course important, since the graphic design of the book and the illustrations and images used in the book were the concern of many architectural historians. Yet, these are beyond the scope of this thesis.

In the light of the notions presented in *Space, Time and Architecture*, a specific reading of modern architecture is posited here. It is stated that, despite the critiques about the omissions and the propagative language of the book, Sigfried Giedion's 'major' book *Space, Time and Architecture* occupies a significant place in the history of modern architecture; and with an extended examination of the book, one could perceive the formation of modern architecture through the perspective of an architectural historian, who had been a part of the movement.

[5] "Gropius Lectures Begin", (no writer attributed), *The Harvard Crimson* online edition, published in 14 November 1938. http://www.thecrimson.com/article.aspx?ref=459883

[6] Sokratis Georgiadis. *Sigfried Giedion: An Intellectual Biography.* (Edinburg: Edinburg University Press Ltd, 1993) p.4

CHAPTER 2

SIGFRIED GIEDION

2.1 A Short Biography

Swiss art historian Sigfried Giedion was born in Prague in 1888 (Figure 1).[7] He studied mechanical engineering to please his family, to fulfill their wish to keep the family business going. However, later on he realized that it wasn't what he wanted for the rest of his life.[8] He decided to study art history. His education began at the University of Zurich in 1915 and ended at the University of Munich in 1922 after a successful dissertation on Late Baroque and Romantic Classicism under the supervision of a respected art historian, Heinrich Wölfflin. In addition to Wölfflin, the influence of Alois Riegl, who was at that time teaching at the University of Munich as well, should also be noted.

After World War I Giedion was dealing with literature as well as his doctoral work. At the end of this work, his academically known product came out: his dissertation *Spätbarocker und romantischer Klassizismus* (Late Baroque and Romantic Classicism) was published in 1922 (Figure 2). Right after this year was the first direct contact of Giedion with modern architecture: he visited the Bauhaus exhibition, which was held in Weimar in 1923 (Figure 3).[9] This date is also important for the beginning of his close relationship with the successful

[7] It has been given importance to the figures that Giedion used in *Space, Time and Architecture*. Some figures are taken from other sources, if they are not existed in *Space, Time and Architecture*.

[8] Sokratis Georgiadis. "Introduction" in *Building in France – Building in Iron – Building in Ferroconcrete*, Sigfried Giedion (Santa Monica, CA:The Getty Center for the History of Art and the Humanities, 1995 [1928]), p.2

[9] Hilde Heynen. *Architecture and Modernity*, (Cambridge, Massachusetts: MIT Press, 1999) p.29

architect and the founder of the Bauhaus, Walter Gropius.[10] Such exhibitions were highly important for the development of the newly sprouted ideas in architecture, especially on the way leading to modernism. Giedion was a devoted supporter of such exhibitions, so the second time he met with an important pioneer of Modern architecture, it was with Le Corbusier in the *Esprit Nouveau* Exhibition in Paris, 1925 (Figure 4).

Especially after these close contacts with modern architecture, Giedion was passionate about the renewal of the society and culture, and as Sokratis Georgiadis puts forth, this desire was set as the primary motivation of his books beginning with *Building in France – Building in Iron – Building in Ferroconcrete* (Figure 5).[11] He developed an approach within which the historian's task is to look for the various ways to analyze the present, and this approach led the history to become an instrument, which is 'to be used operationally in the day-to-day architectural struggle'.[12] He continued working on this idea and prepared the base of his claims in his influential major book: *Space, Time and Architecture* (Figure 6). In this time period between his dissertation and the publication of *Space, Time and Architecture*, he contributed to the journals *Cicerone* and *Cahiers d'Art* regularly, published his first book after his thesis (*Bauen in Frankreich, Bauen in Eisen, Bauen in Eisenbeton*, 1928), wrote a small book on modern housing form (*Befreites Wohnen*, 1929), prepared the first short monograph on Gropius (Walter Gropius, 1931), and started working on a project on the history of modern civilization (*Die Entstehung des heutigen Menschen*) but did not finish this one. His articles in *Cahiers d'Art* between 1928 and 1934 formed the base of his architectural entries for Encyclopedia Britannica in 1957, just like his writings in *Cicerone* led the way to *Bauen in Frankreich*. The lectures he gave

[10] Georgiadis: 1995, p.1

[11] ibid., p.2 This book of Giedion was originally published in German under the title of *Bauen in Frankreich – Bauen in Eisen – Bauen in Eisenbeton* in 1928. From now on *Building in France.*

[12] Georgiadis: 1993, p.36

in the United States were also a preparation phase for his books: his lecture series as the Charles Eliot Norton Professor of Poetry at Harvard University between 1938-39 constituted the basis of his worldwide-known book *Space, Time and Architecture –The Growth of a New Tradition*. *Mechanization Takse Command* was published in 1948 (Figure 7), and his manuscript *Constancy and Change in Architecture* stemmed from another Harvard lecture in 1961, this time devoted to Walter Gropius. This manuscript was followed by and included in two large volumes under the titles of *The Eternal Present: The Beginnings of Art* published in 1962, and *The Eternal Present: The Beginnings of Architecture* published in 1965. He continued writing art and architectural history until the day before his death in April 1968, when he finished his last work *Architecture and the Phenomenon of Transition*.

Except those works of him on history of architecture, he was also interested and highly involved in constructing the history of modern architecture. He was one of the key figures of CIAM, which was founded in La Sarraz in 1928.[13] Contributed to the meeting as an observer, Giedion became the General Secretary of the association, a position that requires as much participation as possible. He held this position to the very end of the congresses, until the unofficial dissolution of CIAM in 1957.[14] Along with the participation in such organizations, Giedion was involved in architectural practice as well. According to him, writing architectural history and creating architecture have more in common than scholars usually assumed, just like art and science do.[15] As concrete examples, he was involved in the construction of two prototypical multifamily residences in Zurich, designed by Alfred and Emil Roth, and

[13] ibid., p.74

[14] The last CIAM meeting that Giedion and his associates contributed was the CIAM 10 in Dubrovnik, Yugoslavia in 1956. One year after, the intermediary CIRPAC meeting was held in La Sarraz in order to denounce the dissolution of CIAM. This group did not contributed to the officially last meeting of CIAM in 1959 in Otterlo, the Netherlands.

[15] Sigfried Giedion. *Space, Time, and Architecture- The Growth of a New Tradition*. (Cambridge: Harvard University Press, 1941. Third edition, 1954) p.426

Marcel Breuer.[16] On the other hand, he was the design consultant of a dancing hall again in Zurich, namely Corso-Dancing, which was designed by some of the core architects of CIAM: Ernst F. Burckhardt, Alvar Aalto, Max Bill, and Max Ernst.[17] At the same time, Giedion was looking for an academic post at Zurich's *Eidgenössische Technische Hochschule* (Swiss Federal Institute of Technology, ETH). However, the turning point of his life can be accepted as the invitation from Harvard University as the Charles Eliot Norton Professor for the 1938-1939 academic year. Thanks to Walter Gropius, who was also teaching at Harvard University at that time after escaping from the Nazi regime, Giedion here found the opportunity to prepare his book, *Space, Time and Architecture*. One of the most important profits of this visit was his discovery of America. At that time period not so many were interested in anywhere else than Europe; Europe was seen as the center of civilization. From now on, America would be an unavoidable aspect of Modern architecture for Giedion, and a 'primary influence in the maturation of his historical vision'.[18] In this book, Giedion examined the four bygone centuries as well as the nineteenth century to find out the origins of the twentieth century. Plus, he drew attention to the role of the unity and cooperation among science, technology and art in the development of a new tradition. The relation between art and science is crucial for Giedion. He argued that both of them are formulated by men living in the same period, exposed to the same general influences, and moved by similar impulses.[19] It can be seen that the main aim of this book, to set a global theory of modern architecture, was the reason why the book has been so much talked about. But before examining *Space, Time and Architecture*, it is important to take a glance at the other major writings of

[16] Georgiadis here gives credit to Joachim Driller's Ph.D. dissertation, dated 1990. Georgiadis does not give a detailed information on this subject.
[17] Christoph Bignens, "Happy Hour: Ernst F. Burckhardt, Max Ernst, Max Bill, Sigfried Giedion, Alvar Aalto and the Corso-Dancing in Zurich", *Parkett* 77 (2006), p.182

[18] Kenneth Frampton, "Giedion in America: Reflections in a Mirror", *Architectural Design* 51, no.6-7 (1981) p. 45

[19] Giedion: 1954 [1941], p.13

Giedion in that time period, in order to understand the development of his ideas: his dissertation '*Late Baroque and Romantic Classicism'* of 1922, '*Building in France - Building in Iron - Building in Ferroconcrete*' of 1928, and '*Mechanization Takes Command'* of 1948.

2.2 Publications

Late Baroque and Romantic Classicism

Except the plays and poems he wrote until 1922, Giedion's dissertation is his first academic writing. As already mentioned, under the supervision of an influential Swiss art historian, Heinrich Wölfflin, Giedion studied the shift from Baroque to Romanticism – not considering any independent phase of Classicism on purpose. As Georgiadis reports, this shift happens between the end of the eighteenth century and the beginning of the nineteenth century; to remark more precisely, between 1770 and 1830 as Giedion sets. The first remarkable notion in the thesis is the attitude toward Classicism. As Georgiadis asserts in his book '*Sigfried Giedion: An Intellectual Biography'*, unlike the general academic attitude, Giedion refused to accept Classicism as an independent phase or style in art history, but more a 'shade of color'. [20] According to him, the more fascinating are the notions of Baroque and Romanticism; not the notion of Classicism which is the rediscovery and reinterpretation of the classical ideal, which brings 'nothing new' into art and architecture.

To be aware of Giedion's dissertation is necessary in order to be aware of the differences and similarities between Giedion's and his supervisor Wölfflin's approach to architectural history. If Wölfflin's approach is to be overviewed, Georgiadis acknowledges, the massive importance of formalism can easily be seen. He was Swiss as Giedion was, and studied with both Jacob Burckhardt,

[20] Georgiadis: 1993, p.16

another important figure among art historians, and Theodor Lipps, with whom Wölfflin wrote his dissertation on perception of form in architecture. It could be presented that (despite the changing aspects of how he treated art history) two features remained unchanged in his writings: the necessity of psychology of perception, and the approval of the set of oppositions which constructs art history – namely the 'phenomenon of change'. Michael Hatt and Charlotte Klonk put forth in their book '*Art History, A Critical Introduction to Its Methods*', Wölfflin's method of approach to art history took advantage of black and white photography, which was developing with an enormous impetus, in order to show the change of style and form in paintings and architecture.[21]

Giedion's dissertation was done under the influence of Wölfflin. Therefore, the "phenomenon of change" can be seen in this work. Nevertheless, as Joseph Rykwert states in his paper on Giedion in 1954, the evolution of the methodology of the Swiss art historical school could be investigated through the works of Burckhardt, Wölfflin, and Giedion; the approach that Burckhardt achieved by claiming a consistency among internal and external factors for art and architecture changed as Wölfflin excluded the external factors in his approach. And finally, with Giedion's dissertation "Burckhardt's achievement was inverted": what was discussed then was not a partially studied but united period, however rather a period that embraces disruptions in itself.[22] As Georgiadis denotes, juxtaposing concepts of Renaissance and Baroque that operated in the *Spätbarocker und romantischer Klassizismus* give us the first clues of the attitude of Giedion toward investigating architectural history: to visualize the concepts in a spectrum, in which there are always opposite sides – such as 'closed and open form', 'variety and unity', 'clarity and obscurity'.[23]

[21] Michael Hatt and Charlotte Klonk. *Art History, A Critical Introduction to Its Methods*. (Manchester and New York: Manchester University Press: 2006) p.72

[22] Joseph Rykwert, "Review: Siegfried Giedion and the Notion of Style", *The Burlington Magazine* 96, no.613 (April, 1954) p.123

[23] Georgiadis: 1993, p.16

Another aspect in Wölfflin's view, as Nikolaus Pevsner mentions, is that art history consists of visual cases only and 'should not be disturbed by' any cultural or intellectual or social history.[24] Consequently, there is not any mention of Industrial Revolution or the French Revolution, although the thesis covers exactly those years (apparently, this was a consequence of Wölfflin's principles).[25] Still, despite the very influence of the strict principles of Wölfflinean thought, Giedion's changing approach can be traced in his writings; for him there were more to consider while writing architectural history, such as the conception of space. As Georgiadis informs, there are other historians who are for Wölfflin's formalistic approach or against, and criticizing it accordingly. For instance, Bruno Zevi claims that architecture is the most abstract of all the arts; hence concrete examples should have been given.[26] On the other hand, Christian Norberg-Schulz criticizes Wölfflin's approach for not considering the notion of space.[27] The architectural historian Panayotis Tournikiotis informs us about the critical approach of Zevi on this subject:

> The task of Zevi's modern architecture was to reject the formalism both of classicism and of rationalism and to place itself in the service of the everyday needs of man…. This human-centered concept determines the social dimension of modern architecture as an architecture for people, as distinct from architecture for the architect.[28]

---

[24] Nikolaus Pevsner, "Judges VI, 34: But the spirit of the Lord came upon Gideon and he blew a Trumpet", *Architectural Review* 106 (August 1949) p.77

[25] ibid., p.77

[26] Bruno Zevi. *Architecture As Space – How to Look at Architecture*. (New York: Horizon Press, 1957) p.161

[27] Christian Norberg-Schulz. *Intentions in Architecture*. (London, Oslo and Cambridge: The MIT Press, 1965) p. 95

[28] Panayotis Tournikiotis. *The Historiography of Modern Architecture*. (Cambridge and London: The MIT Press, 1999) p.55-56

Not only Wölfflin, but also another important art historian of that time, from the University of Munich like Wölfflin, had a particular influence on Giedion: the Austrian-born Alois Riegl. In Giedion's dissertation, the influence of Riegl's concepts on mode of vision and conception of space can be observed, when his book *Spätrömische Kunstindustrie* is taken into account.[29] In this book Riegl's motto of 'Kunstwollen', which can be interpreted as artistic volition or artistic intent, took its shape. According to Riegl, as he claims in this book, the change in the artistic forms and aesthetics are pretty much related with the change of the way people perceive the world.[30] This explanation refers to the tenets of Wilhelm Wundt, professor of philosophy regarded as one of the founders of modern psychology, which distinguish the basic and refined sensations, and argued that change in people's perception of the world causes the change in art. As Georgiadis briefly puts forth, Giedion's work hosts the main theme of the differentiation between object and space, covering both the form and structure of Wölfflin and the spatial perception of Riegl.[31] Still, Giedion had developed another view, slightly different from Wölfflin's and Riegl's. The following lines shows his bias in comparing Baroque and Romantic periods:

> (The decisive creations of Romanticism) reveal a hidden face… Schinkel's late ground-plans already reveal a family that has been dismembered, spattering its blood over the centuries. In comparison, the intricate harmony of a Baroque system, with its light and yet unchangeable style, appears to be one single, happy smile.[32]

Giedion's work on the Baroque period laid the foundations of his later studies, both *Building in France* and *Space, Time, and Architecture*. Especially in the

[29] Georgiadis: 1993, p.21-22

[30] Margaret Iversen. *Alois Riegl: Art History and Theory*. (Cambridge and London: The MIT Press, 1993) p.72

[31] ibid., p.22

[32] Georgiadis here refers to Giedion's dissertation *Spätbarocker un romantischer Klassizismus*, Munich:1922, p.155 in his book *An Intellectual Biography*, Edinburgh:1993, p.29

latter, he used his knowledge in making analogies between the products of the Baroque period and the twentieth century. Also, we can find the initial proclamation of his premise on history as being a mirror: "Looking at a previous era is like looking at a mirror that can only reflect the features of the observer."[33] This premise is one of the indicators of Giedion's approach towards history, which, later on, will be recognized in his other books as well.

Building in France - Building in Iron - Building in Ferroconcrete

Starting with the visit to the Bauhaus Week in 1923, which was organized as the first comprehensive public account of the school's activities, Giedion established a close contact with modern architecture and realized the impact of industry on architecture. This Bauhaus exhibition was held in Weimar between 15 August and 30 September with several displays (including international architecture, with works by Le Corbusier, Ludwig Mies van der Rohe, J. J. P. Oud and others), publications and special events (including the "mechanical ballet" by Kurt Schmidt and Georg Teltscher in Jena). The pinnacle of achievement is the Haus am Horn (idea and design by Georg Muche, assisted by Adolf Meyer) with furniture and objects by Marcel Breuer and some other artists. Walter Gropius opened the exhibition with a paper entitled "Art and Technology – A New Unity", in which he recognized industry as a decisive power of the times. As Georgiadis puts forth, this contact of Giedion with the Bauhaus gave him the opportunity to re-evaluate his role and his relationship with his own discipline.[34] In his dissertation, he was trying to define access to his own time and was in search of setting pathways from the past to the present. After the Bauhaus exhibition, concerns such as the relationship between art and industrial production or the connection between art and craftsmanship started to be seen in his subsequent writings. This kind of

[33] Georgiadis here refers to Giedion's dissertation *Spätbarocker un romantischer Klassizismus*, Munich:1922, p.9 in his book *An Intellectual Biography*, Edinburgh:1993, p.15

[34] Georgiadis: 1995, p.35

juxtaposition of concepts set precedence to his more social-based approach toward history. In contradistinction to his dissertation, here the definition of the historian shifted, as the historical discourse turned to be a creative force by controlling, interfering, and giving decisions for the past, present and the future. From then on, Giedion envisaged historian as to be not only the one who wrote down what happened throughout the history, but also who contributed to the creation of that history. At this point, it is worth to remember Manfredo Tafuri's notion of 'operative criticism':

> …(It is) an analysis of architecture (or of arts in general) that, instead of an abstract survey, has as its objective the planning of a precise potential tendency, anticipated in its structures and derived from historical analyses programmatically distorted and finalized.[35]

One of the basic aims of operative criticism is to plan history and anticipate the future at the same time. Tafuri denotes that the preliminary steps towards 'actualizing history' were taken in nineteenth century historicism, and he adds that the Viennese School played a significant part in the development of this kind of historicism with some of his members[36] (it is worth to keep in mind that Riegl was one of the founders of this school). Although Tafuri mentions *Space, Time and Architecture*, Giedion's previous book, *Building in France*, can also be considered as one of the pioneering examples of such kind of writing history. It is to note that *Building in France* was first published in the same year with the first meeting of CIAM in La Sarraz, Switzerland, in 1928. Georgiadis draws attention to an important point of the book: 'the ideologue of the current architecture'.[37] The language of the book, which Georgiadis finds aggressive and agitative, should have been a proof of the presence of an ideology, along with the way Giedion congregate history, criticism and

[35] Manfredo Tafuri. *Theories and History of Architecture*. (London, New York: Granada, 1980) p.141

[36] ibid., p.149

[37] Georgiadis: 1993, p.42

interpretation of architecture.[38] However, if we consider that being ideological necessitates being political, too, then we would be coerced to find the traces of a political approach. Yet, there were some scholars who criticized Giedion for mostly ignoring and not mentioning the factors that were not visual – such as Industrial Revolution or French Revolution in his dissertation, although its topic was Late Baroque and Romantic Classicism[39], or being much distanced to the World War II as if it was happening somewhere and not bothering the history he dealt with in *Space, Time and Architecture*[40]. However, in *Building in France* Giedion assumes a more approaching attitude towards social aspects by considering the new materials and their usage in architecture and urban construction, such as reinforced concrete, iron and glass, or photography.

The task of the twentieth-century historian is explained as to 'extract from the vast complexity of the past those elements that will be the point of departure for the future'.[41] That should remind one the premise of history as being a mirror in the first work of Giedion *Late Baroque and Romantic Classicism*, since looking into a mirror represents the very subjectivity of the looker. One of the most important concerns of the age is accepted as the understanding of life as a totality without any gaps or divisions.[42] This postulation leads us to the combination of construction, industry, and the social organization. According to Giedion, there is a similar reformist approach by the industry toward society and by the construction toward building: industry predicting what society harbors deep inside, and construction predicting future's building type.[43] To

[38] ibid., p. 41

[39] Pevsner: 1949, p.77

[40] Frampton: 1981, p.46

[41] Giedion: 1995 [1928], p.85

[42] ibid. p.80

[43] ibid., p.87

grasp the attitude that Giedion had set forth along with social concerns, these lines would be helpful:

> We are beginning to transform the surface of the earth. We thrust beneath, above, and over the surface. Architecture is only a part of this process, even if a special one.[44]

The nineteenth century is accepted as the era to find the roots of twentieth century architecture. In order to prove his assertion, he used analogies between the buildings from the nineteenth and twentieth centuries; such as Henri Labrouste's Library of St. Geneviève of 1843 and Le Corbusier's Cook House of 1926[45], or Eiffel's Building of Paris Exhibition of 1878 and Gropius's Bauhaus of 1926[46]. However, Giedion doesn't forget to mention that the nineteenth century was still too close to that time to have a sound judgment. If we question why he had chosen France, the answer would be that Giedion thought the French played the leading role in the nineteenth century construction. In addition to that explanation, Giedion claims that 'to grasp the emerging reality and to transform it into a utopia is the opposite method to the cultural idealism that dominated Germany in the nineteenth century, which neglected reality in order to pursue emanations of pure spirit'.[47]

Along with industry, introduction of mechanically manufactured rolled iron into architectural construction, Giedion argues, was one of the beginning points of the new architecture. The characteristics of iron, its high capacity to bear high stress in most minimal dimensions leads to new laws of design. Those new materials and new methods introduced to architecture had one requirement: they should be filtered from aesthetical concerns at first. This filtering is probably a consequence of the interaction with the Bauhaus again.

[44] ibid., p.91

[45] ibid., p. 106-107

[46] ibid., p. 132-133

[47] ibid., p.88

With Hannes Meyer's (one of the leading Bauhaus teachers) destruction of aesthetics and the extolment of the "products for the needs of the people", Giedion arguably highly influenced by the idea of creating a new architecture based on the new realities of industry, science, technology, and society.[48] The head of Bauhaus was substituted by the Swiss architect Hannes Meyer for Walter Gropius in 1928, and Giedion, who had close interaction with the Bauhaus and direct participation in CIAM, continued following the contemporary discussions. As the British architect and educator Anthony Ward reports, after Hannes Meyer became the director of the Bauhaus, he paid more attention to the social needs than the industrial goods and he "introduced foundational courses in social science to address this problem, in the process downgrading the foundational courses in art and aesthetics and bringing him into direct confrontation with Wassily Kandinsky and others who were responsible for the iconographic Bauhaus aesthetic"[49]. Giedion has already been giving the signals of this shift in his approach in *Building in France*. However, it is worth to note the circumstances of the countries as well. As Giedion notes, the common problem of all countries is the same even if the state of this problem differs: the struggle about social structure. But social structure of a country is just as important as its climate, materials, and customs; which are already closely related to architecture. So the new architecture should consider all of these aspects in order to set itself rationally. In the book, we can perceive the first formation of two key concepts of the incoming book, thinking and feeling, regarded as ratio and vision. Along with that, the main case of the book is the new architecture being shaped in the twentieth century, and to show the ways it should follow. The demand was for an international architecture, 'an architecture for the age'.[50]

[48] Anthony Ward, "The Suppression of The Social in Design: Architecture as War" in Thomas A. Dutton ed. *Reconstructing Architecture: Critical Discourses and Social Practices.* (Minneapolis, MN, USA: University of Minnesota Press, 1996) p 34.

[49] Ibid., on the same page

[50] ibid., p.152

Mechanization Takes Command

Giedion's other major work, *Mechanization Takes Command*, was written in a period including the Second World War, and was published in 1948, when the world was trying to understand the reasons as well as the results of the Second World War. Disappointed by the shocking result of rationalism, Giedion sought for the causes, which brought humanity to that edge.

> …the vanguard of science and art arrived at a new perception of the world, announcing the end of the age of rationalism.[51]

Therefore, beginning from antiquity to that day, Giedion gradually investigated the stages of mechanization, the term he accepted as the primary factor on the change (or development?) of humanity. Mechanization was now seen as a horrifying force to be controlled. Every aspect of machines, as well as to make people's lives easier, had been under debate. As Georgiadis asserts, the goal in *Mechanization Takes Command* is to overcome mechanization 'emotionally, in the sense of humanizing it.'[52] Unlike the most of the expectations, Giedion does not make any connections between art and technology in this book. Arnold Hauser even claims that in most pages of the book, one can think that the only interest of the author is in chairs, locks, kitchen and bath, and etc.[53] However on the other hand, Donald Horton affirms that "The book is fundamentally a work of art criticism and scarcely falls within the critical sphere of the science of culture."[54] Here, it should be admitted that *Mechanization Takes Command* does not limit itself only on the tools and

[51] Sigfried Giedion, *Mechanization Takes Command: A Contribution to Anonymous History*, (New York: Oxford University Press, 1948) p.715

[52] Georgiadis: 1993, p.163

[53] Arnold Hauser, "Review: Mechanization Takes Command by Sigfried Giedion", *The Art Bulletin* 34, no.3 (September, 1952) p.252

[54] Donald Horton, "Review: Mechanization Takes Command by Sigfried Giedion", *American Sociological Review* 13, no.5 (October, 1948) p.641

mechanized systems, since with this approach Giedion seeks for the development in the social and cultural areas. Yet, the book does not cover the relations among art, culture and mechanics extensively.

As Spiro Kostof points out, the German art historical establishment has been dominating the field before World War I and after as well, and Giedion benefits from this milieu while he was studying engineering and art history.[55] However, this fact is not an obstacle that prevents him to combine different paths to state his argument. While Harry Elmer Barnes mentions the discussion taking part in the book was "invariably informing, entertaining, and intelligent, though the space given to any particular field seems to depend as much on his personal interest therein as on its intrinsic importance".[56] What is also praised in *Mechanization Takes Command* is the anonymity of the mechanical products, which brings to one's mind the widely used *Zeitgeist*. According to Hauser, Giedion's usage of the concept of anonymous history is the weak part of his argument.[57] Hauser continues his words by saying that as a resemblance of Wölfflinean thought, the question here is how Giedion feels closer to such a formalistic approach, after making a fair distance from it through his books until this one, since Giedion wrote that the tools should be seen in the shape that the inventor aimed it to be, not in the meaning usage.[58] Throughout the book, one might remember Tafuri, his operative historiography and criticism, for its didactic character: didactic writings necessitate a certain point of view towards issues, a subjective assumption, so to say. Even though Giedion did make a comprehensive research for *Mechanization Takes Command*, he wrote it not so much different from his own point of view: he uses the information

[55] Spiro Kostof, "Architecture, You and Him: The Mark of Sigfried Giedion", *Daedalus* 105, no.1 (Winter, 1976) p.192

[56] Harry Elmer Barnes, "Review: Mechanization Takes Command by Siegfried Giedion", *The American Journal of Sociology* 54, no.4, Industrial Sociology (January, 1949) p.382

[57] Hauser, p.252

[58] Giedion: 1948, p. 3

and the notions he found according to his own concept of making history. Indeed, John E. Sawyer finds his attitude in the book shows 'a good deal of diffused romanticism'.[59] On the other hand, as one of the major aspects discussed in the book, one should consider the scientific management –the method in management theory that works for the improvement of labor productivity-and the tenets of Frederick Winslow Taylor and Henry Ford, while reading this book. Because, especially for the understanding of the last a-hundred year-period before the book was written, they would make it easier to follow the astonishing developments after industrial revolution.

The meaning of history arises in the uncovering of the relationships.[60]

Giedion's interest in various materials of history allows him to be in a position to use those materials through the way he sets his argument. Right at the beginning, Giedion denotes that *Mechanization Takes Command*, to some extend, is a continuation of *Space, Time and Architecture*; at least for showing the tension between 'thinking and feeling'. This tension, in *Mechanization Takes Command*, is explained through those various materials, such as the notions of comfort, the household, the agriculture, the bakery, and even the bath. But still, one should keep in mind that this book is "a different kind of book, written in a different way, from a different approach, for a different purpose."[61] To grasp the function of mechanism, to detect its influence on life lead Giedion to choose a variety of artifacts from small daily life tools to the machines of slaughtering and bread-making industries, and various topics such as the classes of the society and feminism are discussed in between.

[59] John E. Sawyer, "Review: Mechanization Takes Command by Siegfried Giedion", *The Journal of Economic History* 9, no.1 (May, 1949) p.86

[60] Giedion: 1948, p. 2 (note 26)

[61] Sawyer: 1949, p.86

Insofar, the three of the important books of Giedion were tried to be investigated briefly, in order to have an idea about his writings before and right after his major book, *Space, Time and Architecture*. Accordingly, there are certain unchanged and certain slightly differentiated ideas in all of these books, and apparently, the missing and the linking stone is *Space, Time and Architecture*. The writer of this thesis does not agree with Kostof's assertion on the link among the books of Giedion, which is not particularly strong according to him.[62] The progress and development in Giedion's opinions and his approach towards history and architecture can be followed through the books presented here. There are certain common points in all these four books, the fundamental one is the conception of history as a mirror. For the argument here, *Space, Time and Architecture* (a book which was one of the most influential products on modern architecture at its time, which was even read by the students of architectural programs in many universities particularly in America as a course book) is a product of the ideas developed by Giedion through almost two decades, and acts as a substantive linkage between his works before and after the Second World War. Its proposal of a new approach toward the criticism of the art and architectural history influenced and provoked many of the historians as well as the architects. Before looking at *Space, Time and Architecture* thoroughly, in order to understand what kind of an environment the book was born into, the state of the modern architecture and its leading figures in relation with Giedion -in Europe as well as in America- at that time period should be scrutinized first.

[62] Kostof: 1976, p.192

CHAPTER 3

MODERN MOVEMENT IN THE FIRST HALF OF THE TWENTIETH CENTURY THROUGH GIEDION'S RELATIONS

Sigfried Giedion was very much involved with modern architecture; not only by supporting it and its pioneers in his writings, but also by being an active participant of modern architecture. As Eric Fernie asserts in his book *Art History and Its Methods: A Critical Anthology*, the studies on modern art and architecture in the middle period of the twentieth century, converted the view of looking history as a whole, which directed scholars to write on modernism even if they were not interested in.[63] Fernie ties this fact to the "reduced importance of Hegelianism" and the rise of cultural history: since cultural history was treated relatively independent from political extremism, he asserts, it could be (along with "its affinity with humanism and close links with empiricism") visualized as the main characterizing approach of the period.[64] Particularly in Giedion's approach, Jencks finds a resolution of history of the modern movement from the "usual stylistic and ideological barriers" which Jencks assumes that *Space, Time and Architecture* is the "deepest and most effective" formulation of modern architectural history until its first refutation by Bruno Zevi's *Towards An Organic Architecture*.[65] With this book and *Storia dell'architettura moderna*, Zevi criticized rationalism and functionalism in architecture and praised organic architecture instead.[66]

---

[63] Eric Fernie. *Art History and Its Methods: A Critical Anthology.*(New York: Phaidon Press, 1995) p.17

[64] ibid., p.18

[65] Charles Jencks, "History As Myth" in Charles Jencks and George Baird ed. *Meaning in Architecture.* (New York: George Braziller, 1969) p.255

[66] Here, one should keep in mind that Zevi belongs to the generation of art historians which read modern architecture from the books of Kaufmann, Pevsner and Giedion.

Georgiadis informs us about the first direct contact of Giedion with modern architecture: Giedion visited the Bauhaus Week in 1923 as a spectator, and there he laid the foundations of a life-long relationship with Walter Gropius as well as with the modern movement and the praxis of modern architecture.[67] To search for the marks of the modern movement in the relationships of Giedion with its pioneers will facilitate to understand how and to which degree Giedion was involved in modern architecture, although he was not a professional architect. In the context of modern architecture, the pioneering architects materialized the image of modern architecture not only with the buildings they erected but also with the ideologies they produced. Thus, along with those pioneers, the milieu, which the relationships among them were set in, had turned into an appropriate environment for modern architecture to arouse. After being aware of the possibilities of new materials in construction as a consequence of his engineering formation, Giedion carried this interest into this new environment he joined. Whether in Giedion's writings or in the process of his academic career, the parallel evolution of his opinions along with Gropius's and Le Corbusier's can be observed. Yet, his long-term secretariat in CIAM engendered an interaction between him and the supporters of modern architecture and brought him the label of the 'spokesman of modern architecture'.[68]

In addition to these facts, another milestone played a significant role in his life: his visits to America, particularly as a visiting professor. The first visit was in 1938. As it is stressed several times throughout this thesis, Giedion was appointed the Charles Eliot Norton Professor of Poetry, of which the lecture notes then formed his major book *Space, Time and Architecture*. After he went back to his homeland Switzerland, as Eduard Sekler writes, he sought for new opportunities to go back to America –and eventually he did find one: Yale

[67] Georgiadis: 1995, p.1

[68] Kostof: 1976, p.197

University offered him to give the Trowbridge lectures in 1942.[69] In order to give several lectures around America, he stayed there till the end of the war. On the same page, Sekler gives information on Giedion's worries on the way the war was going. He writes that Giedion applied for a 'quota immigration visa', pushing the possibilities of him being both Swiss and Czech, as he was born in Prague. From the same source, we learn, when Jose Luis Sert became the dean and the chairman of the Harvard Architectural Department in 1953, after Gropius's retirement in 1952, Giedion was teaching in Massachusetts Institute of Technology. Sekler reports that from the mid-1950s to the early 1960s, Sert could manage to arrange several duties for Giedion as a visiting professor in Harvard University. Considerable parts of his *Mechanization Takes Command* and *The Eternal Present* were written during his stays in America. The more he stayed in America, the more he introduced the new architecture and the European architectural historians to America.

3.1 Giedion & Walter Gropius

The Berlin-born German architect Walter Gropius is the founder of the Bauhaus, the avant-garde School of Design and Applied Arts in Weimar, later he designed the Bauhaus building in Dessau (Figure 8). He fled from Germany in the beginning of the Nazi regime and he lived first in England then, from 1937 until his death in 1969 in the United States. Giedion remarks in his 1933 article in *Neue Zürcher Zeitung* that Gropius comes from an old architect family, so Gropius was born into a world, which had already been permeated with architecture.[70] Giedion continues,

[69] Eduard F. Sekler, "Sigfried Giedion in America" in *The Architectural Historian in America: A Symposium in Celebration of The Fiftieth Anniversary of The Founding of The Society of Architectural Historians,* ed. Elisabeth Blair MacDougall. (Washington: National Gallery of Art, 1990) p.269

[70] Sigfried Giedion, "Walter Gropius", *Neue Zürcher Zeitung* no.901, 19 May 1933, p.2 All the translations from German belong to the author of this thesis.

> There is no doubt that he could have returned to the certain elements of Gills and Schinkel. However, he did not get stuck on the past. He got new possibilities for a new time out of the background he has been given.[71]

The primary source in order to understand the relationship and the level of interaction between Giedion and Gropius is the book that Giedion wrote on Gropius in 1954, named as *Walter Gropius*.[72] Written in the same year with the third edition of *Space, Time and Architecture*, this book gives us first hand information on one of the ways that an architectural historian follows to describe not merely the building but also its architect and an architect's social and physical environment during the design process. First of all, it is necessary to put forth the main doctrine of Gropius, which was several times emphasized by Giedion throughout the book:

> The HOW is more important than the WHAT! In the age of specialization, method is more important than information.[73]

Giedion prefers to display the main characteristic of Gropius as the combination of 'artist, public servant and experimenter' in one personality.[74] On the other hand, another aspect he spells out that plays a significant role in Gropius' life is his interest in teamwork, in other words "the human cooperative effort". Already being one of Giedion's major concerns, to bring together various specializations in one person (or at least to provide cooperation among various disciplines) is also the way Gropius followed during his practicing and teaching, both at the Bauhaus and at Harvard. Not only this aspect but there are more points in common between Giedion and Gropius: they were both aware of the rupture between artistic expression and

[71] ibid. on the same page

[72] Sigfried Giedion. *Walter Gropius*. (New York: Dover Publications Inc, 1992) Originally published *Walter Gropius: Work and Teamwork.* (New York: The Reinhold Publishing Corp., 1954)

[73] ibid., p.15

[74] ibid., p.7

industrial production, and they both worked to overcome this situation. Moreover, Gropius had the chance as a teacher to raise the future artisans and set the idea that "Art, like science, must first strip off all other coverings before it can penetrate into the real nature of things."[75] Contemporary art is the tool to regain the consciousness on basic elements in our lives, and this usage of contemporary art is necessary in order to create a new way of life instead of 'beautiful architecture'.[76]

Giedion explains the main aim of the Bauhaus as "to educate a new generation capable of producing models and prototypes conceived by a conjunction of the spirit of pure form with the spirit of the machine".[77] So that in a highly mechanized environment like America, it seems that the founder of the Bauhaus found an appropriate atmosphere to develop and spread his ideas. The main problem Gropius confronted with throughout his designs was the application of mechanics on behalf of diverse human needs, especially for the private dwelling. On the other hand, the loss of contact between the artist and the public was another concern of his time. In order to attain a solution, he invited contemporary modern artists to work with him on the project of the Graduate Center in Harvard University. As Giedion notes the cooperation of the artist and the planner is as necessary as the air conditioning.[78] As he continued teaching and designing at the same time –unlike architectural education in America- he set his motto of positing the method of approach toward design in front of the skills, and he turned the notion of architectural education in America inside out. Gropius, like Giedion, was against the idea of naming the Bauhaus as a style, and was also against the labeling of what he and

[75] ibid., p.39

[76] ibid.p, p.15

[77] ibid., p.25

[78] Giedion: 1954, p.505

his colleagues designed as 'International Style' as Johnson and Hitchcock did in their book of with the same title in 1932.[79] He added:

> Steel or concrete skeletons, ribbon windows, slabs cantilevered or wings hovering on stilts are but impersonal contemporary means –the raw stuff, so to speak- with which regionally different architectural manifestations can be created. The constructive achievements of the Gothic period –its vaults, arches, buttresses and pinnacles- similarly became a common international experience. Yet, what a great regional variety of architectural expression has resulted from it in the different countries![80]

As far as the split between architecture and construction is one of the main complaints of Giedion along with the split between thinking and feeling, and between art and science the Fagus Factory of Gropius designed in 1911 (Figure 9) was the concrete state of the reunited architecture and construction techniques –later the idea that he put forth here was developed in the building of the Bauhaus.[81] In addition to this, Giedion's doctrine of 'architecture as a living organism' can also be sought in Gropius' two theatre designs –Total Theater in 1927, and Kharkov Theater in 1930. In both of the designs, Giedion informs, there is the effort to interconnect the element as well as the users of the building within an organic architecture.[82]

In addition to the book Giedion wrote about Gropius, the two men had kept contact. Particularly after Gropius's immigration to America, during the process of Giedion's visit to America (and as long as Gropius proved himself and the new architecture he was propagating for both the academic and non-academic architecture circles in America) the two men cooperated with each other. Their correspondence, those Sekler reports in his "Giedion in America", gives information to which degree they were involved in each other's career

[79] Walter Gropius. *Scope of Total Architecture.* (New York and Evanston: Harper & Row Publishers, 1955) p.xxi on International Style, and p.8 on Bauhaus 'style'.

[80] Ibid. p.xxi

[81] Giedion: 1992 (1954), p.24

[82] ibid., p.61-65

and their own intentions. According to Sekler, Gropius chose Giedion to ask for advice about possible candidates who should and could come to Harvard, to America, to give lectures on the new architecture they propagated for. Not directly persuading Gropius to invite himself, Giedion achieved to be selected for the Norton chair, since he was already "a man of high distinction and preferably of international reputation", just like the Norton chair stipulated.[83] It is mentioned that this was a big step in Giedion's career since, despite his numerous publications and his presence in notable positions in architectural era, he was still waiting for an academic position in his homeland, Switzerland. In his letters during the preparation process of Giedion's before coming to America, Gropius wrote how important was the presence of Joseph Hudnut, the dean of the Graduate School of Design, since he used his initiative to choose Giedion even though he did not know much about his work.[84] Insofar as Gropius laid stress on the presence of Giedion in America, Sekler accounts for a great pressure on Giedion for success: he had no academic experience, not much people knew his works, though he was invited to one of the influential design schools in America. Apparently, considering the recalls for Giedion to go back to America in the following twenty years and the continuing collaboration of the two men until Gropius's death in 1969, both men kept the close contact in between.

3.2 Giedion & Le Corbusier

After his connection with modern architecture through the Bauhaus Week in 1923, Giedion devoted himself and investigated modern architecture in a deeper manner. He had several interviews with the leading figures of modern architecture, among whom was, naturally, Le Corbusier. As Beatriz Colomina notes, one of the Bauhaus teachers, Lazslo Moholy-Nagy, offered Giedion to

[83] Sekler, "Giedion in America" in MacDougall: 1990, p.265

[84] Gropius to Giedion, 23 December 1937, Giedion Archive. quoted in Sekler, "Giedion in America" in MacDougall: 1990, p.266

go to Paris and talk to Le Corbusier in 1925.[85] Having already published his *Vers une Architecture* in 1923[86]; the French/Swiss architect Le Corbusier was a productive architect both as a practitioner and writer. He shared similar intentions with Giedion on the subject of their own period, which was an industrial age under the very influence of machines and new means of production and construction. In his designs, especially tended to the problem of dwelling, Le Corbusier set his well-known five notions in architecture: 'the supports' to rise the house for an open space and which let the designer organize the interior spaces free from the supporting walls, 'the free designing of the ground plan' provides inner and outer spaces to permeate into each other, 'the free design off the façade' on which he designed 'the horizontal windows' for the framed outside view, and 'the roof garden' enables the structure to be viewed from another point –from above.[87] The best example, which corresponds to all these five points, is his Villa Savoye dated in 1928-30 (Figure 10). According to Giedion, this house 'is a construction in space-time' for the very reason that it can only be observed completely from multiple views.[88] Along with those villas of Le Corbusier and works of some other modern architects, according to Giedion, one of the constituent facts of architecture appeared: space-time; although Richard Padovan asserts that the relation Giedion put forth between cubist paintings and Le Corbusier's four dimensional designs fails since Le Corbusier condemned Cubism in his *Après le cubisme*.[89] This fact represents the approach of Giedion towards history: he omitted the real fact in order not to contravene his own construction of history.

---

[85] Beatriz Colomina. *Privacy and Publicity: Modern Architecture As Mass Media.* (Cambridge, Mass.: MIT Press, 1994) p.195

[86] Its English version is pubished in 1927 under the title of *Toward An Architecture* but mostly known as *Towards A New Architecture.*

[87] Ulrich Conrads. *Programmes and Manifestoes on 20th-Century Architecture*. (London: Lund Humphries, 1970) p. 99-100

[88] Giedion: 1954, p.518

[89] Richard Padovan. *Towards Universality: Le Corbusier, Mies and De Stijl*. (London and New York: Routledge, 2002) p.23

On the other hand, there are more differences stated on the common points of Giedion and Le Corbusier. For instance, as in the interview of Philip Johnson cited in Colomina's 1994 book, the view of Le Corbusier towards architecture –along with J.J.P. Oud and Mies, Johnson utters- is different than Gropius's and Giedion's for the very reason that the former cares about the 'beauty' of the work, while the latter is more interested in architecture's social implications or a revolution.[90] Still, Giedion asserts that any architect in order to take part in the realization of the transformation of the society and the self should have a 'gift of a peculiar sensitivity', which he calls *social imagination,* and believes that Le Corbusier has this ability of social imagination. He points out that Le Corbusier designed three significant social projects, all three became milestones in the development of a new notion of publicity and a new society.[91] Yet, one could perceive in *Towards A New Architecture* that how Le Corbusier appreciates 'the spirit of the age' is rather different than Giedion's, since he does not propose a 'revolutionary' analysis of the past but rather a rehabilitation of the authentic principles.[92] His affirmation of ancient forms – for their primary geometrical forms- and his appreciation of *the* beautiful are distinct from what Giedion offers, since Giedion sets forth a critical analysis of those forms and appreciates more the method used all the while. Hence, Giedion declares his appreciation of Le Corbusier's progressive approach towards architecture with these following lines he wrote in 1932:

> Le Corbusier makes it easy to historians. His development line runs straight, and it is roughly as in the following way: The idea is engaged with the visionary in its entirety from the beginning. In detail, it technically changed over the years, as it requested implementation and progressive realization.

[90] Philip Johnson, interviewed by Peter Eisenman, *Skyline* (February, 1982) p.15 quoted in Colomina: 1994, p.203

[91] Giedion: 1954, p.531

[92] Le Corbusier. *Towards A New Architecture*. (London: The Architectural Press, 1963 [1927])

> This determination enshrined in the unconscious appears to us at all times one of the characteristics of the brilliant talents.[93]

Nevertheless, there are more common points, too. First of all, both Le Corbusier and Giedion were devoted supporters of modern architecture, and they were both aware of the obstacles and catalysts that either suppress or exalt modern architecture. Le Corbusier shares Giedion's rejection of styles by describing them as "a feather on a woman's head"; continuing that "it is sometimes pretty, though not always, and never anything more."[94] Just like Giedion propagates for the unity of thinking and feeling, and science and art, Le Corbusier also supports such a combination while he is explaining the aim of architecture:

> Architecture is the art above all others which achieves a state of platonic grandeur, mathematical order, speculation, the perception of the harmony which lies in emotional relationships.[95]

There is a marked situation by some critics such as Christopher Pearson that Le Corbusier's new aesthetic theory, namely "ineffable space", was developed after his personal interaction with Giedion, if not after reading the first edition of *Space, Time and Architecture* in 1941.[96] With the term "ineffable space" [97], Pearson states, Le Corbusier aims a rather non-rationalist approach, circumventing the rational aspects in design in order to obtain "a true manifestation of plastic acoustics", which overlaps with Giedion's proposing of space-time concept. Georgiadis, too, mentions about this shift of Le Corbusier towards Giedion's conception with direct quotation of Le Corbusier's writings

[93] Sigfried Giedion, "Le Corbusier in Genf", *Neue Zürcher Zeitung* no.1403, 27 July 1932, p.2

[94] ibid., p.27

[95] ibid., p.102-103

[96] Christopher Pearson, "Le Corbusier and the Acoustical Trope: An Investigation of Its Origins", *The Journal of The Society of Architectural Historians* 56, no.2 (June, 1997) p.180

[97] ibid., p.179

in French.[98] Furthermore, Georgiadis states that in *Building in France*, Giedion is concerned with "the problem of the theoretical definition of architecture under the conditions created by industrial production", and Le Corbusier too offers solutions to this problem with his *Towards A New Architecture*.[99] These two books, written in years very close to each other, had repercussions on the modern movement, and led the way towards *Space, Time and Architecture*. On the other hand, the primary foundations of Giedion's concept of "architecture as a living organism" can be sought Le Corbusier's following lines:

> *Not in pursuit of an architectural idea, but simply guided by the results of calculation (derived from the principles which govern our universe) and the conception of* A LIVING ORGANISM, *the* ENGINEERS *of to-day make use of the primary elements and, by co-ordinating them in accordance with the rules, provoke in us architectural emotions and thus make work of man ring in unison with universal order*.[100]

Another thing that intersects the ways of these two leading figures of modern architecture is the fact that they both made several trips to America and both were highly influenced by America. Le Corbusier had been to Latin America first, in 1929, and later in United States, in 1935, in order to give several lectures there. Especially the second one, as Mardges Bacon reports in her book *Le Corbusier in America*, resonated among the American critics, which she recalls Giedion's phrase of "cross-fertilization of viewpoints".[101] As it is going to be mentioned in the CIAM part, Le Corbusier and Giedion had numerous opportunities to contact with and learn from each other, and they both provided America notable connections and information about Europe and the state of architectural writing in Europe.

---

[98] Georgiadis: 1993, p.132

[99] ibid., p.42

[100] Le Corbusier: 1963, p.33 (Le Corbusier's italics and capitals)

[101] Sigfried Giedion. *Léger in America*. (Chicago: Institue of Design, 1944) quoted in Mardges Bacon. *Le Corbusier in America: Travels in the Land of the Timid*. (Cambridge, London: MIT Press, 2001) p.2

3.3 Giedion & Walter Benjamin

Giedion was not only involved in the architecture part of modernism, but also he was one of the promoters and supporters of modernism. His writings, in which he pursued on the propaganda of modern architecture especially after he attended the Bauhaus Week in 1923, made him come to the fore in architectural circles, as well as in other areas, such as philosophy. Described as having the 'stiffness of an agitprop flyer sheet' by Georgiadis, Giedion's *Building in France* enabled him to draw the attention of the intellectual circles in Germany in particular.[102] One of those intellectuals was Walter Benjamin. Walter Benjamin played a significant role in German philosophy and literature, although it took too long to appreciate his ideas.[103] While Hannah Arendt explains the importance of Benjamin for the world of philosophy and modern thinking, she quotes Bertolt Brecht's saying on Benjamin's death in 1940 that "this was the first real loss Hitler had caused to German literature".[104] Collections of his essays began to be published with the help of his friends Theodor Adorno and Gershon Scholem, the major works of whom include *Illuminations* (1968 [1955]), *The Origin of German Tragic Drama* (1977), *Reflections* (1978), *Moscow Diary* (1986 [1980]), and *The Arcades Project* (1999). The most apparent influence of Giedion's thoughts can be seen in Walter Benjamin's writings particularly in his unfinished *Arcades Project*[105] and his letter to Giedion in 1929.[106] . We learn from Eric Mumford that Giedion requested from his publisher to send a copy of his *Building in France* to Benjamin. The two had more in common than their thoughts on modern

[102] Georgiadis: 1993, p.41

[103] Heynen: 1999, p.96

[104] Hannah Arendt, "Walter Benjamin: 1892-1940" in Walter Benjamin. *Illuminations*, (New York: Harcourt, Brace & World, 1968) p.2

[105] Walter Benjamin. *The Arcades Project*, ed. Rolf Tiedemann. trans. Howard Eiland and Kevin McLaughlin, (New York: Belknap Press, 1999)

[106] Walter Benjamin to Giedion, 15 February 1929, Giedion Archive. in Georgiadis: 1995, p.53

architecture, Mumford informs, Giedion and Benjamin used the same reading room in Bibliothèque Nationale in Paris in the summer of 1929, while the former was studying nineteenth-century social housing, and the latter was researching for 'his never-finished *Passagenwerk*'.[107]

Benjamin wrote to Giedion about his feelings and thoughts on *Building in France*. He informs Giedion that he got enthusiastic when he realized Giedion's argument on "the difference between radical conviction and radical knowledge that refreshes the heart".[108] Benjamin continued that Giedion owned the radical knowledge so that he could "illuminate, or rather uncover, the tradition by observing the present". When one looks at the interpretations of Benjamin on the statements of Giedion, one sees the subjects of interest as following: technological production –which is related with industrialization and new methods of construction-, the origins of Neues Bauen -namely, the new architecture-, architecture's linkage with plastic art –particularly after the constitution of the École des Beaux-Arts-, the illustrations produced in the book, Le Corbusier's houses, the interpenetration of the inner and outer spaces –mostly come out in the examples of *passages* in Paris as an interpenetration of the house and street in Benjamin's argument.

> Are not all great conquests in the field of forms ultimately a matter of technical discoveries? Only now are we beginning to guess what forms –and they will be determinative for our epoch- lie hidden in machines. (Benjamin, [F2a,5][109])

> The 'new' architecture had its origins at the moment of industrial formation around 1830, at the moment of the transformation from hand work to industrial production. (Giedion, *Building in France*[110])

[107] Eric Mumford. *The CIAM Discourse on Urbanism, 1928-1960*, (Cambridge, Massachusetts: MIT Press, 2000) p.34-284

[108] Walter Benjamin to Giedion, 15 February 1929, Giedion Archive. in Georgiadis: 1995, p.53

[109] Benjamin: 1999, p.155

[110] Giedion: 1995 [1928], p.86

So the proclamation of the new architecture lies in the explanation of the relationship between the changing production techniques and accordingly changing focuses of the architectural production. Market halls, railway stations, department stores, and exhibition halls become the new structures of newly developing architecture, in which the new means of production with iron and glass were used. Furthermore, not only the new architecture but also a new horizon in human vision was to be introduced. While Giedion is seeing this change starting from the French revolution, Benjamin connects this change to the forthcoming classless society, which he thinks is the unavoidable result of the developments in both technology and architecture.

On the other hand, Benjamin appreciates the way Giedion used the illustrations of the new architectural products, such as Eiffel Tower (Figure 11 and 12) and Pont Transbordeur (Figure 13). The new ways of feeling the space with such structures, new views of the city, would definitely prove the change in the traditional conceptions, and lead to the idea, as the Italian architectural historian Davide Deriu informs us, that "the traditional hierarchy between horizontal and vertical elements had burst into a web of intersecting spaces".[111] So, there arouse new types of experiences of the city, "in which airy buildings and aerial visions were closely interrelated", Deriu explains that there is also the opportunity to grasp the whole city 'at one glance' through those high-rise buildings and the panoramic photos and paintings of the city. Since the issue of 'at one glance' is the matter of subject in department stores, the analogy of the state of the city and the department stores in relation with the habitants of the city would not be a wrong postulate. The interpenetration (*Durchdringung*) of the inner and outer spaces, which were consciously created in Le Corbusier's villas as Giedion reports[112], were first created in an 'intoxicated' way in the city of Paris and anticipated the villas of Le Corbusier as Benjamin reports.[113]

[111] Davide Deriu, "Montage and Modern Architecture: Giedion's Implicit Manifesto", *Architectural Theory Review* 12, no.1 (August, 2007) p.46

[112] Giedion: 1995 [1928], p.169

> Giedion teaches us to read off the basic features of today's architecture in the buildings erected around 1850, we, in turn, would recognize today's life, today's forms, in the life and in the apparently secondary, lost forms of that epoch. (Benjamin, [N1,11][114])

Benjamin could not make it to the publication of *Space, Time and Architecture*. However, it would not be too much to assume that he would write a similar comment on it as well as he did for *Building in France* above. Though with a less agitated voice but still carrying his hopes and thoughts for the new architecture, he followed more or less the same way in *Space, Time and Architecture*, he looked back to the past, searched the traces of the present architecture, and aimed to anticipate the forthcoming one.

3.4 Giedion & CIAM

Sigfried Giedion was an architectural historian with an active participation in any modern architectural activity. He was commissioned with authoritative roles in architectural circles. Very much involved in modern architecture, Giedion also took part in the founding of the International Congress of Modern Architecture, CIAM. Identified by Eric Mumford as "a defining moment in the formation of a new approach to architecture", CIAM was founded in La Sarraz, Switzerland, in June 1928.[115]

The main aim of the first meeting, CIAM 1, was to reveal the new circumstances of the era that architecture faced, and to try to find solutions for the problems of architecture. CIAM 2 was held in Frankfurt, Germany, on October 1929 on the subject of the minimum dwelling, "Die Wohnung für das

---

[113] Benjamin: 1999, p.423 [M3a,5]

[114] ibid., p.458

[115] Mumford: 2000, p.9

Existenzminimum". CIAM 3 in Brussels, Belgium, in November 1930 on rational lot development, "Rationelle Bebauungsweisen", CIAM 4 on board *SS Partis II* on the way from Marseilles to Athens in July-August 1933 on the functional city, "Die funktionelle Stadt", CIAM 5 in Paris, France, in June-July 1937 on dwelling and leisure, "Logis et loisirs", CIAM 6 in Bridgewater, England, in September 1947 on the situation of the modern architecture after the Second World War[116], CIAM 7 in Bergamo, Italy, in July 1949 on urbanism, CIAM 8 in Hoddesdon, England, in July 1951 on "The Heart of the City", CIAM 9 in Aix-en-Provence, France, on "Habitat", CIAM 10 in Dubrovnik, Yugoslavia (now in Croatia), in August 1956 on "the future structure of the human habitat"[117], and finally not CIAM 11 but CIAM'59 in Otterlo, the Netherlands, in September 1959 on the denouncement of the official dissolution of the CIAM followed one after the other. Throughout its existence, the CIAM had three different presidents, which were Swiss architect Karl Moser between 1928-30, Dutch architect Cornelis van Eesteren between 1931-47, and Catalan architect Jose Luis Sert between 1947 and 1957.

From the first meeting in 1928 till the last one in 1959[118], Giedion undertook the role of secretary-general of CIAM. In between the main meetings of the CIAM, there were also intervening meetings of the headquarters of CIAM - which was named as the CIRPAC, International Committee for the Resolution of Problems in Contemporary Architecture- in order to decide the place and the subject of the next CIAM meeting, and who to invite. Giedion took place in

[116] ibid., p.171. In fact, CIAM 6 was first planned to be held in Liége, Belgium in September 1939. However, it was canceled after the breakout of the Second World War.

[117] Ibid., p.248-249. This meeting was unofficially the last meeting of CIAM. (see the following note)

[118] Officially the last meeting was held in 1959 in Otterlo, Netherlands. However, Mumford informs, after CIAM 10 meeting in 1956, the problems in the group became apparent; and in the meeting in 1957 held in La Sarraz, Giedion and the some other members such as Jaqueline Tyrwhitt, then Associate Professor of Urban Design at Harvard University, and Le Corbusier's marseillais associate André Wogenscky, with a backup of Jose Luis Sert, then the Dean of Graduate School of Design at Harvard University, and Walter Gropius, the predecessor of Sert, declared the dissolution of CIAM, and they did not attend CIAM'59 in Otterlo.

almost all of the CIRPAC meetings and in all the CIAM meetings (with the exception of CIAM'59). As it was formulated in the first meeting of CIAM in La Sarraz, Mumford informs, the main aims of CIAM were put forth by Giedion in his letter to van Eesteren as below:

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

As the meetings continued, one can observe the increasing interest of the expanding group towards city and urban planning. Particularly, this interest became one of the main points of issue after the Second World War because of the immense need of the dismantled cities to be recovered. However, the perception of the dysfunctionality of the modern terms of design and planning by the younger architects and planners, the unrestrained acts of some individual members –such as, Le Corbusier-, and the devotion to the utopian and unrealistic solutions of architectural and urban problems seem to accelerate the process of the demolition of CIAM.

Nevertheless, CIAM, which could be accepted as an inseparable part of the modern movement, then was both criticized and glorified by the architectural circles throughout the world. Fairly protruding meetings such as CIAM 4 of Athens and CIAM 5 of Paris were brought forth into written form, both by Le Corbusier (*Charter of Athens*, 1941) and Jose Luis Sert (*Can Our Cities Survive?*, 1942).[119] As the secretary-general of CIAM, Giedion wrote the introduction part of Sert's book on the work done and the main aims of CIAM. There, he informs the reader briefly about the congresses that held thus far,

[119] Though, in his review of "Martin Steinmann, ed. *CIAM-International Kongresse für Neues Bauen/Congrés Internationaux d'Architecture Moderne, Dokumente 1928-1939*", *The Journal of the Society of Architectural Historians* 40, no.4 (December, 1981) the German architectural historian Winfried Nerdinger points out the duality in CIAM itself, that the officially authorized work of Sert was neglected by Le Corbusier, in spite of the fact that his was published first.

with the beginning of the explanation of the word "congress": he acknowledges that they, as the founders of the CIAM, used this word for its meaning of "marching together" –which could be considered as reflecting the provocative and propagative character of CIAM. As the heading of the book exposes, the main concern here is the city and "to gain insight into urban development, the difficult task of establishing new symbols for the complicated functions of a modern city".[120] Furthermore, Giedion informs the reader that the plans of thirty-three cities were analyzed in CIAM 4 of Athens in order to grasp the way leading to the "Functional City". On the other hand, he puts forth the evolution process of CIAM, beginning with the smallest unit, dwelling, and then moving to neighborhood, and then approaching the next step of the whole city. In addition to those, he stresses that one of the functions of CIAM was the collaboration of the architects and planners from all around. This information he gave in the introduction part of Sert's book was more or less the same with the short part that he wrote about CIAM in his *Space, Time and Architecture*.[121]

Although this book of Sert's, in general, was appreciated by the critics, there was one among the critics that saw this book as an 'appendix' to Giedion's *Space, Time and Architecture*: The American architect Carl Feiss, then the director of Denver Planning Commision, simply reports the names of architectural historians such as [Lewis] Mumford, Thomas Adams, Giedion, Hamlin, and Bauer that in their works, one could find "better integrated historical material than that contained in *Can Our Cities Survive?*".[122] He asserts that during his architectural studentship, which fell upon the same years with the first two congresses of CIAM, almost no information they had either

[120] Sigfried Giedion, "Introduction" in Jose Luis Sert. *Can Our Cities Survive?*, (Cambridge: Harvard University Press; London, H. Milford: Oxford University Press, 1942) p.ix

[121] Giedion: 1954, p.606

[122] Carl Feiss, "Review: *Can Our Cities Survive?* by J.L. Sert", *The Journal of the Society of Architectural Historians* 2, no.4, (October, 1942) p.38

at the university or in journals. He affirms that he expected more about the first hand sources on CIAM and more to know about the formation of CIAM. This paper was immediately replied by Giedion in the very next volume of the same journal.[123] Giedion begins his paper with a kind of mediation, that the misapprehension of Feiss on the work of CIAM would be "fruitful in the end by providing an opportunity to clarify the situation". So, here are the methods and aims of CIAM that Giedion put forth:

a. "Elucidating the question of winning public acceptance of the new architecture,
b. Awareness of the necessity of attacking complex present-day problems collectively, although individual work was not rejected,
c. Appreciating the reciprocal process of architects inspiring CIAM, and CIAM educating the architects,
d. Arousing public consciousness as to the present state of the urban agglomerations."

Apart from sharing his concerns about his colleagues in the ongoing war, Giedion also gives an answer to Feiss' assertion on the lack of information in America:

> The problems which concerned us in 1929 and 1930, housing, neighborhood units, et cetera, held no interest for American architects, magazines, or public. Housing, an American member has informed me, was regarded as merely a European problem.[124]

Not from the short part informing about CIAM, but from a few more pages of *Space, Time and Architecture,* we understand some other opinions of Giedion on CIAM. For instance, when he informs about the Dutch architect Hendrik Petrus Berlage, he mentions that he was the oldest participant in the founding

[123] Sigfried Giedion, "On CIAM's Unwritten Catalogue", *The Journal of the Society of Architectural Historians* 3, no.1/2, The History of City Planning, (January-April, 1943) pp.43-46

[124] ibid., p.45

meeting of CIAM in 1928, “the first international rally of contemporary architects”.[125] He continues that Berlage was the only one who presented a comprehensive paper on “the relations between the state and architecture”, while the younger architects were discussing “nothing but the new points of departure”.[126] On another page, 507, Giedion is informing us about the ‘ability’ of Gropius in overcoming the difficulties of bringing together the ‘diverging minds’, he assures that “there is no lack of individual opinions” in CIAM. Here again, we perceive Giedion’s own approach towards history: comprehending and interpreting the facts from his own way, since we know that only two years after those pages on Gropius was written by Giedion, the conflicts in CIAM became apparent in Dubrovnik meeting of 1956. Still, as a uniting circle of architects from various nations, CIAM played a significant role in the shaping of Giedion’s ideological formation.

[125] Giedion: 1954, p.314

[126] ibid. on the same page

CHAPTER 4

SPACE, TIME AND ARCHITECTURE

4.1 Information About the Book

Sigfried Giedion's "Space, Time and Architecture" was first published in 1941 in the United States. It came out of Giedion's lecture notes in German, which he gave at Harvard University as Charles Eliot Norton Professor of Poetry. With the assistantship of his American colleagues, Giedion translated the notes from German to English. His colleagues from Harvard University were surprised about Giedion's having invited for a professorship on poetry: actually with the authorization of the founder of the chair, the term of poetry was being interpreted in a wide sense.[127] Therefore, this innovative commentator of modern architecture was selected. Two years after the presentation of the lectures, the book came on the market in the United States. Only in the first thirteen years, it had been published ten times. It has been translated into eight languages: French, German, Italian, Korean, Serbian, Polish, Japanese, and Chinese. There are five editions, which belong to the years of 1941, 1949, 1954, 1962, and 1967. Since the first edition, 359 pages and 210 illustrations were added (Figure 39, 40, 41 and 42 show the content page of 1941 edition of the book). Also, there were added 76 headings since then, which include ten new chapters.[128] Giedion believed in the organic growth of his book, thus, he did not see it necessary to 'disturb' the existing character of the book, but inserted new topics according to the developments in architecture. The reason why we studied the third edition here is that we wanted to examine the situation of modern architecture in the first fifty years of the twentieth century

[127] Kenneth John Conant, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Journal of Aesthetics and Art Criticism* 1, no.2/3 (Autumn, 1941) p.128

[128] The version that is used in this thesis is the tenth printing, third edition, of 1954.

and observe the perspective of Giedion after the books he wrote in the first half of the twentieth century. In addition to that, the first edition of *Space, Time and Architecture* is more of a compilation of his lecture series at Harvard University, without so much detail in it, however the fifth and the last edition of the book belongs to a another understanding of architecture.[129]

Apart from being educated in a relatively conservative environment as we have seen, Giedion was the student of the formalistic and influential art historian, Heinrich Wöllflin. However, beginning with the works right after his dissertation *Late Baroque and romantic Classicism*, Giedion chose a different way of analyzing history of art and architecture, which was still counted as formalistic but more provocative and human-centered. The method of the book can be more scrutinized from the headings that Giedion gave to each part of the book. In the first chapter of *Space, Time and Architecture*, named as 'History A Part of Life', Giedion clearly states his position. According to him, the historian should not only analyze the past, but also analyze today and anticipate the future. Therefore, history was accepted as dynamic rather than static, such that every historian, every observer created their own way of seeing history because "History cannot be touched without changing it."[130] The way that world was perceived in the nineteenth century hosted an important and dangerous division between thinking and feeling, a matter which kept Giedion's mind busy throughout his career as an art historian. This division was also perceived by him as the separation between technology and art, at least until the beginning of the twentieth century. Giedion asserts that, "Modern art, like modern science, recognizes the fact that observation and what is observed form one complex situation – to observe something is to act upon and alter it."[131] Different from his supervisor Wöllflin, Giedion perceived

[129] We can trace the difference from the new introduction Giedion put in the fifth edition which has the title of "Architecture of the 1960s: Hopes and Fears".

[130] Giedion: 1954 [1941], p.5

[131] ibid., p.6

the objects of art and architectural history as not only forms and shapes extracted from their components, but he treated it in a way considering social, economic, scientific, technical, and ethnological factors. However, these factors do not have to be contemporary, architecture can operate beyond its borders in its period of birth, beyond the social class it operated, or beyond its style.[132] What Giedion argues here is the fact that modern art and science define the character of their objects through a rational scheme and highlight the way those objects function. Accordingly, as history follows this way after art and science, Giedion pays attention to the interest of his contemporary scholars on defining the linkage between the periods instead of evaluating those periods separately.

As it has been mentioned above, Giedion's aim was not only analyzing the past, but also evaluating the present and anticipating the future. He predicted that in the future the history of architecture would be seen as a continuing and self-operated establishment 'apart from questions of economics, class interests, race, or other issues'.[133] Giedion adds that this attitude would be suitable especially while investigating American architecture. But first of all, it was seen necessary by Giedion to look at space conceptions throughout history in order to catch the hints of the contemporary architectural notion.

In the second chapter, 'Our Architectural Inheritance', Giedion starts to examine our architectural inheritance with a crucial question: "why a knowledge of our architectural inheritance is necessary". He begins to answer this question by looking back to the roots of 'modern' architecture, the basic aspects of contemporary architecture. Giedion here takes looks at the Renaissance period, when the perspective was invented. According to him, the notion of perspective is extremely important in the cultural heritage as well as the architectural heritage, because with the invention of perspective the modern

[132] ibid., p.20

[133] ibid., p.22

notion of individualism discovered its artistic counterpart.[134] On the other hand, Renaissance was not important solely for the invention of perspective, but also for the 'Renaissance Man' it brought up, who had the characteristics of an artist and a scientist in a single body. Architect Brunelleschi, painter Masaccio, and sculptor Michelangelo were not exceptions but talented and educated men who did not ever limit their field of interests. The painting of Masaccio, the famous 'Fresco of the Trinity' in Santa Maria Novella at Florence, is a perfect example of the association of technique and art –architecture and painting. The perspective with a very low point of origin that was used in this painting clearly exposed the barrel vault designed by Masaccio who learnt perspective from Brunelleschi. This barrel vault later on inspired the following architects and became concrete.

The transition from the Renaissance to the Baroque, as Giedion explains, can be counted as the result of the exaggerated individualism of the Renaissance mind, and the reason for the rise of tremendous residences built for a single man. This change from individualism to absolutism also marked the formation of a more established period in the sense of life structure as well as architecture. While Italy was experiencing the Renaissance, the other countries were still living the Gothic. Therefore, the Renaissance period for Italy, beside all the new discoveries, can be counted as a transitional period, and the forthcoming period, Baroque, exposed itself as a relatively established period. And if the Renaissance is identified with the discovery of perspective, then Baroque period can be identified with the novelties in town planning. Leonardo da Vinci's researches on hydraulics and his approach toward the control of the nature for human purposes, as well as the devoted Pope Sixtus V in Rome, marked a new epoch in town planning. Later on, France advanced on the organization of the outer space, and along with the monarchy, absolutism found its most convenient environment. Not only the treatment of the outer environment but also the designs of the great palaces for the crown were

[134] ibid., p.31

leading the era.[135] Beginning with this part of the book, it can be observed that Giedion bit by bit puts forward the design issues gradually reaching the beginning of the twentieth century. As one follows the pages, one can see the analogies set by Giedion; he points to the similarity of the attitudes of Sixtus V and Eugène Haussmann, who was responsible for the transformation of Paris in the nineteenth century, toward town planning.[136] Giedion also mentions the common points of the design issues of Francesco Borromini and Giuseppe Valadier with several twentieth century protagonists such as Borromini's intersection of the continuous inner surface of the dome of Sant' Ivo with Picasso's a head sculpture[137], his spiral form with Tatlin's monumental tower[138], and Valadier's inner-outer space conception with Theo van Doesburg's expression of vertical and horizontal planes[139]. On the other hand, Giedion connects another design piece from the end of the eighteenth century to a twentieth century one: according to him, the design principle in the Lansdowne Crescent at Bath reappears in Le Corbusier's 1931 dated scheme for skyscrapers in Algiers.[140] This situation Giedion named as constituent facts is going to form another title in this chapter of the thesis.

In the third chapter of *Space, Time and Architecture*, 'The Evolution of New Potentialities', the main subject is new materials and methods of construction. The basis of these novelties is considered as the abrupt industrialization right within and after the Industrial Revolution. The reason of this impulse is tied to the irrationality and complexity of life by Giedion. He explains that if the life is

[135] ibid., p.133

[136] ibid., p.90

[137] ibid., p.115

[138] ibid., p.117

[139] ibid., p.155

[140] ibid., p.159

stuck in one way, it naturally looks for and finds another way to continue.[141] Industrialization gave the opportunity to life to expand. Therefore, the miraculous increase of industry and its impetuous penetration to public and private life can be explained with this perspective.

Industrialization brought about both new materials and new usages for old materials. For example iron, which was not so much preferred until the nineteenth century because of its poor resistance to corrosion, lack of classical precedents, and difficulty to produce except in relatively small quantities, became much popular in the nineteenth century with the development of new techniques in construction. In the beginning, Giedion explains that the attempts of iron construction both in the birthplace of industrialization, namely England, and in France, were unsuccessful. However, with the erection of Severn Bridge in England in 1779, Giedion claims that a new path for developments of great importance was opened –despite its unattractiveness as a work of art and its architectural problems.[142] So, the usage of manufactured iron had been developed with every bridge erected, as well as it was used as roofing material both in England and on the continent. Before continuing the explanation of the development process, Giedion needed to inform the reader about the tendencies of both the nineteenth and the twentieth centuries. According to him, the architecture of the present is not the product of a few of protagonists appeared in the beginning of the twentieth century, but it is rooted in the nineteenth century with the beginning of industrial revolution.[143] As Giedion continues, he introduces the reader his idea of the great divide in the nineteenth century; the breaking of the connection between the methods of thinking and the methods of feeling –namely, the diversion of the paths of science and arts. The reason why the recent ‘period pieces’ became a ‘fashion’ in the nineteenth century

[141] ibid., p.165

[142] ibid., p.169

[143] ibid., p.180

was explained by Giedion in terms of the lack of absorption of the scientific and technological advances by the architects of time. The problem here is that architecture takes the novelties in science without completely internalizing them. It is a problem for the fact that without conceiving the architectonic possibilities of the newly developed constructional methods, there cannot be a new tradition in architecture relevant to its age.[144] Nevertheless, for Giedion the one-hundred-year-period of evolution of cast-iron column to steel frame and the chasm between technology and architecture shaped the forthcoming 'new architecture'.

The usage of cast-iron columns developed from the necessity of larger spaces in factories for big-sized new machines. This new big volumes opened up the possibility of new and different proportions in architecture. Until the development of steel frame in the 1880s, cast-iron pillar was dominant in construction because of being fire-resistant, cheap, simple to manufacture, and resistant to heavy loads.[145] A striking resemblance between the Renaissance and the nineteenth century is presented as they both required an 'ideal man'; in contrast with the Renaissance, the nineteenth century man is not qualified in both science, art, and engineering, but he should be specialized in one field of industry in addition to being successful at every branch of this field.[146] James Bogardus is one perfect example for Giedion to suggest as the nineteenth century ideal man. He was a productive inventor, watchmaker and engineer at the same time.[147] The skeleton construction he invented gave birth to multi-storey buildings, and finally to skyscrapers, which sprang all over the United States and than Europe. However, it should be remarked that Giedion does not report one single person as the inventor of skyscraper, but he points out the

[144] ibid., p.181

[145] ibid., p.187

[146] ibid., p.198

[147] ibid., p.197

first skyscraper that was built up –the ten-story building of the Home Insurance Company of Chicago dated in 1885.[148] The endeavor of Giedion to tie science and architecture shows itself on that page, in which he summarizes the first eighty years of the nineteenth century by comparing the time period during the progress of iron construction to the time period passed during the discovery and transmission of electricity. It was exactly in the same period that the elevator –both industrial and passenger type – was invented.

Not only explaining the works of architecture in the nineteenth century, Giedion also mentions the heated discussions on how the relationship between architecture and construction should be. The demand for a new architecture had started to be seeded in the mid-nineteenth century with all the new developments in industry and construction. In addition to that, engineering became revered more than architecture, and as Giedion asserts, schools of architecture sought for solutions in order to bring architecture and engineering – in another sense, theory and practice – together.[149] Henri Labrouste is chosen as an appropriate example for the new kind of architect in the nineteenth century; he was both a talented architect and an attentive constructor. Despite being more advanced than his colleagues, Giedion was confounded that none of Labrouste's projects had been constructed before his death.[150]

New ways of production, new developments in construction led to new patterns in economic and social life. As a result of these novelties, new building types for those new economic and social lives were needed. Market halls, department stores (the consequences of mass production that caused the loss of direct contact between the producer and the consumer) were derived from these changing demands. On the other hand, the great exhibitions, Giedion assess,

[148] ibid., p.206

[149] ibid., p.209-210

[150] ibid., p.226

were the best opportunities for architecture to present its creativity.[151] Giedion divides the history of exhibitions into two parts: the first part involves the first half of the nineteenth century and it was brought about by the new "liberty of production". The second part involves the second half of the nineteenth century and this part dwells on the liberal conception of economy. The usage of iron 'for rapid erection and dismantling' and glass became the fashion of the century and those structures became the arena for exposing the developments from all around the world. One important point in this part is the glass wall usage in the Paris exhibition in 1878; the next usage of such kind would be in Dessau-Bauhaus in 1926. According to Giedion, no other century in the history of western world developed buildings in a form of such exaggerated growth as the 19th century, and none of them gave birth to such a small number of creative architects.[152] Even one of the most prominent personalities of the time, Gustave Eiffel was accused by Giedion with having an intolerable artistic taste, just like his time had.[153] Furthermore, Giedion implicates this situation as a continuing problem of the creative personalities of the twentieth century, who struggled with 'the split between methods of feeling and of thinking'.

The fourth chapter, 'The Demand for Morality in Architecture', is mostly mentioning the period in which a discomfort about existing architectural taste emerge and this situation gave birth to a new movement in architecture: Art Nouveau. Defined by Giedion as an 'anti' movement and an 'interesting intermezzo between the nineteenth and the twentieth centuries', Giedion informs, Art Nouveau was arisen from Belgium because of being the first country to become heavily industrialized.[154] So that, Giedion asserts, the problems emanated from industrialization were first found out and felt

[151] ibid., p.241

[152] ibid., p.275

[153] ibid., p.279

[154] ibid., p.302, 293

drastically in Belgium. In addition to that, the artists, composers and poets, who were disdained or marginalized by their countries, were welcomed in Belgium, and they along with the Belgian artisans found a very appropriate environment to build up new tenets. A brilliant architect, Victor Horta, designed his house at Rue de Turin due to its flexible ground plan, which later on was going to be seen as one of the European beginnings Le Corbusier's 'free plan'.[155] On the other hand, Hendrik Petrus Berlage's usage of the wall as a flat surface purified from any ornament in the Amsterdam Stock Exchange was about to lead to new principles in architecture all around the world.[156] Nonetheless, the Viennese School with the pioneering of Otto Wagner, his book 'Modern Architecture' dated 1894, and the invention of a new building material –ferroconcrete- are the other aspects took place in this period. Presumably, Goethe's dictum –which was held by Wagner- summarizes the main rule to be set in this period and to be followed by the following one: "the artist must create what the public ought to like, not what it does like."[157]

In the fifth chapter of the book, 'American Development', Giedion turns back to the beginnings of industrialization in America, which correspond to the second half of the nineteenth century. At first, he informs the reader by giving the differences of the utensil and furniture design between Europe and America. In contrast with Europe, plain and simple elements used in American design. The fundamental distinction between Europe and America is the labor-material quantity, which directly affects the structure of the industry in both. According to Giedion, the invention of the balloon frame represents the first steps of the American development.[158] It led new ways toward domestic architecture and wooden design. On the other hand, the plane surface, either

[155] ibid., p.303

[156] ibid., p.311

[157] ibid., p.315

[158] ibid., p. 344

made of stone, brick or wood, and the flexible ground plan have been major elements in American architecture. The Chicago School had an important place in American architecture especially for the development of the high-rise buildings in the last two decades of the nineteenth century. This engineering-based architecture school under the pioneering of William Le Baron Jenney, an École Polytechnique graduated French engineer-architect, achieved notable novelties in architectonic detail and ornament, and trained many remarkable architects such as Louis Sullivan.[159] The following pages give information about the progress in Jenney's buildings. Along with tall office-buildings, there were also apartment houses, which were the solution for the housing problem, and hotels which were secondary products of the 'Industrial Chicago'. Giedion marks that the difference in the solution to large-scale housing between Europe and America of that time.[160]

The Chicago model demonstrates the fact that when necessity arises, the solution will certainly come up. The muddy ground of Chicago led the local architects to invent the floating foundation. The high-rise buildings were erected with the help of iron skeleton, and the iron skeleton brought about the horizontally elongated window. Could these novelties be the forerunner of a breakthrough in the inauspicious fate of the relationship between construction and architecture? Giedion's enthusiasm can be read from those lines:

> …With surprising boldness, the Chicago school strove to break through to pure forms, forms which would unite construction and architecture in an identical expression.[161]

The resemblance of some of those Chicago buildings and some European projects a few decades later is the matter of the following pages. Giedion postulates that Jenney's Leiter Building's skeleton could be the first stage

[159] ibid., p.369

[160] ibid., p.378

[161] ibid., p.380

before Le Corbusier's Maison Clarté in Geneva; Daniel Burnham's Reliance Building's glass façade could be an early manifestation before Mies van der Rohe's project for a glass tower; or Sullivan's Carson, Pirie and Scott Company Department Store could be the reappearance of the constituent facts –iron and glass conjunction. All of these coincidences, Giedion points out, these examples should be accepted as a proof that the Chicago school was led by the spirit of the age.[162]

The most striking difference between the architects of Europe and America in the same time period, and between their approach to design are that former began the reform from the smallest object in the house, however the latter accepted the house as a whole and treated it accordingly. On the matter of dwelling, another important figure for American architecture, along with Chicago school, is determined as Frank Lloyd Wright by Giedion, and he naturally takes his part in *Space, Time and Architecture*. Wright is described by Giedion as 'the most farsighted, a genius of inexplicably rich and continuing vitality'.[163] Despite his progressive attitude, Wright stayed away from the iron-glass, which were in fashion those times, and preferred the traditional materials, such as brick and wood. On the other hand, his usage of plane surfaces (horizontal planes at different levels, and elongated vertical planes), his handling the house as a whole, and the traces of the 'spirit of the age' in his designs make him a remarkable pioneer in the development of a new architecture.

The sixth chapter, 'Space-Time in Art, Architecture, and Construction', the reader encounters with the birth of new art and architecture in Europe. But first of all, one needs to know the factors that affect the human activities, which are social, economic, and functional, as well as human feelings and emotions. According to Giedion, we need to determine 'harmonies' between our inner

[162] ibid., p.390

[163] ibid., p.394

and outer world.[164] He assesses this in the attitude of the artists of his own period, who dealt with the ordinary objects of daily use. The cycle that has been lasting for the last hundred years finally had the chance to break through, since the artist realized the lack of contact with modern life. The first and the main alteration in the set of perceptions is the alteration of perspective, which was an unavoidable result after its misuse in the nineteenth century as Giedion states. So Cubism has appeared, literally, not as an invention of one artist, namely Picasso, but as a product of 'a collective and almost unconscious attitude'.[165] Giedion assesses the main characteristic of Cubism as to grasp the object from a moving point of reference. That brought about different ways of perceiving the object by the observer. The Cubist painting is the expression of an object, which is to be sliced into facets in order to observe the inner and outer parts of the object at the same time. There are many proponents and implementers of Cubism around Europe (such as Le Corbusier and Ozanfant from France, Malewitsch from Russia, Moholy-Nagy from Hungary, Mondrian and van Doesburg from Holland, as Giedion exemplifies), and all those implementers directed it into architecture, at the same time rationalized it.[166] While Cubism reinterpreted space-time conception through spatial representation, Futurism reinterpreted it through movement. Both of the movements were capable of using the optical possibilities right before the First World War, and continued developing along with photography. Futurism, which wanted to spread its assets through every aspect of life, could not survive for a long time –'a short span of volcanic productivity', as Giedion names. However Cubism, which stayed rather quiet, kept growing and gave its relatively best product, combining cubist and futurist aspects – space and movement – at the same time in Pablo Picasso's *Guernica*, dated 1937.[167]

[164] ibid., p.427

[165] ibid., p.431

[166] ibid., p.435

[167] ibid., p.444

Giedion asserts that this painting about the Spanish (civil) war 'seems to be the first real historical painting since the beginning of the Renaissance and the work of Paolo Ucello'.[168] The most worthwhile point of this painting is probably the fact that Picasso's sense of motion and space is barely seen in the photographic work of Edgerton in 1939, in which the motions -normally cannot be grasped by the eye- can now be observed with the help of the 'stroboscope'. Here, one can see the correlation between the artist and the scientist – thankfully.[169] This fact is important in order to see that the notion of space is the concern of both of them. After taking a glance on the relation between art and science, Giedion turns back to the beginning of the twentieth century and to the relation between construction and aesthetics. On this very subject, the Swiss engineer Robert Maillart played an important role for the reason he invented a new type of flooring: a self-supported system which puts away the necessity of beams. With every bridge he built, the surface evolved to be a basic element of construction. There, Giedion asks an important question aiming to clarify the relation between contemporary painting and construction: the resemblance of the surfaces in cubist painting with Maillart's self-supporting slabs. He assumes that if the constructor benefits from the same elements as the artist does in order to find solutions for his/her problems, then that means they anticipate a similar optical imagination. He continues his statement with quotations from contemporary artists that the universal laws of nature functions for both modern science and modern art, bringing them to the same results.[170] The analogies and the resemblances among social sciences and natural and applied sciences are common in those days and in fact, they actually should be: according to Giedion, if they create common points within each other the evolution of the culture will be closer and quicker.[171]

[168] ibid., p.445

[169] ibid., p.446

[170] ibid., p.460-461

[171] ibid., p.463

While talking about Malliart, Giedion informs us that he was invited to Czarist Russia in his most productive years, and after the Soviet Revolution, when he came back to Switzerland he had no money and no public attention. Here, Giedion wonders what it would be like if he had been invited to America instead of Russia. Significantly, he continued the chapter with Walter Gropius who continued his career in America from 1937 until his death and the German development. Germany was one of the countries, which achieved the industrial revolution considerably late. Almost in the same years with America (mostly in the last three decades of the nineteenth century), Germany decided to catch the worldwide developments in industry. Then, beginning with the first years of the twentieth century, Germany decided to catch the developments in art and architecture as well. As Giedion mentions, Germany was quite welcoming to the ideas of every kind until the thirties. For those years, while the Austrian architects Adolf Loos and Otto Wagner were active in Germany, Peter Behrens was accepted as the representative of the German architecture; some of the protagonists of modern architecture worked in his office, such as Mies van der Rohe, Walter Gropius, and Le Corbusier.[172] The willingness of a quick development led the way to the foundation of Deutsche Werkbund in 1907. The aim of this organization was to combine the skills of artists, workmen and the industry in order to produce goods in quality. Although it had to give a break during the First World War, the Werkbund managed to survive afterwards and continued organizing architectural landmarks such as the Weissenhof Settlement in 1927 –designed by various architects from inside or outside Germany- and the housing projects in Frankfurt-am Main –designed by Ernst May and his design group- at about the same time. Giedion notes the resemblance between the enthusiasm of Ernst May and Eugène Haussmann, drawing attention on the unfortunate shortness and limitedness of May's

[172] ibid., p.475

working conditions.[173] He asserts that the German experience showed the importance of the architect in constructing the 'spirit of his times'. If we turn back to Walter Gropius, the first thing to be said about him is his aptitude in using iron, glass and concrete –the current construction materials in use. Giedion points out the difference in design attitudes of Behrens and his apprentice Gropius, emphasizing the nationwide change in architecture. After the First World War, Gropius took a teaching position in Weimar, and there he founded the prominent *Bauhaus*, a revolutionary school of design and applied arts. Gradually, the Bauhaus was under the effect of the abstractionists and De Stijl group, but it was never affected by the expressionists – Giedion negatively criticizes German Expressionism, classifying it as a transitory fact, and mentioning that Gropius was also against the expressionists.[174] Gropius avoided letting expressionists to teach in Bauhaus. Still, Giedion asserts, a deep understanding of modern painting and the newly developed notions of space is necessary in order to comprehend the actuality of Bauhaus. Bauhaus was established to melt art, science and industry in the same pot using architecture as the medium.[175] However, here in this book, Giedion prefers to limit the subject of the Bauhaus to its building in Dessau – designed by Gropius and erected in 1926 – and its contribution to the new space conception. With a skeleton of reinforced concrete covered with glass curtain, Bauhaus seems as if it is floating in the air. The vertical planes and the visibility of interior and exterior at the same time are accepted as the two aims of modern architecture and with the building of the Bauhaus, Gropius has achieved those aims after the preliminary attempts in his model factory 'Fabrik' designed in 1914. Those aspects introduced a new space-time conception to current architecture. Another success of the building is that the entire building cannot be grasped from one point of view, one should observe it from various points; this many-

[173] ibid., p.477

[174] ibid., p.481-483

[175] ibid., p.485

sidedness distinguish Bauhaus from the other examples of modern architecture until that time.[176]

While writing about Gropius, Giedion finds it important to mention the emigration wave in the 1930s from Europe to America. Unlike the immigrants in the mid-nineteenth century, this time people related with the humanities – artists, scientists, poets- escaped or exiled from their countries for political reasons and immigrated to America. The artistic situation in America was in decline, a fresh start was needed, as it was in France after the Gothic. The French called successful Italian artists during the Renaissance for this fresh start; comparing this situation to the one in America, Giedion points out the invitation of European artisans to America. He remarks that by the 'laws of chance', the best and the leading figures of Europe accepted this invitation.[177] In those times, academies were under the influence of *Académie des Beaux Arts* and were against any modern attempt. However, the invited artisans, such as Mies van der Rohe, Lazslo Moholy-Nagy, Walter Gropius, and Alvar Aalto (as Giedion writes) were about to change this situation. When Gropius arrived in America, he did not know about the significance of the Chicago School. But his previous works and his first designs in America reminds the Chicago School, which is connected with the spirit of the age for Giedion.[178]

Le Corbusier, the French pioneer of modern architecture, proved himself as a skilled and leading architect of his time. Although he did not attended any university, he improved himself with both self-education and by working with the leading architects of his time such as Auguste Perret and Peter Behrens. In addition to those, he made a trip to the East (including Greece, Turkey and Algiers among many others) and collected the knowledge he would need. Also

[176] ibid., p.493

[177] ibid., p.496

[178] ibid., p.497

as a painter, Le Corbusier tried to expose the same space conception in two different platforms, which is the interpenetration of the inner and outer space. This conception was also attempted by Borromini in the seventeenth century, nevertheless Giedion claims, this conception can only be achieved in an age like Borromini's, in which science and art collaborate on space perception.[179] As it is seen in his five points of architecture, Le Corbusier benefits mostly from reinforced concrete in his designs. Right along with being aware of the potentials of this material (he was the first architect to adapt the concrete skeleton into an architectonic expression as Giedion asserts), Le Corbusier also owes this much of use of reinforced concrete to the French regulations, which allow the usage of it.

League of Nations project occupies an important part in examining the modern movement and the achievements of Le Corbusier. The idea of gathering the representatives of countries from all over the world was a challenge for the supporters of modern architecture. Although antagonists of modern architecture had not won the competition, the first important meeting between public and modern architecture was accomplished successfully. And in addition to that, during the realization process of the project –which was designed by the architects of the top four projects-, the constructors admitted that the best solutions for the requirements of the building complex were brought about by Le Corbusier and Pierre Jeanneret. As the main characteristic of Le Corbusier, Giedion points out his ability of simplifying the problems without surpassing their importance. In the following years of Le Corbusier's carrier, large-scale buildings which were gaining more and more importance with the transformation of the society and the self have a significant place: the not-materialized civic center of St. Dié where the traces of the Greek Agora can be perceived and the communal way of life is to be declared; the Unité d'Habitation as 'the three-dimensional expression of the social imagination' and the set of rough concrete surfaces in order to strengthen plastic intentions;

[179] ibid., p.511

and the formation of a new capitol for Punjab, Chandigarh, as the creation of a new living space for a community from the scratch. Le Corbusier is such an architect who is a town planner, an artist, a sculptor and a poet at the same time. Giedion draws attention to the feature of the new architecture that the approach in design tend to resemble each other; however by keeping the regional characteristics, – such as it does in Brasil or in Finland – and by representing the spirit of the age they are able to remain unique.

Another subject of analysis is Mies van de Rohe, the calm architect from the Dutch border of Germany. As Giedion declares, the necessities for creative architecture are a tasteful client, a superior leading architect and superior young architects. As soon as he finds a client of such, Mies van der Rohe developed what he learnt from his masters, Giedion explains: new materials from Peter Behrens and open ground plan from Frank Lloyd Wright.[180] In addition to that, he was highly influenced by the dwelling endeavor in Holland, and devoted an important part of his design life to the issue of dwelling. The plane surface and the pure materials became Mies van der Rohe's indispensable elements of design and he used them for the sake of the new space conception. On the very moment, Giedion finds it important to give background information about the situation in Berlin. From the formation of the Bauhaus in 1919 till the enthronement of the Nazis in 1933, modern art and architecture found very limited time to develop. In addition to that, the unstable economy, repeating crises and enormous unemployment exacerbated the construction field. Still, the Bauhaus found a way to expose themselves to the public and they used every opportunity until its closure in 1933. The most important exposition amongst all was the Weissenhof Housing Settlement in 1927. The Deutsche Werkbund charged Mies van der Rohe with this housing project, and Mies van der Rohe gathered Europe's leading architects in Stuttgart in order to design a house in the complex. Giedion finds it essential for the new architecture to manage contact with the public. Indeed, with Weissenhof Settlement, Mies van

[180] ibid., p.543

der Rohe could achieve what Gropius and Le Corbusier aimed in their designs: the introduction of industrialized techniques into housing design, and the proposition of a new way of life.[181] Rationality is the most prominent design characteristic in the housing complex.

After the exile to America in 1933, Mies van der Rohe continued both designing and teaching just like Gropius. The spaces he created cannot be grasped from one point, and represents the space-time conception. The usage of glass and the attention to the proportions can be considered as the main aspects of his design. His skyscraper apartments represent the next generation of the Chicago School –now with a combination of artist's creativity and the immense means of industrialization. Giedion is quite satisfied with the idea of creativity and mechanization operating together. On the other hand, the integrity of form becomes important. Mies van der Rohe's design concept is evolved just according to this principle. With every building he designed, he approaches the pure form. Without differentiating his style, he treated every project even; and as Giedion claims, Mies van der Rohe's working methods brought a 'deep moral influence' upon current American architecture.

Though being a defender of standardization, Giedion is against the idea of excluding the human aspect. Alvar Aalto matches the type of architect he has in mind: Aalto uses standardization with irrational forms: from now on, strict rules and lines will not rule the whole design, but become a part of design.[182] The appropriate conditions of a new architecture have already been set by the 1930s, the only thing to do was to execute it; this was what Aalto achieved. The issue of the organic forms conflated with functionality has already been discussed, and Aalto contributed to issue with his design approach as well as with a rediscovery of an organic material: wood. His motherland, Finland, has ample forests and an identical nature, which Aalto has never stayed away and

[181] ibid., p.552

[182] ibid., p.565

which became significant in his designs. Although Finland was suffering from the lack of financial sources –especially for the architectural renovation-, Aalto's career began at the top and he was supported by his country. Giedion highly appreciates Finland's foresight about his talent. According to Giedion, this aspect shows the 'spiritual leadership of a country'.[183]

From Giedion's point of view, there are three institutional buildings that shape the characteristic of the architecture of the time: Gropius's Bauhaus at Dessau in 1926, Le Corbusier's the League of Nations Palace at Geneva in 1927, and Aalto's sanatorium at Paimio between 1929-33. The common points of these buildings are that they all can be grasped as a whole not from one point but from various points – which proves their space-time conception –, and they all harbor the integrity of form: separate functions in inseparable units.[184] On the other hand, Aalto brought about another aspect to the new architecture with his Viipuri library design in 1927-34, undulating wooden ceiling of which is one of the constituent facts Giedion suggests: the undulating wall that appeared first in Borromini's design in the Late Baroque period. Giedion explains it as below:

> The solution of the problem of spanning space has always been an indication of the creativeness of a period.[185]

Viipuri library became the medium that science and art cooperated and combined together for the sake of a free architecture. From then on, undulating surfaces can be seen almost in every Aalto design. Especially his Finnish Pavilion in 1939 for World's Fair in New York was prominent for its hovering effect as well and this was the time that he drew the attention of the American architectural society. To set architecture free from the remnants of the

[183] ibid., p.574

[184] ibid., p.578

[185] ibid., p.579

insufficient past is an important issue for Aalto, and he achieved this goal by using constituent facts and the characteristics of the region he built on. Mairea house he built in 1939 was a reminiscent of any eighteenth-century project, because of his relation with his client and his use of different textures all around the house in order to 'modulate spaces in flux'.[186] He never broke off his connection with his country, he continued teaching and practicing in America and being a part of the renovation of Finland which has gone through various destructions due to the wars in recent years. He contributed to town planning as well, which is another aspect for integration. The uniqueness of this period he lived in is that its integration ability was formed right from the beginning. As Giedion asserts, it generally happens at the end of a period when it is culturally matured. Luckily, the integrity that was achieved during the development of the period has the opportunity to show itself in every field. Yet, town planning should embrace the living area, the center of production and nature, and Aalto succeeded this kind of town planning with a great success. Aalto's designs involve the small-scale as well such as furniture, along with the large-scale like town planning. He approaches both with consciousness of the fact that they are both reevaluation of the human life. His emotional human side should be a mandatory aspect for every architect in order not to be captivated only by technical process.[187]

To conclude this chapter, Giedion emphasizes certain aspects of the development of the current architecture. First of all, he reiterates that the new architecture was not set by a few protagonists. The proof of this is CIAM, which was constituted to bring solutions to the problems that cannot be resolved by a single man as well as to acquaint themselves with the universal circumstances. On the one hand, as far as new architecture is concerned with proposing a new lifestyle, it should ask the question: 'What kind of life are you planning to have?' in order to anticipate and determine the future. On the other

[186] ibid., p.594

[187] ibid., p.602

hand, the new architecture demands morality, for the reason of dealing with both aesthetical feeling and practice while trying to create an accurate society. So, as Giedion referred to the words of Louis Aragon, it can be said that architecture is not only a matter of taste but a language itself.[188]

In the seventh chapter, 'City Planning in the Nineteenth Century', seeks to give the answers to the questions about the development of town planning from the late Baroque to the twentieth century. In general, it can be said that the social life had basically shaped the network of the late Baroque town. There are three aspects that emerge as the initiators of the city: the monarchy, the church, and the group of people who supported one of the two to sovereign.[189] In the eighteenth century, the great interest of people on nature had shown itself in town planning. However, the interest in towns was never much as it was in the nineteenth century. Giedion claims that for the reason of being the last department of architecture, town planning was generally out of sight and suppressed by the industrialization.[190] Nevertheless, the first era under investigation will be the London squares and the town planning in London in the late eighteenth and the nineteenth centuries. The most significant needs of Englishman, Giedion asserts, are comfort and privacy. He states that those aspects embodied the overall idea of town planning of the stated period in England. However, the green areas in relation with the residences were to be private and should not have been seen by an outsider. So the squares were formed. Due to high building activity in the eighteenth century, the squares were designed in order to separate the nobles' estates. The new type of squares, which were formed in the beginning of the nineteenth century, involved the single-family house as the basic unit. This time, not the nobles but the professional upper middle class occupied those houses. It should be kept in

[188] ibid., p.607

[189] ibid., p.612

[190] ibid., p.614

mind that the building activities were under the control of the great landowners, because they were hiring their lands to the constructors for ninety-nine years or so. One of those constructors, John Nash, aimed to erect a housing complex in order to increase the income of the landowner to embellish the city, and to investigate on the health and comfort of the public. He built those houses for the newly rich, who became rich by the industry or by the trade with the colonies of England. This housing complex refined the characteristics of the nineteenth century town planning. As Giedion declares, Nash achieved a free spatial organization as Borromini did by trying to manage diffused inner and outer spaces. However, after the first half of the nineteenth century, the decline in the taste of design became visible.

The prominent characteristic of the nineteenth-century-city is the great increase in its population, which is related to the spread of industry, and this typical metropolitan city of the nineteenth century is embodied in Paris under the management of Georges-Eugène Haussmann. Haussmann's program consists of a scheme set up by four phases. At the roots of this scheme lies the 'fear of street fighting'.[191] The first phase in this schema is to compose the monumental (state) buildings in a more pleasant and useful way. The second one is to take the health and sanitary conditions into consideration. The third phase is to widen the thoroughfares of the city in order to allow the troops have easy access to the inner city and hence to disincline the people from rebel. And the fourth one is to solve the traffic problem in the most efficient way so that to arrange the transportation network appropriately. In order to apply this schema, he divided Paris into three sections and started working on his seventeen-year-duty. In an extended manner, Haussmann achieved the notion of regional planning, in the way we use today. In spite of having full support of Napoleon III, Haussmann did not satisfy the interests of the upper middle class, and in addition, he spent a lot of money than before. So, after Napoleon had left the country for a battle, they dismissed Haussmann, though his project was not

[191] ibid., p.648

finished. Haussmann aimed Paris to turn into a great industrial city of the nineteenth century. He arranged various street connections, built *boulevards* in the city, added green spots in the network. As it was in all fields in the nineteenth century, the planning of Paris was accomplished by the assistance of technicians rather than architects or town planners. The problem was that the architects of the time were beyond the speed and the novelties of the developments. Another problem was that Haussmann allowed the mixture of residence, labor and traffic, which is according to Giedion, was a disastrous decision. However, this fault cannot be attributed only to Haussmann; this was the problem of the nineteenth century not to use the facilities appropriately.[192] That is why the housing problem had to wait for more than a half century, while the transportation was at the point of interest. Of course, in Haussmann's period many remarkable buildings were erected. However on those days, the 'streets dominated the picture'.[193] Haussmann was a real nineteenth-century man, and he was a devoted town planner, who designed also considering the future. There was a mixture of constituent and transitory facts, like every nineteenth century work. Still, Haussmann accomplished to influence almost every city trying to be industrialized and to expand.

The eighth chapter is named as 'City Planning as a Human Problem', and it basically leans on the concept of town planning in the late nineteenth century and the beginning of the twentieth century. As far as the city is an inseparable part of the human life, the humanization of the nineteenth century city is desperately needed. Here, Giedion would like to investigate the stages that the productive architects of the early twentieth century have been through in order to take part in the development of the new town planning. Some of the town planners of the late nineteenth century saw the solution in turning back to the medieval times to the concept of the organic growth of the city. The disability of organizing large volumes urged most of them to suggest superficial

[192] ibid., p.672

[193] ibid., p.673

solutions. On the other hand, Otto Wagner was one of the few who understood the importance of considering the needs of the inhabitants. He realized that this idea would direct the modern town planning. After the suggestion of an organic city, which influenced the era a lot, a similar solution in accordance with it came from an English, Ebenezer Howard as the concept of garden city. The garden city appreciates the human aspect, and criticizes the existence of industrial fields being in the center. With this character, to some extent, it resembles the Renaissance city. Although it has not been realized in the proper sense, it reminded the human aspect to the current town planners. Tony Garnier's *Cité Industrielle* is one of the projects that grasps and exposes the social factors. He separated the different functions of the city –namely work, residence, leisure and transport- at the same time providing an organic interrelationship among all. This project of Garnier's anticipated and influenced the forthcoming modern town with its terraces on the flat roofs and with the usage of reinforced concrete.

After analyzing the city of London between 1800 and 1850, and Paris between 1850-1870, Giedion prefers to turn to the town planning of Amsterdam between 1900 and the time the book was written. The Amsterdam case is especially important for Giedion because of the uninterrupted continuing building activity and expansion of the city in a planned manner. And what distinguishes Amsterdam from London and Paris is the target of housing projects: the lower middle class and the working people.[194] Still, there are unavoidable expropriations, and similar to London example, here the landowners prefer to rent their lands as well. For the reason that there is no regulation set by the government, the façades were rather under the control of the society. One of the architects, who were charged by the city administration, Hendrik Petrus Berlage sought for the humanization of the residence areas. Giedion assumes that Berlage had not heard about the garden-city, but in his first assignment, he turned to the Renaissance system, a leading public building

[194] ibid., p.696

for each district. However eventually, these districts did not consider the basic human needs. Later in his second assignment, the marked difference in his approach can be grasped. He rejected the idea of the garden city, and put forth the necessity to use residential blocks instead of single dwellings, in order to repeat Haussmann's uniform façade. Although Berlage managed to see the whole city as a unit and brought about a kind of reform to the town planning of Amsterdam, the solution he and the whole Amsterdam project suggested did not bring a new conception.[195] Still, the overall plan was designed in consideration with the possible growth of the population, which provided enough organized space for the general extension plan of Amsterdam. First of all the extension was planned according to the human proportions, or a walker. Secondly, the dwellings were designed according to various types of families, from nuclear family to more crowded families. Giedion stresses the fact that the characteristic of the population in one district should be regarded for the present and the future development of that district.[196] On the other hand, the housing areas should have easy access to the total network of the city. In addition to that, he states, the flexible ground plan of the modern house should and will be projected to the structure of the modern town.[197] As it is obvious that the city of Amsterdam was shaped according to the will and the needs of the society, the focal point of the new town planning exposed as the organization of the relationship between a single dweller and the whole city. In order to keep in mind, the essential thing for Giedion is the method that was used in those projects, not the fact that they succeeded.

In the ninth and the last chapter of the book, 'Space-Time in City Planning', Giedion aims to analyze the contemporary approach towards town planning. He states right at the beginning of the first paragraph that the preliminary

[195] ibid., p.707

[196] ibid., p.710

[197] ibid., p.714

aspect of the city is not technique nor economy but the human being.[198] Due to the changing characteristic of the city, the planner must now struggle with different types of social groups. So the town planning cannot be reduced to accomplish straight lines of streets anymore, but it should consider the rise in the population density. On the other hand, town planning should syncretize the existing goals and facts of the era. As an example given by Giedion, modern traffic brings about a new awareness of environmental perception.[199] So the new town should not overlook the new conditions of life. As well as traffic, the frequent menace of wars should be another factor to consider in order to realizing a new town. Giedion perceives the city as an organic entity, which must be saved from the preeminence of industrial machines. The metropolis comes under investigation at this point. There are two opinions about the future of the metropolis: the first one is for the abolition of the metropolis, that the big cities should be divided into smaller zones in order to introduce nature to people again and to bring agriculture back to the center. The second opinion on metropolis is for the transformation of the city. The supporters of this opinion affirms that there has been a misuse of the city since the industrial revolution, and it can be saved with the attempt of bringing the necessities for a harmonious living together, first of all 'the present conception of life and its expression through contemporary artistic means'.[200]

One of the new elements that were introduced to the new city is the parkway. In its first sense, the parkway was for a pleasurable traffic. Then, with evolution of the cities, parkways evolved too. These new type of parkways are constructed according to the physical conditions of site and they set up sharply divided districts, especially in the manner of the nature and transportation. Yet, the vehicles will be feeling every curve of the site as well as the 'hovering

[198] ibid., p.718

[199] ibid., p.720

[200] ibid., p.726

effect' as if they are floating in space. In addition to the fact that the parkway cannot be grasped from one point of view, parkways correspond with the new space-time realization, which brought about by the spirit of the age.[201] The aim of the new town planning is to be the abolition and the total rejection of the wide thoroughfares in the very hearth of the city – named as *rue corridor* by Giedion – and free the city from the chaos of traffic. Another element of the new city is the dense and tall buildings in open space. It is generally applied to dwelling units, and intends to get rid of the straight line of attached houses, and achieved to change the perspective of the city through the change in the perception of the façades. These tall apartment blocks are designed to stand on pillars so that the space below will be left available for the pedestrian and for the leisure activities. On the subject of skyscraper, for the facilities other than dwelling, Giedion thinks that for the current period, the slab form the skyscraper has, embraces the uniqueness of 'the monolithic obelisk of Egypt and the Gothic cathedral tower for their periods'.[202] These bigger scales than the usual are in fact the unavoidable consequences of the period and the new space-time conception that has come out of the period. As an example to the big scale and the new space-time conception, Giedion gives the Rockefeller Center in New York from 1932. This nineteen buildings complex, Giedion notes, hold the feature of being multi-faceted in contrast with the single-faceted perception of the Renaissance. For once again with reference to Edgerton's stroboscopic studies, Giedion affirms that the same approach for the overall perception of this complex is necessary.

In conclusion, Giedion makes rather brief statements on the overall concept of the book. As an explanation for the whole structure of the book, he feels the necessity to state that the understanding of the evaluation of the relationship between thinking and feeling is very crucial. Although creativity is the elementary necessity for developing new ideas and concepts, the culture cannot

[201] ibid., p.729

[202] ibid., p.750

progress without the reconciliation of the methods of technique and the emotional aspects. Science and art are the 'real moral forces', and the 'schism' between the two would take the humanity back to the disastrous periods that it suffered since the Industrial Revolution. The spirit of the age directs the period to be integrated and to humanize unless it is not ignored.

4.2 Historiographical Themes

The constitution of *Space, Time and Architecture* has a many-fold character; in order to grasp the book entirely, one should reveal the main themes that are matters of discussion in the book. The book is considered as a praiser of modern architecture, yet what distinguishes it from the other books on modern architecture is the way Giedion took in order to analyze the evolution of the modern architecture. He suggested exploring the roots of modern architecture beginning with the Renaissance, and sought for a common denominator to unite the factors that composed the true architecture. The examination of the tendencies throughout the periods since the Renaissance, the revelation of the hidden facts –which are of cardinal importance for an accurate architecture-, the cooperation of science and arts on the behalf of the human's sake should be investigated through the way Giedion handled. The chosen themes below are the historiographical themes that Giedion stressed the most and constructed the book upon. In the following six sections, those themes that were determined as 'Constituent Facts', 'Zeitgeist', 'The Nineteenth Century – Denken und Fühlen', 'Morality', 'America – A Perfect Medium?' and 'Interpretations of Space' are going to be investigated under the so-named captions.

4.2.1 Constituent Facts

> Constituent facts are those tendencies which, when they are suppressed, inevitably reappear. Their recurrence makes us aware that these elements which, all together, are producing a *new tradition*. [203]

[203] Giedion: 1954, p.18 (Giedion's italics)

Giedion decides on some (architectural) concepts that he thinks a new epoch is created when they are regenerated repeatedly. He called them constituent facts and found evidences of them throughout history that overlaps accordingly – Frampton called them 'analogies'.[204] Constituent facts not only produce *a* new tradition, but they *re*produce new traditions; not only one time they are used for constructing a new tradition, but they are necessitated for any other new one. They are the fundamental and unalterable actualities in art and architecture, and without them, there cannot be a real revolutionary change in tradition. These facts are space conception (namely, perspective and its evolution), undulating wall, open ground plan, the human dwelling-nature juxtaposition, and the interrelated horizontal and vertical surfaces, with the addition of the new potentialities in construction, the use of mass production in industry, and the changed organization of society which happened to come out in the nineteenth century. Of course, Giedion notes that the unchanging facts are not the only things that constitute history, rather they evolve and they are reinterpreted. However, while they are evolving, they do not lose their internal character. They reappear as they are evolved according to the changes in the social, economical and technological aspects. Although he insisted on the acceptance that those facts and the traditions they produce are not the inventions of a single person but rather the expression of a whole era, he does not refrain highlighting eminent persons or groups.

For example, perspective was invented in the Renaissance period, around the fifteenth century –firstly used in a drawing by Masaccio (Figure 14), then adapted to architecture by Brunelleschi, and written down by Alberti-, and almost five centuries later a new space conception – space-time as Giedion calls- was invented and appeared in the works of cubists. Both conceptions simultaneously grew with the developments in physics and brought about

[204] Frampton: 1981, p.47

revolutionary changes in art and architecture to their period and the following periods. Undulating wall, which was firstly appeared in the seventeenth century Baroque churches of Francesco Borromini (Figure 15)–when the sovereignty of the church was at stake-, reappeared in the twentieth century in the respectful-to-region designs of Alvar Aalto. The developments in the construction techniques in the nineteenth century –especially the solution of the high-rise buildings with skeleton construction that William Le Baron Jenney had found (Figure 16)- have led the open ground plan to come out, become a constituent fact, and later customized by Le Corbusier in his manifest building, Villa Savoye (Figure 10). The combination of nature and the human dwelling that achieved according to the will of Louis XIV in Versailles Palace (Figure 17) reanimated in the scheme of Tony Garnier's Cité Industrielle (Figure 18) – Giedion draws attention to the importance of the interrelation between human being and the 'companionship of the growing things', namely the nature.[205] And finally, the terraces in the Piazza Del Popolo designed by Valadier (Figure 19)–showing the hovering effect with the change in the horizontal and vertical surfaces, namely planes- should be counted as the pre-example of Theo van Doesburg's drawings dated in 1922 (Figure 20). In addition to those examples, Giedion brought about other similarities that support his postulate on the presence of constituent facts. Such as, the breakage of the continuous surface treated by Borromini (Figure 21) and Picasso (Figure 22), or the spiral effect on Borromini's design resembling Tatlin's monument design (Figure 23), or even the organic approach to the design of Bath crescents (figure 24) and Le Corbusier's scheme for the improvement of Algiers (Figure 25) and Aalto's whole design concept. As well, Ernst May's praiseworthy attempts on the town planning of Frankfurt-am-Main reminds Giedion another town planner of the last century, Haussmann. However here, May has not as much time to continue his works as Haussmann was. In addition to those, Giedion construes Cubism and Futurism in a way that they dwelled their arguments on one of the

[205] Giedion: 1954, p.726

constituent facts –a new space conception- and helped the fact to progress.[206] The last three constituent facts that Giedion puts forth seem to be far from a direct contact with artistic production; they rather are the consequences of the developments in industry and technology in the nineteenth century, in which the spirit of the age was revealed from the sphere of thinking, but not from the sphere of feeling.[207]

On the other hand, Expressionism, another movement which emerged in the same time period with Cubism and Futurism, could not pass over remaining transitory because of the fact that "Faustean outbursts against an inimical world and the cries of outraged humanity cannot create new levels of achievement".[208] Nevertheless, while Giedion suggests the notion of constituent facts, he also submits its counterpoint, transitory facts. Transitory facts, as well, are tendencies which come out as a result of the current public taste, and they have the characteristics of fashion or style –rather temporary, and sentenced to disappear eventually. Not only they make the constituent facts barely visible, but also they prevent any further progress of architecture. Hence, Giedion thinks that the reason for the limited number of creative architects appeared in the nineteenth century albeit the enormous increase in the erected buildings is the impact of the temporary taste on the ruling class.[209] Constituent and transitory facts are used by Giedion to define the general tendencies in the history, and he directs those tendencies according to the fact that how the architectural history have or should have acted thoroughly. For instance, unlike the European architects at the end of the nineteenth century such as Victor Horta and Henri van de Velde, who were overwhelmed by the degraded and muddle architecture of the century, the American architect Frank

[206] ibid., p.439-440

[207] ibid., p.13-14

[208] ibid., p.482

[209] ibid., p.275

Lloyd Wright exposed the plain wall and the human-nature relationship more easily than his colleagues. If Europe had achieved to reveal the constituent facts as easy and early as America, then she would establish the new period much earlier.

In addition to all of the statements Giedion proposed, H. W. Janson and Henri-Russell Hitchcock utter the necessity of accepting and investigating historicism as a constituent fact, too.[210] However, there are not only advices to enlarge the content of the facts, but also some critics that propose Giedion to alter the evaluation of the facts, such as Kenneth Frampton. According to Frampton, howsoever Giedion negates, constituent facts should and could only be scrutinized within the framework of dialectic materialism in consideration of the content and the approach towards.[211] This suggestion of Frampton's and the involvement of *Space, Time and Architecture* with dialectic materialism will be discussed in the forthcoming chapter.

In order to produce a new tradition, Giedion asserts, introducing new methods has a vital importance.[212] For Giedion, who did not believe in the notion of *style*, sought for another explanation to elucidate the discrepancies among the taste of different periods, acknowledging the reader as "… the links and associations between periods –the constituent facts- are more important to us than self-enclosed entities such as styles."[213] He found the remedy in asserting the constituent and transitory facts, under the very pioneering of the spirit of the age –namely, *Zeitgeist*-, which he became devoted to while he was writing his dissertation under the supervision of Wölfflin.

[210] H. W. Janson and Henry-Russell Hitchcock, "Review: Space, Time and Architecture: The Growth of a New Tradition by Sigfried Giedion", Parnassus 13, no:5 (May, 1941) p.180

[211] Frampton: 1981, p.46

[212] Giedion: 1954, p.463

[213] ibid., p.21

4.2.2 Zeitgeist

> Only when he (the historian) is permeated by the spirit of his own time is he prepared to detect those tracts of the past which previous generations have overlooked.[214]

The term Zeitgeist was –most probably- first used by Goethe in 1827, the historian of psychology Edwin G. Boring acknowledges, which had the final shape as "to explain the historical continuity of thought and the observation that the novelty of a discovery, after the history of its anticipations has been worked out, appears often to be only a historian's artifact."[215] As Giedion emphasized in the very beginning of his book that he was a student of Wölfflin, he was brought up by Wölfflin's notion of investigating history, which is very much involved with the concept of the spirit of time, the spirit of the age, namely the Zeitgeist.[216] Everything happens for a reason, and it happens because the spirit of the age permits it to be. The formation of the constituent facts, and later their reawakening are in fact the consequences of the spirit of the age.

The spirit of the age is responsible for the construction of the interrelationships among various fields, such as science –including physics, mathematics-, technology, philosophy, art, architecture, town planning, and naturally, history. Most evidently, a 'common spirit' can be recognized in Baroque period, as Giedion puts forth. The simplest example Giedion gives about one of the circumstances that the spirit of the age gives rise to is how the development in mathematics and physics in Baroque period – the discovery of integral calculus- found its counterpart in the space conception of Baroque art and

[214] ibid., p.5

[215] Edwin G. Boring, "Dual Role of the Zeitgeist in Scientific Creativity", *The Scientific Monthly* 80, no.2 (February, 1955) p.102

[216] ibid., p.2

architecture as the impression of infinity.[217] On the other hand, whilst the mathematician Herman Minkowski was working on the proof of a fourth dimension, the artists in various parts of Europe as being either cubist or futurist were developing the space-time notion in their works.[218] For Giedion, these facts are all because of the existence of a spirit that runs through the age, and that affects the outcomes of the age. Throughout the book, that spirit is also referred to 'the universal laws of Nature', that within the twentieth century, both modern art and modern science have found the common and parallel results by following the intuitions of the artists and scientists.[219] Apparently, Germany has an important role in discovering the potentialities of the artists and architects on the way to let the spirit of the age perform. Albeit his expression about the appearance of the spirit of the age, that it was not a product of some protagonists but a work of a collective endeavor, Giedion does not refrain from highlighting the people whom he thinks are the precursors of the new movement. So, the role of the German Werkbund, which was found in 1907, was to provide an adequate environment to those precursors to create and execute projects. Such formations and attempts to exhort the volition of not only the artists and architects, but also the scientists and humanists, were at rise circa until the Second World War. America, for example, was highly welcoming those people, who were either exiled from their countries or just wanted to experience something else than their hometowns or invited there to be leading the new developments in America. Giedion characterizes this endeavor as it was once done by France right after the Gothic period for the need of a 'new spiritual orientation'.[220] Therefore, when Gropius arrived in America, and when he contributed to the competition for the Chicago Tribune Building (Figure 26), he designed something very similar to the products of the

[217] ibid., p.109

[218] ibid., p.14

[219] ibid., p.460-461

[220] ibid., p.496

Chicago School (Figure 27), even though he had not have knowledge about those works. That must have been the work of the spirit; Gropius and the other important immigrants –such as Mies van der Rohe, Marcel Breuer who left their countries for political reasons, and Alvar Aalto who was called for a professorship in Massachusetts Institute of Technology- must have uncovered the traces of the spirit.

The most important aspect of the spirit of the age can be accepted as the demonstrability of the close relationship among new materials, new methods and the human needs. Along with some other protagonists of the era, Le Corbusier was the perfect model, who achieved to build relationships such as the one between ferroconcrete construction and the human needs. His usage of the skeleton system was the consequence of a long-term attitude towards the inner-outer space interrelationship, which began with Borromini's churches in the Baroque period, and turned out to be a constituent fact after the evolution process throughout the time and reawakened with the spirit of the age. Kathleen James-Chakraborty asserts that Giedion's *Space, Time and Architecture* was "more ambitious in its scope" than the other early historians of the Modern Movement such as Henry-Russell Hitchcock and Nikolaus Pevsner because of the fact that Giedion went back further as to Rome of Pope Sixtus V and including the technical developments as well as urban planning.[221] However, she doesn't forget to mention that he posited the developments in modern physics and mathematics in a more important level than the social change, which showed his strong formalist attitude. As if justifying James-Chakraborty, Giedion mentions, the immense developments in science in the nineteenth century could catch the spirit of the age, whilst the architecture could not. And here he only refers to the breakage between thinking and feeling through the uneven developments in both fields. The traces of social history, however, remains rather superficial.

[221] James-Chakraborty: 2000, p.1

4.2.3 The Nineteenth Century : 'Denken und Fühlen'

> The degree to which its methods of thinking and of feeling coincide determines the equilibrium of an epoch. When these methods move apart from each other there is no possibility of a culture and a tradition.[222]

The notion of thinking and feeling is rather disseminated into every chapter, right from the very first page till the very end; however, the crucial point about thinking and feeling is its divergence in the nineteenth century. In the time of the Renaissance and the Baroque, there was cooperation between the tools and the subjects of science and art. In the Renaissance, the discovery of Golden Section with the help of mathematics and the discovery of perspective ushered a new era in both science and art. On the other hand, the discovery of integral calculus in the Baroque period engendered the impression of the linear infinity. The unity was achieved not only in the various disciplines that seem to be disparate, but also in the creative man himself –whether scientist or artist. The Renaissance man embraced in himself, for example, the qualities of a painter, a mathematician, a sculptor and an architect. In Baroque, the developments in both science and art had shown themselves as penetrated into every discipline, which were in close relation with the society such as architecture and town planning. Like the perspective of the Renaissance created a new space conception and became a constituent fact, 'the will to master the illimitable' gave birth to another constituent fact, the close contact of the building with the nature.[223] These facts are mentioned in order to stress the interrelation of the disciplines and developments in a period, the integrity of science and art. In other words, thinking and feeling.

The most striking and considerably obvious difference between Baroque period and the nineteenth century is determined by Giedion as the loss of the parallelism between the scientific innovations and art; or in another way, the

[222] ibid., p.17

[223] ibid., p.140

loss of the humanization of scientific notions. The nineteenth century is considered by Giedion as a period of rupture, in which men, materials, and human thought were 'misused'. With the loss of the equilibrium in life towards the end of the eighteenth century, the nineteenth century seemed to be sentenced to the rupture, even though Giedion implies that if those elements were used properly and in a harmony, the destiny of the whole century -and the twentieth century accordingly- would be completely different.[224]

More important than the French Revolution for Giedion, the Industrial Revolution had led the way to discover new potentialities of materials, which became crucial for construction. Iron, for example, was a very popular and newly developing construction element beginning with the end of the eighteenth century, and its usage can widely be viewed in England. Then, the steel frame, which was a consequence of the evolution of the cast-iron, started being used in both England and France. The developments in the production and usage of the materials helped the construction techniques to expand, and caused engineering become more authoritative than architecture. The reason of this process can be explained as that the architecture fell behind the current novelties and developments in both technology and art, to say in Giedion's term, there became a schism between architecture and technology. It is emphasized starting from the beginning of the book that the natural sciences –so called, thinking- achieved an enormous progress in the nineteenth century and attained the real spirit of the age, while art and architecture –so called, feeling- could not.

The anti-humanistic designs of engineers were tried to be softened by a sinful attempt: the revival of the old 'styles' instead of trying to unearth the 'spirit of the century'. Especially raised in the second half of the century, the eclectic architecture is not counted as architectural work by Giedion. The curiosity that put forth by Giedion is the reason why the art could not achieve the level of

[224] ibid., p.162

science and technology after the Industrial Revolution. The answer that Giedion gives to this question is that "…the connection between the methods of thinking and the methods of feeling was broken", unlike the Renaissance or Baroque.[225] This breakage between methods is particularly important because methods structure the real character of the period: "New methods are new tools for the creation of new types of reality".[226] So, if the methods of the engineer and the architect do not overlap, no correct and healthy results in construction would occur. Let's put it that way: the discrepancies in the approaches of the engineer and the architect –or even the engineer-architect – create dualities in the products of the century. As it is mentioned above, the Renaissance and the Baroque men were qualified on many subjects of studies. However, the nineteenth century man was accepted as satisfactory and eligible only when he was qualified and specialized on one subject of study. So, the basic difference between the past three centuries and the nineteenth century can be stated as the loss of the integration of man: "a thoroughly integrated culture produces a marked unity of feeling among its representatives".[227] On the creation process, if the creative man does not master the processes of the whole product –even if it is a house, a bridge, or a whole city-, then he would not be able to achieve successful results in the benefit of the public or of the era.

The judgments of some canonical historians like Henry-Russell Hitchcock, Nikolaus Pevsner, and Sigfried Giedion about the nineteenth century, as Mitchell Schwarzer claims in his book *'German Architectural Theory and the Search for Modern Identity'*, are rather tendentious, blaming the century for not being functionalist, being degenerated and historicist, and regarding it as a

[225] ibid., p.180

[226] ibid., p.463

[227] ibid., p.426

transition period right before the revolutionary twentieth century.[228] Yet, he acknowledges that there was not only malice in the nineteenth century; favorable things happened as well, such as the immense developments in industry and technology, which Giedion does not overlook. Yet, contrary to the arguments of these early historians of modern architecture, Schwarzer gives reference to the supposition that what happened in the nineteenth century –with all its sins and merits- propelled a new era in the twentieth century to be proclaimed. What is consequential throughout Schwarzer's book is to evaluating the state of the German academic discourse on art and architectural history. Schwarzer asserts that although engaged in the backgrounds and education of most of the historians and theorists in Europe, the nineteenth century German architectural theory was not referred so much; the modern movement's prehistory was under the influence of 'predominantly English and occasionally French theoretical sources'.[229] However with the nineteenth century, the German discourse on history took the lead. The architect and educator Thomas R. Fisher points out the issue of the formation of American architecture, which is highly influenced by Hegel through Germanic architects and historians practiced in America such as Walter Gropius, Mies van der Rohe, Sigfried Giedion, and Rudolf Wittkower.[230] He claims that this link is worth to note in order to understand the approach towards the architect and the historian in America:

> The attention paid to star designers, the focus on current styles, the striving for freedom from constraints, the historicist nature of architectural theory, and the tendency to polarize education and practice all echo the Hegelian beliefs that history moves ahead through the work of a few great individuals, that every period has its characteristic styles, that history is moving toward maximizing

[228] Mitchell Schwarzer. *German Architectural Theory and the Search for Modern Identity*. (Cambridge, New York: Cambridge University Press, 1995) p.13

[229] ibid., on the same page

[230] Thomas R. Fisher. *In the Scheme of Things: Alternative Thinking on the Practice of Architecture*. (Minneapolis: University of Minnesota Press, 2000). p 70.

> the freedom of every person, and that cultures progress by a process of synthesizing polarities.[231]

In his book *Space, Time and Architecture*, Giedion is aware of the fact that newly developed technology and industry brought about new economic and social conditions. And those consequences necessitate new types of buildings. Market halls, department stores, exhibition buildings are the ones that Giedion especially credited. In addition to those, the architectural historian from Columbia University Barry Bergdoll also mentions museums, public theatres, public libraries, halls of legislative assembly, and later railway stations, stating that these new building types coincided with their own populaces in the nineteenth century, which at the same time points out the change in the formation of the society.[232] At the turn of the century, while the architecture trying to catch up with the technology and trying to cover the needs of newly established populaces, new solutions and attempts in architecture began to arouse.

4.2.4 Morality

> The [new] movement took its strength from the moral demands which were its real source. The cry went up, 'Away with this infected atmosphere!' [233]

The impact of new techniques on aesthetic form has versatile consequences. These consequences particularly distinguished themselves towards the end of the nineteenth century. The fragmentation of the artistic modes, the eclecticism in architecture, and the influence of industrialization caused a very much of confusion in public. Accordingly, the schism between architecture and technology brought forth harsh debates, however, none was resulted with a healthy solution. The first serious revolts to the ongoing situation can be named

[231] Ibid.

[232] Barry Bergdoll. *European Architecture 1750-1890*. (Hong Kong: Oxford University Press, 2000) p.5

[233] Giedion: 1954, p.291

as Arts and Crafts movement in England and Art Nouveau movement in Belgium. Giedion makes a deterministic analogy between the two famous examples from these movements: William Morris's Red House in England from 1859 (Figure 28) and Victor Horta's house at Rue de Turin from 1893 (Figure 29). The common characteristic of these two houses is the reason why they were erected: both houses were built to protest the 'falsification of forms in all objects of trade'.[234] Despite the forty years of difference and the separate regions, "Identical conditions led to identical reactions."[235]

Giedion is certainly not against the idea of completely turning his back to history; on the contrary, he is with the reevaluation of the history in an appropriate way, in order to find the traces of the constituent facts and the spirit of the age. Those traces are to understand the day extensively and to anticipate the future. As David Watkin quotes from Karl Popper in his book *Morality and Architecture*, "the view that the story of mankind has a plot, and that if we can succeed in unraveling this plot, we shall hold the key to the future".[236] Giedion supports the usage of the materials according to their own nature as to get pure and honest designs, and applied to designs accordingly, which would be a moral action in the context of true architecture. Nevertheless, the things Giedion objects are the misuse, misinterpretation and direct imitation of history, namely eclecticism and historicism. He criticizes the adaptation of the Renaissance, Baroque or Gothic forms as they were used in those periods; however, he supports the reevaluation of the ideas and norm and the way of thinking of those periods and commends to benefit from them. The explanation of why he considered the American architect Henri Hobson Richardson and the Belgian architect H.P. Berlage in favor rests on this approach. With his

[234] ibid., p.292

[235] ibid., p.293

[236] David Watkin. *Morality and Architecture: The Development of a Theme in Architectural History and Theory from the Gothic Revival to the Modern Movement*. (Oxford: Clerendon Press, 1977) p.53-54

Amsterdam Stock Exchange building dated 1898 (Figure 30), Berlage achieved the complete honesty in materials and construction, and complete unity in design units as well as his contemporary Richardson with his Sever Hall of 1878 in Harvard University complex (Figure 31); Giedion particularly delineates their revealing of the plane wall.[237] Parallel with the American Henry Hobson Richardson, Berlage did a quite well analysis of the Romanesque period and did not copy the forms one by one, but evaluate its subjects and filter what is needed –just like what Picasso did with the African masks.[238] This is the factor that distinguishes him from the revivalists of his time, in addition to the clearness of the demand for morality in his designs.

In the meantime, Otto Wagner in Vienna, and Auguste Perret and Tony Garnier in France were to become the important figures on the way to modern architecture with their new perspective to architecture and construction techniques they used. Wagner's role was to purify the construction and design elements from over-ornamentation in accordance with the usage of new materials. Purity and honesty is stated by Georgiadis as a common concept in order to correlate the examples that Giedion gives, while he is explaining the characteristics of the preliminary steps of moral architecture.[239] The French architects and constructors Giedion mentions in accordance with morality are the executers of a new and important material for the new architecture: reinforced concrete. The usage of reinforced concrete with its pure state is seen by Giedion as an important stage before the proclamation of modern architecture, since it has changed the manner of construction forever. In addition to new materials, America is an important region which has a determinant role in the evolution in architecture, both for the usage of new

[237] Giedion:1954, p.311

[238] ibid., p.313

[239] Georgiadis: 1993, p.108

materials and pure forms, and for the opportunities she offer to the creative and intellectual brains.

4.2.5 America : A Perfect Medium?

> Unlike van de Velde and Horta, there was no need for him [Frank Lloyd Wright] to begin by crusading against the mutilation and overcrowding of the wall, or to invent an *art nouveau* to compete with established modes of ornamentation. He was able to begin his work on a much higher level.[240]

In the beginning of the twentieth century, Europe was still the center of historical discourse. The architectural intentions outside Europe were responded with suspicion and disdain. Nevertheless, beginning from the late twenties, increasing migration of intellectuals, artisans and scientists from Europe to America inevitably turned America into the subject of interest. So, as being one of those intellectuals that have been in America for a while –not as an immigrant but a visiting professor-, Giedion investigated American architecture with a great interest. The first aspect he points out is the difference in the material-labor proportion in industry, and the second one is the diverse expansion of architecture, which is mainly related to the convenient creative environment in America; no need to overcome the crowded and confusing elements of the bygone period. Particularly, Giedion seeks for a different way to understand the evolution of American architecture, and come out with the notion of anonymity. As a result of his research, the general character of American architecture seems to be not having a specific creator, as well as tools and patent furniture, and to be directed toward mechanized production. Giedion prefers to explain the reason behind as "the urge of comfort in the dwelling and the American tendency to tackle problems directly".[241]

[240] Giedion: 1954 [1941], p.355 (Giedion's italics)

[241] ibid., p.366

It is very important for Giedion to observe an environment free from the dilemmas of the former epochs. What has happened and what is happening in America seems rather different than Europe. So, the approach to the American architecture should also be different than in Europe: Giedion offers to look at the American architecture as a growing organism.[242] As far as Giedion has accepted architecture as an organism since the beginning of the book, American architecture seems to fit to this frame in Giedion's mind. Nevertheless, Giedion is able to find common points between American and European architecture, in order to justify the existence of the spirit of the age - that if one reveals the spirit of the age, then the results of the creation would be in harmony with one another. For instance, around the same time period, William Le Baron Jenney in America, Peter Behrens in Germany, and Auguste Perret in France were the actors of a similar kind of a role – to be the mentors of young architects who were about to impose the new architecture.[243] On the other hand, the skeleton construction developed by the Chicago school is accepted that it was the first steps of Le Corbusier's Maison de Verre (or Maison Clerté) in Geneva[244] (Figure 32), and the Reliance Building of Daniel Burnham (Figure 27) is interpreted as the predecessor of Mies van der Rohe's glass skyscraper project (Figure 33).[245] However, there is still to be a missing piece to bond the two continents, in order to provide the consistency of the point of view that is defended throughout the book. Giedion is not coerced to find one: Frank Lloyd Wright.

Wright was on the stage at around the same time with Chicago school. However, different than the dictum of Chicago school, he took a completely different approach towards design. Contrary to Chicago's glass-iron

[242] ibid., p.23

[243] ibid., p.369

[244] ibid., p.381

[245] ibid., p.386

preference, Wright preferred natural materials and conventional concepts. He did not dismiss purifying the construction elements and forms, while he was attempting to stick to the organic. He grew up in an environment fairly far away from the confused architectural environment of Europe, and he did not constrain himself with the one in America. On the other hand, he did not achieve the forms he used with any help of artists in his era, in contrast with what happened in Europe. House was his primary concern, and his approach to the matter of dwelling was rather different than Le Corbusier's in the following generation: Wright saw house as a shelter with its basic primeval features, unlike Le Corbusier's dictum of machine for living in. Yet, Wright's Robie house was criticized for resembling a steamship (Figure 34), very much like Le Corbusier's buildings later were. Wright's reevaluation of the elements of house –such as walls or ceiling, and the other basic elements, which are rather crucial for the construction, however overlooked most of the time during the regeneration-, bringing flexibility to the inner space, and his discovery of 'secret potentialities and the inherent beauties' of these basic elements are accepted as "his greater service to architecture" by Giedion.[246] In addition to that, Wright's and his mentor Louis Sullivan's organic approach is interpreted by Giedion as a reaction against the fragmentation of culture and of the man in himself.

On the subject of change in architecture, Giedion asserts that pure functionalism is a must in order to get rid of the unnecessary aspects and obtain healthy means of expression, however, with the precondition of bringing the organic forms back.[247] Only function would not be enough and appropriate for the nature of human being, the emotional connection between human and his environment should be kept. This is what Frank Lloyd Wright accomplished in his designs: in the rather convenient architectural environment of America, he sought for organic forms and created an artistic language of his own. His

[246] ibid., p.403, 405

[247] ibid., p.415

official contact with Europe was in 1910, when a colleague invited him to Berlin, through which European architecture had met American architecture. There, he published two books on his architecture[248], and those books became highly influential and inspiring for European architects –as well as the founders of Bauhaus. At that time, European architecture was about to change its destiny. A new movement, a new kind of understanding was on the threshold.

4.2.6 Interpretations of Space

> The relationship in the Gothic period was the relationship of formerly closed volumes. Today we are moving toward a more dynamic conception of space created by solids and voids.[249]

The notion of space plays a fairly important role throughout the book, just like thinking and feeling do. Yet, as it is mentioned in previous themes, only when there is a unity and cooperation between thinking and feeling, a new era and a new space conception can take place. As Giedion scrutinizes the periods beginning with the Renaissance in order to find space conceptions, he comes out with three of them: in the early Renaissance the discovery of perspective with "the revival of direct and disinterested nature", in late Baroque infinite and flowing space with "a new boldness and flexibility", and in the early twentieth century space-time concept with "space, volumes and materials existed for feeling".[250] In all those periods, the accurate interrelations between thinking and feeling let the spirit permeate into the era and make the constituent facts visible and available in order to develop a space conception, as Giedion explains. As a matter of fact, with the immense rupture between thinking and feeling in the nineteenth century caused a rupture in this chain too, so no new space conception has been produced in this period.

---

[248] Frank Lloyd Wright. *Ausgeführte Bauten und Entwürfe.* (Berlin, 1910) with a preface in German by Wright, and its shorter version on the same subject Frank Lloyd Wright. *Ausgeführte Bauten (Wasmuth Portfolio)*. (Berlin, 1911), foreword by C. R. Ashbee

[249] Giedion: 1954 [1941], p.532

[250] ibid., p.23-26

First of all, it should be put forth that the role of painting in developing a new space conception is indisputably vital. Giedion declares that both in the discovery of perspective and the evolution of space-time conception, the developments in painting acted as precursors. He especially emphasizes this relation, giving the first instances of these space conceptions in painting, such as Masaccio's 'Fresco of Trinity' as the first initiator of perspective (Figure 14), and Picasso's and Mondrian's plane perceptions as the first initiators of space-time (Figure 35 and 36). On the other hand, Borromini's buildings with undulating wall have very much in common with sculptures; with the way he uses the stone and creates the flowing spaces. So, it can easily be observed that the way that Giedion undertook the issue of space is rather different than analyzing only the manifested volumes; he also examined the coordination among the various creators and inventors, such as scientist, painter, architect, sculptor, and town-planner. So that, every detail starts to mean something, and there happens to be no single creator of the space conception as a point of issue. The things that matter here are the correlation among these creative people, letting the spirit of the age permeate into products, and the revelation of the constituent facts in order to enunciate a new tradition. For instance, such a relationship exists during the invention of perspective: the three influential Renaissance men –Masaccio, the painter, Brunelleschi, the architect, and Donatello, the sculptor- affected each other with their progressive works, as the painter led the way onwards. Akin to this relationship, Giedion interprets the beginning of the modern movement in such a way. He claims that cubist and futurist movements in painting in the beginning of the twentieth century have a very close contact with the evolution of the modern movement and puts forth that the modern architecture cannot be grasped unless one really understands the novelties and aims in this new kind of painting.[251]

When Giedion mentions the space conception in the Renaissance, he makes the exact distinction between the new building characteristics of the Renaissance

[251] ibid., p.429

and the bygone periods, mainly the Gothic: this new period does not simply imitates the previous ones but try to convert them in accordance with the exigencies of the existing one. In conjunction with reference to the Late Roman architecture, Giedion points out the discrepancies of the Renaissance architecture from the previous periods; now the buildings are hosting more light, 'depth-penetrating perspective', and the first steps of liberation of the wall from the supporting system.[252] In addition to these facts, the notion of the Renaissance man has very much to do with the space created in this period. The Renaissance man is specialized not only on one issue but various issues, even they are related with each other or not. Giedion thinks that this characteristic is a result of the wealthy environment of Italy at that time. It comes out from this point that the unity is mandatory in every field of life, both in social, economic, political life as well as in science and arts. The unity that is achieved in Italy at that time brought about the universality to the period, which is to be discussed in the twentieth century as well.

As unity, the very crucial necessity for the proclamation of new epochs, keeps on subsisting, the evolution of the space and formation of new constituent facts continue without a breakage. The following Baroque period developed the notion of perspective, and with the integration of the novelties in mathematics, infinite and flowing spaces came into being. The undulating wall designed in Baroque period enabled flexible ground plan, which accordingly leads the way toward flowing spaces. This wave-like surface is not only used as a decoration element, it is a part of the design in order to control the light sparkling inside and outside. The feeling of infinity is also a part of this light; not only perspective or continuing paintings along the walls and the ceiling but also the light diffusing from cupola –generally star-shaped at this period- brought about the fact that architectonic elements played an important role in creating the feeling of infinity. On the other hand, mastering the infinite became one of the crucial aspects of the period. It can also be seen in the outer space

[252] ibid., p.40

organizations, especially in Versailles Palace in France (Figure 17). There another constituent fact comes out, the human dwelling-nature juxtaposition. While taking control is gaining much importance, the shift from individualism of the Renaissance to absolutism of the Baroque can also be traced. So, the evolution of space is also a manifestation of the change in life with all aspects.

For the reason that invention of new space conceptions are highly related to the social and technological aspects, the two important revolutions in the late eighteenth century altered the evolution of space. The French Revolution and the Industrial Revolution ushered a new era for all the ramifications of life; however, Giedion overrates the latter more. As it has been mentioned above, the appearance of a new space conception is dependent upon the cooperation between the Zeitgeist and constituent facts, and if the medium is not appropriate, and the means are not available, then no new space conception comes into being. As Giedion mentions at every turn, the nineteenth century is such a medium in which the schism between thinking and feeling makes itself so obvious that there are no means to be interpreted and used correctly on behalf of a new architectural apprehension. Besides, in this period, the notion of the creative man has already changed: unlike the versatile man of the Renaissance, the nineteenth century man is specialized especially in one branch of production. What Giedion particularly stresses is that the nineteenth century is a transition period, and although new means of construction techniques engendered new types of buildings with various functions, there came about no new space conception in order to manifest an internalized epoch. That is to say, department stores, exhibition centers, industrial buildings, skyscrapers, and even long distance single span bridges could not go further than imitating the previous epochs in the context of space. Giedion ties this fact up to the failure of architecture in catching up with the spirit of the age unlike science and construction. And once the link in between breaks off, the chance to achieve a further step falls apart. Nonetheless, at the end of the nineteenth century, the

dissent between construction and architecture inclined to disappear. In fact, this discrepancy led up to the new space conception in the forthcoming century.

In the beginning of the twentieth century, the painting once again appeared on the scene, and made the first steps of a new space conception. Namely Cubism and Futurism, regenerating space and time in turn become the initiators of a revolutionary notion in architectural space. Giedion utters chiefly on the issue of Bauhaus, if one does not understand the essence of modern painting, he neither understands the essence of modern architecture. Yet, the emphasis on the correlation between painting and architecture subsists throughout the book as well as here in this thesis. On the other hand, Giedion makes a sharp remark on the distinction between these two movements mentioned above and Expressionism, which was considerably 'in fashion' in Germany. In his opinion, while Cubism and Futurism brought about new expansions to the notion of space, Expressionism could not go further than a fruitless protest.[253] What Cubism tried to achieve is the reevaluating the plane and seeking for multi points of view towards a single object. In addition to those, Giedion believes that Cubism was not an invention of one single artist but it was a creation of a collective initiative. This aspect makes Cubism even more important and worthwhile to take into consideration; just like the Renaissance, in the eyes of Giedion, cubism –as well as Futurism- proves that it was nurtured from the spirit of the age.

The conception of space-time is most frankly manifested in the Bauhaus building in Dessau in 1926 (Figure 8). Walter Gropius, the prominent founder of Bauhaus, achieved the two fundamentals of this conception: multiplicity of points of reference and simultaneity. To grasp various spaces from one point of view, or with other words, to need various points of views in order to grasp the whole structure is the basic characteristic of this new space conception. The usage of the new potentialities of materials in construction, such as reinforced

[253] ibid., p.482

concrete and glass, enabled Gropius to accomplish what he had in mind and had taught at the school he founded. The effect of hovering planes and the necessity of visualizing the structure from all its sides, including the top view as well, mean "new dimensions for the artistic imagination, an unprecedented many-sidedness".[254] Glass, on the other hand, provides the inner-outer relationship extensively; its dematerializing quality liberated the notion of enclosure, and changed the whole view on built space. What Frank Lloyd Wright introduced in his houses, flowing spaces through the layered planes with the help of a flexible ground plan, is brought up to a further level by Le Corbusier. His dwellings are seen by Giedion as the meeting point of architecture, engineering and *the* spirit. Mies van der Rohe's designs also hold the influence of Wright and Gropius; the living forms that Wright pointed and the new materials that Gropius introduced combined together in Mies's glass skyscrapers (Figure 33). Furthermore, Mies and Le Corbusier made the outer space a part of the whole building organization, which caused the attention drawn towards town planning, too. Immense expansion of cities, increase in highways –which are the natural consequences of easy and advanced transportation- forced town planners to use the terrain properly, consider –and even anticipate- the demands of crowds, and work in correlation with architects, sociologists, and mathematicians.

When other opinions on space-time concept come to the fore, the first source we look at is the art historian Walter F. Isaacs. In his 1942-dated paper he gives information on the fourth-dimensional character of painting, pointing out its evolution towards its prototype in nature, and he claims that this property of painting brought about the usage of this space-time concept more pervasively in sculpture and architecture.[255] Moreover, he gives an example in order to explain the significance of space-time:

[254] ibid., p.493
[255] Walter F. Isaacs, " Time and the Fourth Dimension in Painting", *College Art Journal* 2, no.1 (November, 1942) p.6

> Consider, for another example, a still object and one in motion. An automobile in a show room may be examined as the observer moves about inspecting it casually from different angles, but, to observe that same car in rapid motion requires a totally different kind of concentration. For that we must halt other activities, both mental and physical, and bring all our faculties to bear on the object. Whether the observer or the object is moving or standing still-or whether they both are-is a matter of greatest concern in visual effect.[256]

While Bernard Tschumi elucidates the refection of space-time concept in architecture, he prefers to interpret, first of all, the notion of space in architecture: 'to define space means in architecture to determine boundaries'.[257] However, he continues, with the Bauhaus Week in 1923 the notion of space turned into an internal material of history; from then on, the history of spatial conceptions became the history of architecture itself. There is an emphasis on the method of approach towards the formation of the history of spatial concepts, which was insistently set up in parallel with the philosophies of the period especially in 1930s. Tschumi mentions Giedion's conversions of Einstein's theory of relativity to cubist painting, and cubist planes to Le Corbusier's Villa Stein, but still, he claims that albeit these progresses, the notion of space continued to be "a simplistic and amorphous matter to be defined by its physical boundaries".[258] Still, Giedion's notion of space-time, which he suggested in *Space, Time and Architecture,* has been accepted by Mitchell Schwarzer as "an exemplar of the accentuation of space as the basis for a modern syntax of architecture".[259] Both authors accentuate on the fact that this kind of a space concept created a human-based modern design. On Giedion's indication of space-time, Hilde Heynen points out the 'strategic illustrations' he used in *Space, Time and Architecture*, which show the

[256] ibid., on the same page

[257] Bernard Tschumi, "The Architectural Paradox" in Michael K. Hays ed. *Architecture Theory Since 1968*, (Cambridge, Massachusetts; London, England: MIT Press, 2000) p.219

[258] ibid., on the same page

[259] Mitchell W. Schwarzer, "The Emergence of Architectural Space: August Schmarsow's Theory of 'Raumgestaltung'", *Assemblage*, no.15 (August, 1991) p.57

transparency and the simultaneity of the buildings through the way they were made and presented.[260] The 'interplay' between constructional and artistic factors in those illustrations led the way to a different understanding of space in architecture. Departing from the point of the new space conception and its aspects that Giedion offered, Heynen declares the typical characteristics of modern architecture as simultaneity, dynamism, transparency, and many-sidedness, as well as interpenetration and flexibility, which exactly correspond to the examples Giedion gave throughout the book.

[260] Heynen: 1999, p.38-39

CHAPTER 5

REACTIONS TO THE BOOK

5.1 Reviews

Although there are not many reviews on *Space, Time and Architecture* in contrast with the repercussions it had, we can still trace some small hints about the book from every one of them. For instance, we find out the reason why Giedion was selected for the position of professorship in poetry[261]; or we learn that the Charles Eliot Norton Lectures of Giedion were originally prepared in German.[262] The compilation of the lectures' notes was printed under the title *Space, Time and Architecture* in March 1941, and right after in August the second printing followed that. As it was generally mentioned in the reviews, its inexpensive price astonished his colleagues, despite its rich illustrations and grand size.[263] Henry-Russell Hitchcock informs the reader on this aspect: the book was only five dollars in the year of its first publication.[264] Nevermore, this aspect engendered easy access to the book especially on behalf of the students. What Hitchcock argues about the book is Giedion's presentation of constituent and transitory facts, and he confirms the new perspective that Giedion brought about especially on the subject of American architecture.

Another review is made by a scholar from Harvard University in the same year: Kenneth John Conant, who had the opportunity to observe how Giedion

[261] Conant: 1941, p.128

[262] Nikolaus Pevsner, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Burlington Magazine for Connoisseurs* 82, no.478 (January, 1943) p.25

[263] There were 321 illustrations and 601 pages in total in the first edition of *Space, Time and Architecture*.

[264] Henry-Russell Hitchcock; H.W. Janson, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *Parnassus* 13, no.5 (May, 1941) p.179

spent his time in America, informs that the accurate survey on the evolution of architecture since the seventeenth century were told by Giedion with the taste of a detective novel.[265] Turpin C. Bannister, too, mentions the same feature in his review of *Space, Time and Architecture* in 1944.[266] But before examining Bannister's review, it is necessary to look at the other reviews. The British-American anthropologist M. F. Ashley Montagu, for instance, writes one of them in March 1942. He mentions right in the beginning of his paper that "the book is not a scientific treatise, nor yet a treatise on the principles of architecture; nor is it a cultural history".[267] He, as well, points out the omission of some crucial issues in the book without neglecting the issues that Giedion "contrive to make". Montagu underscores the lack of the cultural point of view in the book; he asserts it would be complete, if Giedion could look at the history from the perspective of a culture-historian, too. Still, he does not refrain from labeling the book as a novel.

As the printings increase in numbers, the reviews continue. The next year, in 1943, Nikolaus Pevsner joins the group of scholars who wrote about *Space, Time and Architecture*. He assesses the book according to what the chapters dealt with, and reports that some information in the book was revealed for the first time ever.[268] Like the previous critics, Pevsner, too, points out the fact that the book involves immense novel information on the subject of America and American architecture. On the other hand, he infers, the reason why Giedion seems more involved with French and American architecture than the English is because he is a representative of CIAM; to the usage of new materials is given more account than to the renovation of form. Right along with that, the

[265] Conant: 1941, p.129

[266] Turpin C. Bannister, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Art Bulletin* 26, no.2 (June, 1944) p.137

[267] M. F. Ashley Montagu, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *Isis* 33, no.5, (March, 1942) p.640

[268] Pevsner: 1943, p.25

errors made in the book –seems 'small' to Pevsner- stem from the difficulties of doing a research in the war times.[269]

It can be said that Bannister wrote a more comprehensive book review than the others, disregarding the extensive critiques of Frampton and Kostof about Giedion in general.[270] In his review, after giving a background on the writing of modern architecture before *Space, Time and Architecture*, Bannister brings about the discussions on what and how the new architectural history should be. First of all, he complains about the reading difficulty of the book –not for the way it was written but for the kind of paper used. Then, he reports the contents and the formation of the chapters, which he comes up with the opinion that a prosperous continuity was accomplished with "such diverse materials".[271] There are some disregards that Bannister observes, too; however, not skipping to denote that he is not to blemish the book or Giedion. Nevertheless, the faults that he writes up continue for the next two pages, correcting almost each of them and discussing the way it should have been treated instead.[272] Still, he does indicate that the revelation of the hidden or unknown issues of the history makes the book worthwhile to consider.

The last book review belongs to Marcus Whiffen.[273] He tells us that the first time he read the book was in the same year with its first publication's, which falls on the war times in England. However, his review appears twenty-one years later; naturally on the fourth edition dated in 1962. There is an important mention about one feature of the book, that it is being continuously read by

[269] ibid., p.26

[270] Bannister: 1944, the extensive Giedion critiques are Frampton: 1981 and Kostof: 1976.

[271] Ibid., p.136

[272] Bannister criticizes the part "The Schism between Architecture and Technology" to being such a subject that could be undertaken as the subject of a doctoral thesis. (p.138) He warns that the lack of deep investigation may cause contrary results than one aims to.

[273] Marcus Whiffen, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *Journal of Architectural Education* 17, no.1 (October, 1962) p.16

students, and the book is developed according to this aspect. Plus, we can observe here that –as Giedion also acknowledges the reader in the following editions after the first one- the book is not revised but expanded –in other words, grown.

Not only the reviews of *Space, Time and Architecture* but also some extensive critiques on Giedion acquaint us about the way Giedion followed in this book. For instance, Pevsner writes a paper in 1949 on Giedion and his first four books that were published till then[274], focusing on the attitude he took on writing each of the four. His claim is, right from the first paragraph, that Giedion could accomplish a close contact with civilization through architecture and, indeed, anticipate the future. However, Pevsner continues, he failed to sustain conveying the only truth, and committed a 'sin' by interpreting history on behalf of his own set of ideas: he disregarded the aesthetic side of architecture praising functional and technical sides instead, and more apparently, he stated the issue of the nineteenth century in accordance with the sequence he edited throughout the book –for the sake of the present and the future-: in such way that it seems as if it was the real complete history of the nineteenth century.[275]

One other Giedion critic is Joseph Rykwert. In his 1954 paper, he analyzes the same sources like Pevsner with a reading of style in addition. Mentioning right in the first pages the influence of Hegel on the Swiss historical school, which Giedion belongs to, Rykwert makes a short overview on Giedion's publications, and he continues with the claim that after the appearance of *Space, Time and Architecture* Giedion "became the most important, and indeed the only serious, historian of nineteenth and twentieth-century architecture".[276]

[274] *Late Baroque and Romantic Classicism* (1922), *Building in France* (1928), *Space, Time and Architecture* (1941), and *Mechanization Takes Command* (1948)

[275] Pevsner: 1949, p.77-78

[276] Rykwert: 1954, p.123

While reviewing the book, Rykwert explains the aim of the book as a Burckhardtian attempt. Thus, Giedion, who draw apart from Burckhardtian approach with his dissertation, revaluates that approach with this book almost twenty years later than the former. What Rykwert particularly draws attention in his paper is the treatment of constituent facts. As he denotes, the undulating wall analogy between Borromini's and John Wood's Bath fails; Rykwert thinks that their motivations were rather different than each other. He claims, the term Baroque turns out to be a 'blanket' –a reference to the "shade of color" that Giedion used for Classicism in his dissertation to explain the transition period between Late Baroque and Romanticism- to cover up the certain differences in between the constituent facts.[277] Nevertheless, he comes up with this view: the way that Giedion wrote up the issue of the schism between thinking and feeling and its relation with production so properly that there arouse no need to detect each of the instances.

In Spiro Kostof's critique of Giedion, the subjects of examination expand; in 1976, Kostof has the opportunity to evaluate the methods and approach of Giedion through all of his works. Although he notes that his or others' critique of *Space, Time and Architecture* in around that year connotes "flogging a dead horse", the notions he points out in this paper enables the reader to grasp the look towards the book thirty five years after it was first published.[278] Kostof assesses Giedion as an appropriate and sufficient collaborator of the modern movement, who was a devoted spokesman of the case through his publications and being the secretary of CIAM. On the other hand, Giedion had another important task to handle: he had to legislate the way of architectural history, decontaminated from all the 'destructive' aspects of the past centuries and the 'malignant' historicism, however taking the advantage of the utilities that have been developed since then. Kostof explains this situation with lots of reference to the ideas of Gropius and Le Corbusier, whom he denominates as two of the

[277] ibid., p.124

[278] Kostof: 1976, p.201

leaders of the Modern Movement. According to his analysis, Giedion did not oppose or even question the presuppositions of the new movement, but on the contrary, he enhanced and customized those to the newly formed architectural history. Nevertheless, not being *ahistorical* but being *astylar* is the reason that enabled the history of the Modern Movement to be written, because as Kostof reports, the leaders of the Modern Movements were essentially against historicism. Therefore, *Space, Time and Architecture* is accepted by Kostof as Giedion's "next major step in the historical rehabilitation of the Modern Movement" after being involved with CIAM and the publication of *Building in France*. [279] What Kostof underscores is the insistence of Philip Johnson and Henry-Russell Hitchcock with their proclamation of the International Style, in spite of the rejection of the word 'style' by Giedion.

Along with the novelty he brought to architectural history, Giedion's attempt in this book to alter the methodology of architectural history that his own teachers strictly supported, and to offer the architectural historian to become more humane. This methodology emanates from the Gropius's notion of "total architecture", Kostof states, from handling architecture, its ramifications, and their consequences altogether. Nevertheless, the acknowledgement of Giedion setting equipoise in between "the perspective of the historian and the passionate loyalty of the advocate" is put forth with some hesitation in this critique.[280] Kostof introduces the reader the notion of 'Giedionesque thought', which champions a rather democratic approach towards the small items of everyday life and towards the society in its most expanded meaning. Yet, he concludes that Giedion's approach, the way he examined the modern movement is the most valuable and worthwhile aspect of *Space, Time and Architecture*.

[279] ibid., p.196-197

[280] ibid., p.198

In his 1981 paper on Giedion, Frampton begins with two quotations from Wölfflin and Giedion, which are approaching the history with a mirror metaphor.[281] Influenced by his experiences in America as much as his teacher Wölfflin, Giedion's two visits in America are emphasized by Frampton; the first one before the World War II engendered the writing of *Space, Time and Architecture*, and the second one between 1941 and 1945 –during the war, indeed- initiated that book to expand and the new book which was to be published in 1948, *Mechanization Takes Command*. Nevertheless, Frampton explains the reason why the hefty discussions on and intense interactions with *Space, Time and Architecture*, that "for written in a brilliantly persuasive and forceful style, the book is as much a polemic for modernity and for a particular modern mode of beholding as it is any kind of factual account".[282] While criticizing the way Giedion followed throughout the book, Frampton uses a rather sharp tongue: he charges Giedion with mentioning the war superficially, imposing coerced expressions of analogies, and overpassing the 'ideological voids'. Yet, Frampton chooses a striking approach in this critique; he prefers to collate the book and Leonardo Benevolo's *History of Modern Architecture*.[283] The points that Giedion could not explain why –for instance, the classicist choice of Chicago School-, Frampton claims, were to be 'filled' by Benevolo. This method can be interpreted as a reference to the method of comparison, which was a predilection of Giedion, as well as his teacher Wölfflin.

These reviews, which are directly dedicated to *Space, Time and Architecture*, were chosen here to show the various opinions of art and architectural historians specifically on the book, independent from the context of a thesis.

[281] Frampton: 1981, p.45

[282] ibid., on the same page

[283] As Tournikiotis explains the approach of Benevolo toward modern architecture, "The causes of emergence of modern architecture were neither technical nor artistic; rather, they were associated with the profound changes brought about by the Industrial Revolution, with the overall transition of society to a new mode of production involving new social, economic, political, and cultural relations." Tournikiotis: 1999, p.93

There are some common points that all the authors quoted above share on their critiques. For instance, the most common one is the omissions of some buildings and architects especially the ones in the nineteenth century: seven of them draw attention to the importance of the absence of these information. For instance, Janson and Hitchcock claimed that Giedion omitted Telford's Menai Bridge of 1819-1826, Bunning's Coal Exchange of 1846, English builders, and the period that Bogardus spent in America. In addition to that, Frampton point out Giedion's omission of Louis Sullivan's Auditorium Building. Moreover, the misinformation on some subjects –such as the inventor of the balloon frame- and not correcting them in the next printings are pointed out as 'not to be done'. On the other hand, the novelties that the book has brought to architectural history are also appreciated. The revelation of the unknown aspects of iron construction and American architecture are applauded. Yet, one of the main themes that are dealt with here, constituent facts, is discussed by five of the critiques above: it is seen as a new perspective that has been introduced to the course of architectural history. Besides, the book is suggested as an important reference book, even after twenty-one years later than its first publication.[284] More than this rather analytical information that is read from these critiques, there are some other information that can be helpful to understand some crucial concerns. For instance, the price of the book, which seems rather low for a book of such size, gives evidence to explain how the book has reached to that extent, and even why it was published again and again in such short time periods. The discussions on the language of the book also give a clue about some of the expression disorder in the book; the book was written in German, translated into English, and the architectural environment in America was more or less under the influence of *École des Beaux-Arts*. About the language subject, Sekler in his 1990 article gives detailed information.[285] As he reports, Giedion's English deficiency made both Joseph Hudnut, the dean of the Graduate School of Design, and Gropius, who undertook the

[284] Whiffen: 1962

[285] Eduard F. Sekler, "Sigfried Giedion in America" in MacDougall: 1990

responsibility of Giedion's possible failure as well as his success, anxious. After their insistent warnings on preparing the lectures with a proper English, Giedion decided to take English lessons. Since his English teacher was not familiar with the area he studied, as Sekler reveals from Giedion's letters to Gropius, this information could explain why the language of the book –despite the extra help and editing of graduate students in America- rather distinguishes from the usual –or expected, so to say- manner of architectural history books.[286] Sekler continues that although Giedion was given an assistant to take care of the preparation process of his lectures and his English, it did not work out since the job was too difficult to accomplish.[287] There, Sekler links this fact to the decreasing interest of the audience toward Giedion's lectures, that the broken English of him made it hard to follow and grasp the idea presented. The graphical design of the book, on the other hand, also draws attention for being in complete harmony with ideas defended in the book; a collective work that Bauhaus taught them all was put forth. Nevertheless, the value of his lectures was understood after the publication of *Space, Time and Architecture* –just like Gropius predicted-[288], and the book had "of a total of 114,000 sold copies, more than half –almost 65,000- were sold between 1941 and 1962. By 1972 an average of 2,000 copies was sold yearly; ten years later the figure had dropped to 1,500, and in the late 1980s it fell to between 700 and 800."[289]

Moreover, the book has been cited many times in many books as well. Throughout the years since it was first published, positive or negative comments made on the concepts dealt with in *Space, Time and Architecture*. It is not possible here to make a list of these books, but a simple search on

[286] Giedion to Gropius, 21 March 1938, Giedion Archive. in Sekler, "Sigfried Giedion in America" in MacDougall: 1990 p.267

[287] ibid., p.268

[288] Gropius to Giedion, 18 May 1942, Giedion Archive. quoted in Sekler, "Sigfried Giedion in America" in MacDougall: 1990 p.269

[289] Sekler, "Sigfried Giedion in America" in MacDougall: 1990 p.270

Google Scholar gives us an idea about the interactions with the book, although it is not a certain evidence of the total number of citations. When we write "*Space, Time and Architecture"* on the search bar, there comes three hundred and nine sources that cited the book –including dissertations, articles and books. With a random exemplary, from Charles Jencks to Hilde Heynen, and from P. Charpentrat to Juan Pablo Bonta, the book has been a matter of discussion in almost every year after its first publication.[290] Considering the hard copies that are not available online, the estimated amount shows us how influential the book was and is still in theory and history of architecture.

5.2 Interactions – Operative Criticism

Giedion's involvement with modern architecture is reflected in his writings beginning with *Building in France* before *Space, Time and Architecture*. His new approach towards writing architectural history is criticized and interpreted by many scholars. The one done by Manfredo Tafuri is chosen here, for the fact that he also brings a new approach towards analyzing architectural history. In his book, *Theories and History of Modern Architecture*, Tafuri developed the method of 'operative criticism', by which he aimed to draw the frame of the modern history writing and its criticism. What is crucial for operative criticism is, first of all, to furnish an intersection of history and planning, where history is evaluated according to the very sake of the future. But, before explaining what operative criticism connotes, we should better look at the definition of criticism that Tafuri suggests:

[290] Charles Jencks. *Modern Movements in Architecture*. (London: Penguin Books, 1985), Hilde Heynen. *Architectural Modernity: A Critique* (Cambridge, Mass: MIT Press, 1999), P. Charpentrat. *Baroque, Italy and Central Europe.* (Grosset & Dunlap, 1967), Juan Pablo Bonta. *Architecture and Its Interpretation: A Study of Expressive Systems in Architecture* (Rizzoli, 1979)

> To criticize, in fact, means to catch the scent of phenomena, put them through the sieve of strict evaluation, show their mystifications, values, contradictions and internal dialectics and explode their entire charge of meanings.[291]

So the critic's role is not to be just complaining about the present situation of architecture, but to detect the problematic points in order to open new paths for the surmounting of the uncomfortable conditions. Yet, apart from that, Tafuri chooses to scrutinize the atmosphere in which the critic acts: an effort to get rid of the corrosive influence of history has been the main point of interest since the sixteenth century –Tafuri points out Brunelleschi's attempt to "break the historical continuity of figurative experience" in order to achieve an independent 'building of a new history'.[292] As well as in the Baroque period, the 'problem of history' continued to be stated by Borromini, looking for its own instruments of criticism. In the following process, the early nineteenth century brought about its own reflections; Hegel declared the *death of art* and accordingly the *death of history*.[293] Tafuri renounces Hegel's opinions on subjectivity of the artist, the crisis of the object and eclecticism; and he points out the resemblances between Hegel's subjects of critique and the early modernists like Mondrian, van Doesburg, Dada and Sant'Elia. What Hegel offered is to free art from its existing context, with the notion of *tabula rasa*, and to bring about a new perspective to the very concept of history.[294] It would not be going too far to say that Hegel has shaped the history of art and architecture ever since his comments on the history itself. The notion of historicism he brought about was stated explicitly by the philosopher Karl Popper in his book *The Poverty of Historicism*:

---

[291] Tafuri: 1980, p.1

[292] ibid., p.16

[293] ibid., p.28-29

[294] *tabula rasa*: the mind in its hypothetical primary blank or empty state before receiving outside impressions. ("tabula rasa." Merriam-Webster Online Dictionary. 2008. Merriam-Webster Online. 8 June 2008 http://www.merriam-webster.com/dictionary/tabula rasa)

> [It is] an approach to the social sciences which assumes that *historical prediction* is their primary aim, and which assumes that this aim is attainable by discovering the 'rhythms' or the 'patterns', the 'laws' or the 'trends' that underlie the evolution of history.[295]

Not considering the aspects of *today*, certainly is not what modernists approve. On the other hand, both historicists and anti-historicists share a common action here, to predict –although they attain different assertions with their different evaluation of the subject matter, history. Since modern architecture is promoted to be an anti-historical movement, Tafuri claims, the critics of modern architecture should seek to legitimize the base of their point of departure. But before that, Tafuri explains the way leading to modern architecture beginning from the writings of Piranesi, Durrant and Dubut, namely from the critique of eclecticism. In addition to that, he writes about the handicaps of the Romantic artist, which are basically not to see the conditions of *today*. Later, with the compromise of new technologies, eclecticism had to evolve into something else; so the "instrumentalization and the unproductivity of history" directs the avant-gardes of the twentieth century to neglect history in favor of a brand new history.[296] Tafuri interprets this positioning as a trace of going back to the very roots of Brunelleschian revolution, which has been an object of discussion for over five centuries of European culture.

How the avant-gardes of the twentieth century reflected the modern movement are divided into three groups by Tafuri. The first group consists of Futurists, Dadaists and Constructivists, which, along with the appreciation of the usage of the new means of industrial production, however could not escape from the principle of mimesis.[297] The second group is the group in which Gropius, Le Corbusier and Mies van der Rohe take part. What they achieved is to be a part of the production of the *equipments*, instead of being mere interpreters, which

[295] Karl R. Popper. *The Poverty of Historicism.* (Boston: Beacon Press, 1957) p.3

[296] Tafuri: 1980, p.30

[297] In order to explain the notion of 'still being under the influence of mimesis', Tafuri calls upon Walter Benjamin's words: to be "not yet free from the equipment". p.32

is going beyond the line in order to be detached from. The third group, Tafuri states, is composed by Bonatz, Tessenow and Fahrenkamp, who are simply identified as hesitant. This qualification of the avant-gardes of the twentieth century is appraised as necessary in order to understand the breakaway of the artistic and architectural production from the context of the bygone notions in the past. Tafuri continuingly binds the notions of Hegel (death of history and the crisis of the object) to the concerns of the twentieth century avant-gardes, and it reminds the endeavor of revealing the revolutionary attempt of Brunelleschi, as if every idea, every statement tends to legitimize the re-creation of history.

Tafuri's operative criticism legislates itself as a new method of criticizing the history. Here it is necessary to remember its explanation by Tafuri:

> …(It is) an analysis of architecture (or of arts in general) that, instead of an abstract survey, has as its objective the planning of a precise potential tendency, anticipated in its structures and derived from historical analyses programmatically distorted and finalized.[298]

Setting its origins back on Bellori's writings, about Classicism and Roman Baroque, Tafuri clarifies what operative criticism is: according to him, Bellori found out that in the process of writing history, being critical and taking sides is as much a part of history as reality is. So, deductive choices play an important part in this kind of approach –which makes Tafuri call this situation *dogmatism*.[299] Hence, it is stated here that history has an instrumental value. On the other hand, the historians that support the idea of using the sources of history as the subject of its own, in an inductive way, replaced the *authority* with the *reason*. There is a certain period of time that opposite approaches, such as deductive and inductive methods, historicism and anti-historicism, "arbitrary choice and rational examination" blended in one, in Illuminist

[298] ibid., p.141

[299] ibid., p.146

criticism. In Illuminist criticism, one crucial aspect is its being ambiguous; this intentional position of criticism not only keep away the possible returns of the critique to itself, but also links the late eighteenth century critics to the early twentieth century critics.[300] Taking off from here, the main characteristics of operative criticism begin to appear: *action*. Being an active component of history is vital for the statement of an operative critique, and furthermore, it demolishes the division between history and theory. The disappearance of this division revealed another main characteristic of operative criticism: "making history itself into an instrument of theoretical reasoning elevated to a planning guide".[301] Since the German historiography plays an important role in the nineteenth century historiography as well as in the twentieth century, the discussions taking part in it became important sources for defining operative criticism in Tafuri's evaluation. For instance, the situation of modern art and Expressionism –which was a much debated matter and was discredited by Giedion as well- are found by Tafuri worthy to assess, for the very reason of being much as subjective as they seem to distort the past. From this point, Tafuri points out a pivotal notion of operative criticism: if the historian puts his ideology above history, then he gets nothing but the loss of "the real possibilities of transforming reality".[302]

As well as being an instrument of finding out the reason and planning, operative criticism is also a didactic act; so that it forms equipoise between history and the present. Here Tafuri makes the linkage of Giedion's *Space, Time and Architecture* with operative criticism: Giedion's book is not only a historical writing but also a 'true architectural project'. His on-purpose deformations of history, Tafuri states, led the way to two results: first, the actualization of history with scarce defects prepared an appropriate ground for the implementers of the modern movement in order to legitimize their

[300] ibid., p.148

[301] ibid., p.149

[302] ibid., p.151

approach towards history and design; and second, this new approach towards architectural history blazed new trails in historiographical tradition.[303] The omission of some historical facts were pointed out by Tafuri, Giedion's attempt of a different analysis of history is appreciated by Tafuri, as far as it was one of the first instances at "re-linking modern architecture to the past, as a pointer for future developments".[304] According to Tafuri's assessment, the way Giedion used history is an affirmation instrument for his intentions; he limited the historical facts with his own evaluation frame, and objectified his intentions according to those facts. Nothing but history itself was used to legitimize those intentions.

> For planning of any sort our knowledge must go beyond the state of affairs that actually prevails. To plan we must know what has gone on in the past and feel what is coming in the future. This is not an invitation to prophecy but a demand for a universal outlook upon the world.[305]

Above, Giedion declares the way he aimed to follow on history and planning. As far as action is a fundamental aspect of operative criticism, Giedion's attitude toward both architecture and history posits him as a part of it. Moreover, Tafuri's postulate of operative criticism is an ideological criticism (he marks that he uses the term ideological in Marxian sense) goes along with Giedion's breakaway with academic absoluteness and encouraging "ready-made judgments of value".[306] The early initiators of the modern movement, among whom were historians, critics, and architects, brought about a different literature to architectural history and criticism, venturing to blemish the ongoing one and to harbor contradictions in itself. Tafuri considers Giedion as one of them; although being more orthodox than much of his contemporary – and revolutionary- scholars, Giedion attempted to interrogate history as an

[303] ibid., p.152

[304] ibid., p.153

[305] Giedion: 1954, p.7

[306] Tafuri: 1980, p.153

instrument of actualization for the fact that he felt the discrepancy between history and architectural activity, and tried to heal it with a didactic and moral writing he presented:

> …the years through which we are living seem to constitute a test period for mankind, a test of man's ability to organize his own life. …We are looking for the reflection in architecture of the progress our own period has made toward consciousness of itself –of its special limitations and potentialities, needs, and aims.[307]

Giedion's approach toward history and its interpretation by Tafuri have been argued ever since. One of them is architectural designer and critic Susan Carty Piedmont's 1986 article, based on the interaction between history and design in criticism.[308] She chiefly underscores the main arguments of operative criticism that Tafuri suggested, which depict the evaluation of history as an ongoing process using and reevaluating criticism and design for the future. She reports two views of history, which were respectively delineated as experimentalism and avant-garde by Tafuri:

a. "Past work is insufficient and the designer's charge is the transformation and manipulation of existing models.
b. Past work is incorrect and it is designer's responsibility to correct it."[309]

The stress on the deficiency of the past work directs Piedmont define the frames of the pattern and the material of history. While she is pointing out the meaning and form as the arguably most discussed materials of history, she mentions that the pattern of history has always been the attempt of "transformations and rebellions with regard to the preceding generation".[310] And so, with a reference to Tafuri, who stated, "the neat cut with tradition

[307] Giedion: 1954, p.8, 19

[308] Susan Carty Piedmont, "Operative Criticism", *Journal of Architectural Education* 40, no.1 (Autumn, 1986) pp.8-13

[309] ibid., p.10

[310] ibid., p.12

becomes the paradoxical symbol of an authentic historical continuity"[311], Piedmont infers the defined anti-historicism of the modern movement, in fact, is a historical act in itself.

On the same subject, on the connections of tradition and history of the Modern, is argued by Hilde Heynen as well. In her book *Architecture and Modernity*, she discusses Giedion's notion of "the growth of a new tradition" –which is the sub-title of *Space, Time and Architecture*- in the context of modern architecture. Here, she reports, this notion tells us about the program of Giedion's book, indeed: the aim there is not to proclaim *the* "tradition of the new", however to set *a* "new tradition".[312] This observation of Heynen leads her to decide that:

> If one calls 'avant-garde' a position that is characterized by a logic of negation and a critical attitude vis-à-vis social conditions, it is clear that the architecture Giedion is advocating in Space, Time and Architecture cannot be labeled as such any more.[313]

However, although the avant-gardes could "accept being temporarily unpopular"[314], the linkage between their arguments and the public should be set eventually, in order to spread the *change* in all aspects of life. This is what Giedion has done with his *Space, Time and Architecture*: to popularize the facts of the modern architecture for those facts to be comprehensible and internalized by masses. So when Fredric Jameson reports that this 'classical' work is an architectural 'manifesto', a sort of 'objective' historical narrative with its diligently chosen facts, he does not posit a loss of avant-garde

---

[311] Manfredo Tafuri. *Theories and History of Architecture*, p.30 quoted in Piedmont: 1986, p.12

[312] Heynen: 1999, p.42

[313] ibid., p.43

[314] Manfredo Tafuri, "Toward a Critique of Architectural Ideology", in Michael K. Hays ed. *Architecture Theory Since 1968*, (Cambridge, Massachusetts; London, England: MIT Press, 2000) p. 18

attempt.[315] Yet, both Jameson and Heynen cite Tafuri's operative criticism. Heynen emphasizes Giedion's position as the target of Tafuri's 'polemic', claiming that Giedion's offer of history as a biased discipline and his distortion of the past on the behalf of his own set of critique of history forms a rather polemical but an appropriate medium in its context. And thus, she informs, when the distortion of history – and accordingly 'mystification and prejudice' – is substituted for the rigid analysis of history, "a procedure of this sort can only end in self-deception".[316] She points out that Tafuri's postulate of history and criticism is not for producing solutions but only to enlighten the context, yet this is to be one of the points that prevent *Space, Time and Architecture* to be a 'perfect' example of operative criticism. On the other hand, Jameson (featuring this approach of Tafuri as 'pessimistic') offers to accept the concept of operative criticism "as a formal necessity of the generic structure of his text (dialectical historiography) rather than an 'opinion' or a 'position' in its own right".[317]

In fact, the matter of Giedion's writings appropriate for a consideration of operative criticism is also argued in the context of his first architectural book, *Building in France*. Davide Deriu argues the construction of *Building in France*, from its language to its design, proves itself to internalize the key principle of the modernist avant-garde and became an example for operative criticism.[318] What actually Heynen offered is that *Building in France* was more avant-garde than *Space, Time and Architecture* with its provocative language and with its usage of 'montage', which is basically an avant-garde concept itself.

---

[315] Fredric Jameson, "Architecture and the Critique of Ideology", in Joan Ockman ed. *Architecture, Criticism, Ideology*, (Princeton, New Jersey: Princeton Architectural Press, 1985) p.65

[316] Heynen: 1999, p.145

[317] Fredric Jameson, "Architecture and the Critique of Ideology", in Ockman: 1985, p.65

[318] Deriu: 2007, p.54

Nevertheless, Michael K. Hays evaluates Giedion's approach in *Space, Time and Architecture* as having 'at least two valid points', albeit the general estimation of him being 'naively historicist or rigidly formalist':[319]

a. his approach is shaped due to his autonomous formation on architectural history,
b. 'the problem of the insertion of the subject' that Giedion has, in fact, is the problem of all materialist criticism.

Hays put forth those dualities opponent to each other, such as 'private creation and disciplinary conventions, and 'the unconscious and the conscious', exist in Giedion's approach towards history, in which 'the subject's position is reassessed in social and visual context. Hays evaluates the conditions of modernity as rationalization and reification, and compares Giedion's assessment of these conditions to such philosophers' and sociologists' like Georg Simmel, Max Weber, and Georg Lukács: this comparison is departed of a quotation from Giedion and linked with the estimation of traditional cultural institutions by those philosophers and sociologists:

> We have behind us a period in which thinking and feeling were separated. This schism produced individuals whose inner development was uneven, who lacked inner equilibrium: split personalities. The split personality as a psychopathic case does not concern us here; we are speaking of the inner disharmony, which is found in the structure of the normal personality of this period…. But behind these disintegrating forces in our period tendencies leading toward unity can be observed.[320]

> Georg Simmel, Max Weber, and Georg Lukács… saw traditional cultural institutions –once unified, genuine, and concrete forms of social relationships- as having long since been dissolved by the corrosive effects of market relations, blasted into their component fragments, and reorganized by the

[319] Michael K. Hays. *Modernism and the Posthumanist Subject: the Architecture of Hannes Meyer and Ludwig Hilberseimer*, (Cambridge, Massachusetts; London, England: MIT Press, 1992) p.14

[320] Sigfried Giedion. *Space, Time and Architecture* p.13-14 quoted in Hays: 1992, p.15

> processes of capitalism with its characteristic tendency toward greater efficiency according to the instrumental dialectic of means and ends.[321]

Here, we also read that Hays, like Tafuri, sees Giedion's concept of history as a historical act, since he used the objects of history in order to strengthen the position of the subject –such as in the determination of his three space concepts. Moreover, Hays endorses Giedion's endeavor of setting relationships in between humanity and mechanization as a continuation of his 'healing the rupture' with Jameson's concept of mediation:

> Mediation is the classical dialectical term for the establishment of relationships between, say, the formal analysis of a work of art and its social ground, or between the internal dynamics of the political state and its economic base…. Mediations are thus a device of the analyst, whereby the fragmentation and autonomization of social life… is at least locally overcome, on the occasion of a particular analysis.[322]

These valuable evaluations and critiques of various architectural historians show us that sixty-seven years after its first publication, Giedion's *Space, Time and Architecture* with its context and approach is continuing to be the subject of interest. Whether he is accepted as a rigid formalist or a provocative avant-garde, he is for sure one of the promoters of modern architecture, and his ideas and concepts brought to architectural history will exist as milestones.

[321] Hays: 1992, p.15-16

[322] Fredric Jameson. *The Political Unconscious*, (Ithaca, N.Y.: Cornell University Press, 1981) p.39-40, quoted in Hays: 1992, p.19

CHAPTER 6

CONCLUSION

So far we dealt with Sigfried Giedion and his *Space, Time and Architecture*, trying to understand the fundamental aspects of his life and the notions he developed in his book. As far as Giedion had the opportunity to observe the developments in architecture from the inside, his comments in accordance with his experiences are invaluable in order to examine the formation of the history and theory of modern architecture. Throughout this thesis, the date that he first encountered modern architecture (the Bauhaus Week in 1923), and of course with modern architectural circles including the very pioneers of modern architecture such as Walter Gropius was stressed, since that can be seen as the turning point of his professional life. Giedion, who has studied with Wölfflin under his formalistic point of view towards art history, altered his perspective on history of art and architecture afterwards to a rather progressive, social and technological one. He never rejected the influence of Wölfflin on his perspective and writings; neither did he neglect the differences in between. It is stated here that both in his *Space, Time and Architecture* and in some of his other works, he stressed this issue. Yet, Wölfflin was also aware of the fact that his pupil was representing a different epoch than his:

> …You represent the present and I belong to a past period and can only look from afar into the land of the future. That you nevertheless persist in [feeling] an inner connection and speak of a discipleship, has given me great pleasure.[323]

The state of resolution in Giedion's ideas and writings became apparent in his *Building in France*, a passionate display of the new material and consequently appeared new architecture has been the reflection of his relationships with modern architectural circles and of what he has experienced through his studies

[323] Wölfflin to Giedion, 15 June 1942, GA. quoted in Eduard Sekler, "Sigfried Giedion at Harvard University", in Macdougall: 1990, p.269

in accordance with those relationships. This time, in addition to Gropius, the pioneer in focus was the French architect Le Corbusier: his view on mechanization, new materials, new construction techniques, and thus on a new social system had a considerable influence on Giedion. He never had lost contact with those two leaders of modern architecture: with Gropius he kept the exchange of ideas on both architecture and architectural education, with Le Corbusier he was involved in at least during the CIAM meetings. When he was lecturing first time in America, at Harvard University, it was revealed while examining his relations with the pioneers of the era that Gropius was his 'mentor' as he encouraged him and placed pressure on him for success in legitimizing modern architecture:

> I therefore advise you for the sake of making your pioneering work effective here, to be sure to do everything, in order to prepare yourself also as far as language is concerned.[324]

Yet, we observed, the only involvement of Giedion was not with architectural circles, but also with other intellectual circles, such as philosophy. Remarked by Detlef Mertins as "an admirer of Giedion and arguably his best reader"[325], Walter Benjamin was following Giedion's writings, particularly *Building in France* was his point of interest. Nevertheless, along with his one-to-one relationships with architects or philosophers, the environment, the country, even the continent he was living and experiencing took an important place in his writings. The notions and facts he gained in Europe were later moved to America in order to expand the vision and knowledge of Giedion. As a matter of fact, *Space, Time and Architecture*, was formed as an expression of the agglomeration of those notions and facts that Giedion had attained both in Europe and during his visit in America. The state of being an architectural historian did not limit Giedion to mere architectural forms; he looked for the

[324] Gropius to Giedion, 14 January 1938, GA. quoted in Eduard Sekler, "Sigfried Giedion at Harvard University", in Macdougall: 1990, p.267

[325] Detlef Mertins, "Transparencies Yet To Come: Sigfried Giedion and the Prehistory of Architectural Modernity", (Unpublished Dissertation. June, 1996)

tracks of *the new* in every single aspect of life: from one piece of pipe to a transporter bridge which he believed could reveal the evolution of life into something new. This aspect is what makes Giedion and *Space, Time and Architecture* worthwhile: to look at architecture from a different perspective than the existing ones. Tournikiotis puts forth the differences of approaches of the first generation modern art historians: he compares the books of Emil Kaufmann (*Von Ledoux bis Le Corbusier: Ursprung und Entwicklung der autonomen Architektur*, 1933), Nikolaus Pevsner (*Pioneers of the Modern Movement From William Morris to Walter Gropius*, 1936) and Sigfried Giedion (*Space, Time and Architecture – The Growth of A New Tradition*, 1941). He stresses the fundamental common characteristic of those three historians that they all come from the German tradition in art history and believed in the spirit of the age. All of them followed the way of "the antithetical contrasting of successive periods".[326] However, although all the three constructed their books on a 'plainly' operative discourse, Giedion is distinguished from the other two: he chose to set himself off from the academic frame which Kaufmann and Pevsner stuck to, and advocated for the role of the historian as an active participant of the "struggle to achieve the goals of modern architecture".[327] This situation caused the critical comment of Pevsner: he sees the approach of Giedion toward history of modern architecture combining historiography and propaganda as "blasting a trumpet" which is " a sin in historian".[328] The charts offered by Mauro F. Guillâen and Charles Jencks enlighten us on the approaches of historians in the twentieth century on architecture (Figure 37 and 38).

Giedion was supporting the idea that "History cannot be touched without changing it.", thus, he looked at the past and interpreted the facts through his

[326] Tourniliotis: 1999, p.22

[327] ibid., p.26

[328] Pevsner: 1949, p.78

own thoughts, as if he was looking at a mirror. What he offered was the constituent facts, which were always there, waiting to be revealed by the spirit of the age, waiting for the right conditions to become apparent. Those facts are the true evidence of a new epoch. The spirit of the age, namely the Zeitgeist, was put forth as the catalyst of those facts. On the issue of the nineteenth century, Giedion had rather bitter opinions. In spite of the developments in science and engineering, arts and architecture could not keep up with those developments. So that the nineteenth century, in Giedion's point of view, was a loss but still a preparation period for the new epoch formed in the twentieth century. Morality came to the fore right here. He defended the usage of the genuine features of materials, denounced the misuse of materials and the imitation of the previous forms. What he had seen in America persuaded him that a medium independent from the overloaded ornamentations and struggle of the bygone epochs could be the missing link he was looking for in order to construct the overall work of the spirit of the age. While Giedion was following the evidences for these themes he suggested, he came out with three space conceptions since the Renaissance. As it is revealed in this thesis, these conceptions were parts of a progressive process in art and architecture, which were exposed through the organic connection among the aforementioned themes. The constituent facts that are introduced to the critical discourse of history, and the innovative perspective he used in this book let *Space, Time and Architecture* to be distinguished from other architectural history books of his time.

Moreover, the reflections on *Space, Time and Architecture* in the academic and non-academic circles of architecture and architectural history deserved to be investigated in order to receive small hints about the book, and on the other hand, in order to follow the alteration in the approaches towards the book along with the new discoveries and perspectives throughout the following years. Those reflections coming not only from architects or architectural historians but also from an anthropologist helps us to grasp the extension the book

reached. Yet, as we learn some details on the book and the reasons and consequences of these details, we approach more to the understanding of the circumstances that the book had been born into and why this book had ever been written. Right from the beginning, *Space, Time and Architecture* was planned to be *the* book of *the* Modern Architecture. Being an insider, having close relations with the pioneer practitioners of modern architecture, proving his devotion to the case determined his position as the "official" historian of modern architecture. The relations analyzed here showed the fact that Giedion's thinking was flourishing parallel with the people he was involved with throughout his life. His visits to America were supported by those pioneers, who also had been or still were in America –either as a long-term educator such as Gropius or Sert, or a short-term observer such as Le Corbusier. Besides, being a supporter of the common international experience and the collaboration among disciples, Giedion's role in CIAM and the opportunities he had there in reaching the sources of modern architecture from various countries and continents distinguishes Giedion decisively from the other architectural historians and their books written in the same time period with his.

Nevertheless, the notions and ideas that *Space, Time and Architecture* had brought about have been criticized and interpreted by various architects and architectural historians for many years. As it is revealed throughout the thesis, the themes Giedion handled (particularly constituent facts and his third space concept space-time) and the way Giedion handled those themes became the subject matter of a new methodology in history: operative criticism. When this notion was introduced to the course of history by Manfredo Tafuri in his book *Theories and History of Modern Architecture*, the most consonant instance that could be given along with Bruno Zevi's *Storia dell'architettura moderna* was Giedion's *Space, Time and Architecture*. Giedion brought a new expansion to the history and theory of architecture, and even though he was criticized for omitting some facts in history, his work was considered as a true architectural

project by Tafuri. Operative criticism and its usage in Giedion's book has been reevaluated by other architectural historians as well, and this repetitious treating of *Space, Time and Architecture* proves that this book and the notions argued within has been influential and also controversial in the context of being *a* book of modern architectural history and theory.

Both his relationships with the members of the modern architecture circles and his approach towards the issue of how an 'accurate' architecture should be shaped his lifetime existence. Even from the overseas, he continued to strengthen the association he had with the circles he was involved with. To turn architecture into a progressive establishment, which functions along with a complete collaboration with other branches of science and art, first of all, there should be stated the reasons of the schism (at least the inequality between the developments in construction and architecture) in the nineteenth century. The point here is neither judging nor bolstering Giedion for his statements on the nineteenth century; the point is to comprehend the approach he produced for treating history, the way he looked at the past, and the results he came up with in order to make the past for usage *today* and in the future. There exists a certain subject, a certain aim to achieve that a project overtakes, and the implementers of that project evaluate the data they have according to the effect they attempted to achieve. While Tafuri was naming *Space, Time and Architecture*, he was very much aware of this endeavor of Giedion. Consequently, it was not only Giedion's endeavor but also the period he belonged to. Even the comprehension of this fact makes a difference in the way to approach the book in the first place. Then, the omissions Giedion made throughout the book makes sense, or the personal plural form he used throughout the book. Rereading the book for the sake of a better grasp helps to get into the book more and helps to discern the organic construct of the notions and the ideas presented.

The fact that Giedion had been to America opens new horizons for both the intellectual evolution of Giedion and the development of the interactions between the architecture of Europe and America. Beginning with the visit of Frank Lloyd Wright to Europe, the interest in American architecture was held by Giedion. As it is revealed in the reviews part, Giedion appended new knowledge to American architectural history with his researches. Fascinated by the works of the Chicago school, Giedion showed his thrill that the likeness of the works done by European architects almost thirty years later was a proof of his Zeitgeist suggestion. It meant that, what he constructed for the evolution of the new architecture had found its counterparts in history, so that this construction of Giedion legitimized itself. More or less, the legitimization was also the purpose of the period that Giedion belonged to: modern movement was seeking for the opportunities to meet with the public and to take their attention to their intentions.

Sigfried Giedion was a well-rounded historian and intellectual, never giving up his hopes and endeavors for the construction of the new architecture as well as a new society. He believed in history to find the way out of the 'vacillation' and project the way towards future. He believed in the power of feeling as well as thinking in order to be out of the woods and for the progress of humanity. He constructed his writings according to the line he followed; thus, *Space, Time and Architecture* have come out of these beliefs. This book has been the book for modern architecture and it stated not only the result but also the causes that led to the formation of the new architecture. The medium the book was born into, the themes it dealt with, and the reactions it received, provided an enthusiastic research throughout this thesis. With the developing views that the critical discourse will produce, *Space, Time and Architecture* will continue to be one of the subject matters of modern architectural history.

REFERENCES

Arendt, Hannah, "Walter Benjamin: 1892-1940" in Walter Benjamin. *Illuminations*, (New York: Harcourt, Brace & World, 1968)

Bannister, Turpin C., "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Art Bulletin* 26, no.2 (June, 1944)

Barnes, Harry Elmer, "Review: Mechanization Takes Command by Siegfried Giedion", *The American Journal of Sociology* 54, no.4, Industrial Sociology (January, 1949)

Benevolo, Leonardo. *History of Modern Architecture*. (London: Routledge & Kean Paul; Cambridge: MIT Press, 1971 [1960])

Benjamin, Walter. *The Arcades Project*, ed. Rolf Tiedemann. trans. Howard Eiland and Kevin McLaughlin, (New York: Belknap Press, 1999)

Bergdoll, Barry. *European Architecture 1750-1890*. (Hong Kong: Oxford University Press, 2000)

Bignens, Christoph, "Happy Hour: Ernst F. Burckhardt, Max Ernst, Max Bill, Sigfried Giedion, Alvar Aalto and the Corso-Dancing in Zurich", *Parkett* 77 (2006)

Boring, Edwin G., "Dual Role of the Zeitgeist in Scientific Creativity", *The Scientific Monthly* 80, no.2 (February, 1955)

Colomina, Beatriz. *Privacy and Publicity: Modern Architecture As Mass Media.* (Cambridge, Mass.: MIT Press, 1994)

Conant, Kenneth John, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Journal of Aesthetics and Art Criticism* 1, no.2/3 (Autumn, 1941)

Conrads, Ulrich. *Programmes and Manifestoes on 20th-Century Architecture*. (London: Lund Humphries, 1970)

Deriu, Davide, "Montage and Modern Architecture: Giedion's Implicit Manifesto", *Architectural Theory Review* 12, no.1 (August, 2007)

Feiss, Carl, "Review: *Can Our Cities Survive?* by J.L. Sert", *The Journal of the Society of Architectural Historians* 2, no.4, (October, 1942)

Fernie, Eric. *Art History and Its Methods: A Critical Anthology.*(New York: Phaidon Press, 1995

Fisher, Thomas R.. *In the Scheme of Things: Alternative Thinking on the Practice of Architecture.* (Minneapolis: University of Minnesota Press, 2000)

Frampton, Kenneth, "Giedion in America: Reflections in a Mirror", *Architectural Design* 51, no.6-7 (1981)

Georgiadis, Sokratis, "Introduction" in *Building in France, Building in Iron, Building in Ferroconcrete*, Sigfried Giedion (Santa Monica, CA:The Getty Center for the History of Art and the Humanities, 1995 [1928])

Georgiadis, Sokratis. *Sigfried Giedion: An Intellectual Biography.* (Edinburg: Edinburg University Press Ltd, 1993)

Giedion, Sigfried. *Spätbarocker und romantischer Klassizismus.* (Munich: F. Bruckmann A. G., 1922)

Giedion, Sigfried. *Befreites Wohnen.* (Zurich and Leipzig, 1929)

Giedion, Sigfried. *Bauen in Frankreich – Bauen in Eisen – Bauen in Eisenbeton.* (Berlin: Klinkhardt & Biermann, 1928)

Giedion, Sigfried, "Russland – Amerika – Frankreich", *Neue Zürcher Zeitung* no.744, 16 April 1930

Giedion, Sigfried, "Le Corbusier in Genf", *Neue Zürcher Zeitung* no.1403, 27 July 1932

Giedion, Sigfried, "Walter Gropius", *Neue Zürcher Zeitung* no.901, 19 May 1933

Giedion, Sigfried, „Leben und Bauen", *Neue Zürcher Zeitung* no.1135, 24 June 1934

Giedion, Sigfried. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Giedion, Sigfried, "Introduction" in Jose Luis Sert. *Can Our Cities Survive?*, (Cambridge: Harvard University Press; London, H. Milford: Oxford University Press, 1942)

Giedion, Sigfried, "On CIAM's Unwritten Catalogue", *The Journal of the Society of Architectural Historians* 3, no.1/2, The History of City Planning, (January-April, 1943)

Giedion, Sigfried, *Mechanization Takes Command: A Contribution to Anonymous History*, (New York: Oxford University Press, 1948)

Giedion, Sigfried. *Walter Gropius*. (New York: Dover Publications Inc, 1992) Originally published *Walter Gropius: Work and Teamwork.* (New York: The Reinhold Publishing Corp., 1954)

Giedion, Sigfried. *Architektur und Gemeinschaft: Tagebuch einer Entwicklung.* (Hamburg, 1956)

Giedion, Sigfried. *Architecture You and Me.* (Cambridge, Mass.: Harvard University Press, 1958)

Giedion, Sigfried. *The Eternal Present, Volume 1: The Beginnings of Art.* (New York: Pantheon, 1962)

Giedion, Sigfried. *The Eternal Present, Volume 2: The Beginnings of Architecture.* (New York: Pantheon, 1965)

Giedion, Sigfried. *Architecture and the Phenomena of Transition.* (Cambridge, Mass.: Harvard University Press, 1971)

Gropius, Walter. *Scope of Total Architecture.* (New York and Evanston: Harper & Row Publishers, 1955)

Guillâen, Mauro F. *The Taylorized beauty of the mechanical: scientific management and the rise of modernist architecture*. (Princeton: Princeton University Press, 2006).

Hatt, Michael and Klonk, Charlotte. *Art History, A Critical Introduction to Its Methods*. (Manchester and New York: Manchester University Press: 2006)

Hauser, Arnold, "Review: Mechanization Takes Command by Siegfried Giedion", *The Art Bulletin* 34, no.3 (September, 1952)

Hays, Michael K.. *Modernism and the Posthumanist Subject: the Architecture of Hannes Meyer and Ludwig Hilberseimer*, (Cambridge, Massachusetts; London, England: MIT Press, 1992)

Heynen, Hilde. *Architecture and Modernity*, (Cambridge, Massachusetts: MIT Press, 1999)

Horton, Donald, "Review: Mechanization Takes Command by Sigfried Giedion", *American Sociological Review* 13, no.5 (October, 1948)

Isaacs, Walter F., " Time and the Fourth Dimension in Painting", *College Art Journal* 2, no.1 (November, 1942)

Iversen, Margaret. *Alois Riegl: Art History and Theory*. (Cambridge and London: The MIT Press, 1993)

Jameson, Fredric, "Architecture and the Critique of Ideology", in Joan Ockman ed. *Architecture, Criticism, Ideology*, (Princeton, New Jersey: Princeton Architectural Press, 1985)

Janson, H. W. and Hitchcock, Henry-Russell, "Review: Space, Time and Architecture: The Growth of a New Tradition by Sigfried Giedion", Parnassus 13, no:5 (May, 1941)

Jencks, Charles. "History As Myth" in Jencks, Charles and Baird, George. *Meaning in Architecture*. (New York: George Braziller, 1969)

Kaufmann, Emil. *Von Ledoux bis Le Corbusier: Ursprung und Entwicklung der autonumen Architektur*. (Vienna: Passer, 1933)

Kostof, Spiro, "Architecture, You and Him: The Mark of Sigfried Giedion", *Daedalus* 105, no.1 (Winter, 1976)

Le Corbusier. *Towards A New Architecture*. (London: The Architectural Press, 1963 [1927])

Mertins, Detlef, "Transparencies Yet To Come: Sigfried Giedion and the Prehistory of Architectural Modernity", (Unpublished Dissertation. June, 1996)

Montagu, M. F. Ashley, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *Isis* 33, no.5, (March, 1942)

Mumford, Eric. *The CIAM Discourse on Urbanism, 1928-1960*, (Cambridge, Massachusetts: MIT Press, 2000)

Nerdinger, Winfried, "Review: Martin Steinmann, ed. *CIAM-International Kongresse für Neues Bauen/Congrés Internationaux d'Architecture Moderne, Dokumente 1928-1939*", *The Journal of the Society of Architectural Historians* 40, no.4 (December, 1981)

Norberg-Schulz, Christian. *Intentions in Architecture*. (London, Oslo and Cambridge: The MIT Press, 1965)

Padovan, Richard. *Towards Universality: Le Corbusier, Mies and De Stijl*. (London and New York: Routledge, 2002)

Pearson, Christopher, "Le Corbusier and the Acoustical Trope: An Investigation of Its Origins", *The Journal of The Society of Architectural Historians* 56, no.2 (June, 1997)

Pevsner, Nikolaus. *Pioneers of the Modern Movement From William Morris to Walter Gropius*. (London: Faber & Faber, 1936)

Pevsner, Nikolaus, "Judges VI, 34: But the spirit of the Lord came upon Gideon and he blew a Trumpet", *Architectural Review* 106 (August 1949)

Pevsner, Nikolaus, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *The Burlington Magazine for Connoisseurs* 82, no.478 (January, 1943)

Piedmont, Susan Carty, "Operative Criticism", *Journal of Architectural Education* 40, no.1 (Autumn, 1986)

Popper, Karl R.. *The Poverty of Historicism.* (Boston: Beacon Press, 1957)

Rykwert, Joseph, "Review: Siegfried Giedion and the Notion of Style", *The Burlington Magazine* 96, no.613 (April, 1954)

Sawyer, John E., "Review: Mechanization Takes Command by Siegfried Giedion", *The Journal of Economic History* 9, no.1 (May, 1949)

Schwarzer, Mitchell W, "The Emergence of Architectural Space: August Schmarsow's Theory of 'Raumgestaltung'", *Assemblage*, no.15 (August, 1991)

Schwarzer, Mitchell. *German Architectural Theory and the Search for Modern Identity*. (Cambridge, New York: Cambridge University Press, 1995)

Sekler, Eduard F, "Sigfried Giedion in America" in *The Architectural Historian in America: A Symposium in Celebration of The Fiftieth Anniversary of The Founding of The Society of Architectural Historians*, ed. Elisabeth Blair MacDougall. (Washington: National Gallery of Art, 1990)

Tafuri, Manfredo, "Toward a Critique of Architectural Ideology", in Michael K. Hays ed. *Architecture Theory Since 1968*, (Cambridge, Massachusetts; London, England: MIT Press, 2000)

Tafuri, Manfredo. *Theories and History of Architecture*. (London, New York: Granada, 1980)

Tournikiotis, Panayotis. *The Historiography of Modern Architecture*. (Cambridge and London: The MIT Press, 1999)

Tschumi, Bernard, "The Architectural Paradox" in Michael K. Hays ed. *Architecture Theory Since 1968*, (Cambridge, Massachusetts; London, England: MIT Press, 2000)

Ward, Anthony, "The Suppression of The Social in Design: Architecture as War" in Thomas A. Dutton ed. *Reconstructing Architecture: Critical Discourses and Social Practices.* (Minneapolis: University of Minnesota Press, 1996)

Watkin, David. *Morality and Architecture: The Development of a Theme in Architectural History and Theory from the Gothic Revival to the Modern Movement*. (Oxford: Clerendon Press, 1977)

Whiffen, Marcus, "Review: *Space, Time and Architecture, the Growth of a New Tradition* by Sigfried Giedion", *Journal of Architectural Education* 17, no.1 (October, 1962)

Zevi, Bruno. *Towards An Organic Architecture*. (London: Faber & Faber, 1950 [1945])

Zevi, Bruno. *Storia dell'architettura moderna*. Turin: Einaudi, 1950)

Zevi, Bruno. *Architecture As Space – How to Look at Architecture*. (New York: Horizon Press, 1957)

"Gropius Lectures Begin", (no writer attributed), *The Harvard Crimson* online edition, published in 17 April 1961.
http://www.thecrimson.com/article.aspx?ref=171053

http://www.merriam-webster.com/dictionary/tabula rasa

APPENDICES

APPENDIX A

Sigfried Giedion, „Russland – Amerika – Frankreich", (*Neue Zürcher Zeitung,* 16 April 1930)

Unter dem Titel „Neues Bauen in der Welt" eröffnet der Verlag Anton Scholl & Co. In Wien eine neue Serie, von der die drei ersten Bände erschienen find. Als Herausgeber zeichnet Dr. Z. Gantner. Die Bände Amerika, Russland und Frankreich umfallen gleichzeitig drei Angelpunkte der heutigen Entwicklung.

Den Band Russland behandelt El Lissizky. Man kennt den ausgezeichneten russischen Maler und Architekten in weiteren Streifen durch seinen Pavillon an der Kölner Pressa – Ausstellung 1928, und auch in Zürich fiel er in der Ausstellung abstrakter Malerei sowie durch das Plakat für die russische Ausstellung im Kunstgewerbemuseum auf.

Das Buch, das mit großer Sorgfalt angeordnet und zusammengestellt ist, gibt zum erstenmal einen wirklichen Überblick der russischen Entwicklung sowie ihrer Einstellung. Während Amerika eine hundertjährige industrielle Entwicklung hinter sich hat und sich in seiner Industrie ein Instrument schuf wie kein andere Staat, wurde Russland künstlich in Schlaf gehalten. Nun sollen auf einmal die unvorstellbar großen Flächen in Getreidefabriken verwandelt werden. Um den ganz auf zukünftige Entwicklung eingestellten Gedankengang Lissizkys volkswirtschaftlich zu vervollständigen, nehme man das Buch Artur Feilers „Das Experiment des Bolschewismus" zur Hand und lese die Schilderung über die russischen Staatsgüter. Durch das ganze Buch Lissizkys spürt man das Streben, das Individuum kollektiv einzuordnen und ihm trotzdem jene Summe von individueller Freiheit zu lassen, die jeder für seine Existenz unbedingt benötigt. Wie früher die Kirsche, so soll heute in Russland

das Gemeinschaftsleben, der „Klub als soziales Kraftwerk“ fungieren. Aus einer „Arithmetischen Summe von Privatwohnungen“ soll der „synthetische Komplex einer Gesamtwohnung“ werden. Diese praktische Untersuchung, wie weit Menschen eine kollektive Zusammenschließung vertragen und wie weit sie zu ihrem Gedeihen eine gewisse Isolierung nötig haben, ist heute unbekannt und scheint uns ein wichtiges Resultat des russischen Experimentes zu sein.

Lissizky ist Künstler und geht vom Künstlerischen aus. Die Konstruktion, die Technik, wird ihm und seinen Mitstrebenden zur Grundlage der architektonischen Vision. Immer noch sehen viele nicht, dass die überlieferte Architektur, die das Gefüge des Steins und seine handwerkliche Zubereitung zur Grundlage der architektonischen Vision nimmt, durchaus nichts Absolutes bedeutet!

Wenn man einzelne Projekte der russischen Konstruktivisten mit ihren schwebenden Kugeln, Stockwerfen, Drähten und Radio-Antennen untersucht, so kann man ohne Mühe den Beckmesser spielen. Es kommt aber gar nicht darauf an, inwieweit diese Projekte aus einer Sehnsucht nach Technik, also, wenn man will, aus Romantik entstanden find; wichtig daran ist, dass die formende jenen Elementen befasst (z.B. Skelettbau), die die in Zukunft die Grundlage der architektonischen Entwicklung bilden werden. Eine der wichtigsten Ursachen, warum die Architektur so weit hinter andern Gebieten zurückgeblieben ist, besteht in dem durchgehenden Vorurteil, dass ein Haus immer noch wie eine Burg aussehen müsse. Die publizierten Arbeiten sind vielfach Projekte. Auch weiß man, dass ein großer Teil der ausgeführten Staatsbauten durchaus von Akademikern hergestellt wurde. Trotzdem ist es in Russland möglich, dass eine der wichtigsten Bauten des Regimes, der Zentrosoyus (Konsumgenossenschaft) von Le Corbusier, fertig dastehen wird, während der Völkerbund allmählich erkennen dürfte, was für ein Gespensterschloss er sich in Genf noch errichten lassen will.

Band II: „Amerika“ von R. J. Neutra. Das Buch überquillt von neuem Stoff, von Rohmaterial, das ungewertet überall in Amerika herumliegt und das ein geschultes Auge wie das des Architekten Neutra zu Entdeckungen reizen muss. Der Stoss ist so ungeheuer und das Material derart ungesichtet, das es ans 164 Seiten natürlich nicht erschöpft werden kann.

Es gibt über amerikanische Architektur verschiedene Veröffentlichungen. Diese lassen, wie z. B. das zweibändige Werf Grebers, leicht die Meinung aufkommen, als bestände Amerika nur aus einer Dependance der Académie des Beaux Arts, andere wieder geben ungesichtet den ganzen Stoss, ganz zu schweigen von Bilderbüchern, die die New-Yorker Straßenschluchten romantisch aufnehmen wie den Colorado River. Mit sympathischer Bescheidenheit weist Neutra darauf hin, dass im Grunde die geschichtliche Darstellung – in diesem Fall die Entwicklung Amerikas seit den Freiheitskriegen – dem Historiker zufalle und nicht dem ausübenden Architekten. Trotzdem gibt Neutra die erste richtige Akzentverteilung in der amerikanischen Entwicklung. Man spürt das sogar an Einzelheiten, wie etwa der Sammlung der Arbeiten Irving H. Gills in Kalifornien von 1906, 1911, 1912 usw. Man kennt Gill in Europa nicht, scheinbar kaum in Amerika, denn Neutra muss selbst einen Grundriss aufnehmen, um ihn publizieren zu können.

Wer in der neuen Baubewegung die Priorität hat, scheint mir heute noch nicht eindeutig entscheidbar. Die Anregungen gehen von Europa nach Amerika, von Amerika nach Europa, der Schnitt ist schwer zu machen. Jedenfalls aber hat man vom Ende der neunziger Jahre bis zum Krieg an keiner Stelle so voraussehend Häuser errichtet, wie dies von feiten Lloyd Wrights und – in gewisser Beziehung – auch von Irving Gill geschah. Eines der wichtigsten – heute noch ungelösten – Bauprobleme ist die klare Trennung von Innen und Außenhaut in der Wandkonstruktion. Gill hat – wie Neutra vermittelt - schon in seinen frühen Arbeiten doppelschalige armierte Betonwände verwendet. Nur hat er, soweit man ersehen kann, die Ansäße nicht entsprechend

weiterentwickelt. Es muss festgestellt werden, dass kein amerikanischer Architekt von Anfang an mit solcher Bestimmtheit wie etwa Corbusier die Skelettkonstruktion als Grundlage des heutigen Wohnhauses erkannt hat. Auch Lloyd Wright nicht. Mit Recht weist Neutra auf keine Verwandtschaft mit Morris, also mit den Präraphaeliten, hin.

Überblickt man das Buch, so wäre man geneigt, dem Amerikaner vorab die Fähigkeit zuzusprechen, einen bestimmten Arbeitsvorgang rational in seine verschiedenen Phasen zu zerlegen (typisch die glücklichen Versuche, den bei uns monolithisch behandelten Eisenbetonbar in seine einzelnen Komponenten zu zerlegen). Wenn Amerika die Veränderung, die heute in Europa in der Wohnform vor sich geht, innerlich anerkannt haben wird – selbst nach den populärsten amerikanischen Architekturzeitschriften zu schließen, ist die Bewegung auch in Amerika auf dem Marsch -, so dürfte es mit seinem gegenüber schon heute außerordentlich verfeinerten Baubetrieb jedes andere Land überflügeln.

Es ist nicht äußerlicher Fassadenputz, wenn man Wolkenkratzer ausbildet wie zehn übereinandergestellte römische Paläste, und die reichen Leute in Häusern wohnen, die die Schlösser der englischen Landlords nachahmen. Das sind Anzeichen innerer Unsicherheit, die anderseits alle Erfindungen, die auf eine unseren heutigen Wünschen entsprechende Wohnform zielen, unentwickelt lassen. Wo geschickte Organisation, die durch die hohen Löhne und die rasche Amortisierbarkeit hervorgerufen wird, aufhört, ist auch von Amerika nicht allzu viel zu lernen. Man spürt das sogleich am Bau-Index. Gropius hat aus Amerika eine Statistik des Bureau of Standard übermittelt, nach der seit 1913 die Baukosten um 200 Prozent gestiegen sind, während, verglichen mit dem gleichen Zeitpunkt, die Kosten der Frod-Autos um 78 Prozent fielen. Tatsächlich spüren wir in der Entwicklung Amerikas eine gewisse Lücke, die durch das Nachahmen von Lebensformen, die im Grunde ausgestorben sind, verursacht sein dürfte. Amerika – ebenso wie England – haben für den

Großbau die grösste Erfahrung im Eisenskelett, aber die heute so notwendige Umdenkung des Skelettbaus für den Kleinwohnungsbau fehlt in Amerika, ebenso wie bei uns, obwohl es durch seine industrialisierten Baumethoden dazu prädestiniert gewesen wäre. Gewiss ist Amerika in allen hygienischen Angelegenheiten in Kücheneinrichtung, praktischen Möbeln und in der ganzen Standardbildung uns weit voraus, aber ebenso wenig wie in Europa scheint es dort wirklich befriedigende Lösungen für doppelwandige Mauern verschiebbare Wände oder horizontale Schiebefenster zu geben, d. h. von Elementen, die der kommenden Entwicklung zugrunde liegen.

Das Neutralische Buch lässt die unendliche Vielfalt Amerikas ahnen. Fast auf jeder Seite böte sich Gelegenheit zu neuen Fragen, die angeschnitten werden. Keine neue Arbeit über Amerika wird dies Buch übersehen dürfen. Gewiss, der Rahmen war außerordentlich eng gespannt, aber wir hätten dennoch ein näheres Eingehen auf das Verkehrsproblem begrüßt. Seit Michel Ehevalter, der Saint-Simonist und spätere Ratgeber Napoleons III., 1833 seine „Lettres sur l'Amérique du Nord" und sein Werk über die amerikanischen Kommunikationsmittel herausgab – also vom Beginn der industriellen Entwicklung -, stand Amerika an der Spitze der Verkehrsmittel, und diese Hegemonie hat es bis heute unbestritten gewahrt. Alle Statistiken, auch die frühesten, beweisen es.

Handelt es sich bei Amerika und Russland um erstmalige Übersicht, so umfasst der dritte Band „Frankreich" von R. Ginzburger dasselbe Thema, das wir vor kurzem im „Bauen in Frankreich" auseinandergelegt haben. Wir arbeiteten damals bewusst nur die konstruktive Seite der Angelegenheit heraus, um einmal eindeutig zu zeigen, das im 19. Jahrhundert nicht der Ästhet, der sog. „Künstler-Architekt", die eigentlich produktive Arbeit geleistet hat, sondern der anonyme Konstrukteur, der Ingenieur, der noch heute von vielen Architekten missverstanden wird. Ginzburgers Aufgabe hätte vor allem eine Erweiterung nach der volkswissenschaftlichen Seite hin sein können. Doch das

Material liegt nicht bereit, sondern muss quellenmäßig erforscht werden. Statt der Doppelspurigkeit einer schon geleisteten Arbeit wäre die Möglichkeit einer wesentlichen Erweiterung nahe gelegen.

Heute erscheint die Aufgabe des Historikers (sollten Architekten überhaupt sich mit historischen Entwicklungen befassen?) mehr darin zu liegen, das Tatsachenmaterial einzuordnen als – wie es früher üblich war – Werturteile in den Vordergrund treten zu lassen. Überall interessiert uns heute der Tatsachenbestand (vgl. Neutra) mehr, als der persönliche Kommentar, wie es Ginzburger liebt. Allzu leicht kommen dadurch falsche Akzentsetzungen in die Entwicklung. Unorganisch scheint uns am Schluss die plötzliche Einfügung eines Stücks von Italien und der Westschweiz, vorab da es in Frankreich an allen Ecken noch ungehobenes Material gibt, das heute verlangt, wieder in das allgemeine Bewusstsein gerückt zu werden.

Zweifellos wird in den drei Bänden eine wichtige Aufklärungsarbeit geleistet. Man müsste sie in die Hand eines jeden Preisrichters legen, ehe er daran geht, wieder einmal mehr eine dekorative Steinkulisse zur Ausführung zu empfehlen, anstatt eines organisch aus den Funktionen entwickelten Projektes.

APPENDIX B

Sigfried Giedion, „Le Corbusier in Genf“, (*Neue Zürcher Zeitung*, 27 July 1932)

In Genf wurde vor kurzem ein achtstöckiger Mietsblock eingeweicht. Es ist nicht nur der erste größere Bau, der von Corbusier in der Schweiz errichtet wird, es ist auch das erste große Mietshaus, das nach langjähriger Vorbereitung nun Wirklichkeit geworden ist.

Le Corbusier macht es dem Historiker leicht. Seine Entwicklungslinie läuft geradewegs, und der Weg ist ungefähr folgendermaßen: Die Idee wird in ihrer Ganzheit von Anfang an visionär erfasst. Technisch wird sie im einzelnen im Laufe der Zeit verändert, wie es die Verwirklichung oder die fortschreitende Erkenntnis verlangt. Diese im Unbewussten verankerte Zielstrebigkeit scheint uns zu allen Zeiten eines der Merkmale genialer Begabungen gewesen zu sein.

Das Doppelmiethaus „Clarté“ oder wie es in Genf allgemein heißt: „La Maison de Verre“ reicht in seiner Konzeption zehn Jahre zurück. Das Mietshaus, das Le Corbusier im Salon d’automne 1922 ausgestellte, und das aus übereinandergestellten zweistöckigen „Villen“ besteht, liegt ihm zugrunde. Corbusier selbst hat geäußert, dass ihm die Idee dieser Anordnung in Erinnerung an ein italienisches Kartäuser-Kloster gekommen sei. „Jede Wohnung ist in Wirklichkeit ein kleines Hans mit Garten, in beliebiger Höhe über der Strasse gelegen. Aber die Strasse selbst ist verändert; sie entfernt sich von den Häusern. Bäume kommen in die Stadt. Die Wohndichte bleibt die gleiche, aber die Häuser werden höher und die Perspektiven weiter.“ Langsam wird nun die Verwirklichung verfolgt. 1925 errichtet Corbusier auf der Pariser Kunstgewerbeschau unter größten Schwierigkeiten seinen „Pavillon de l’esprit nouveau“, und dieser Pavillon ist nichts anderes wie eine der Villen, die in ihrer Gesamtheit den Mietsblock bilden.

1927 baut Corbusier auf der Stuttgarter Werkbund Siedlung Weißenhof ein Haus mit einem ungeheuren Glasfenster, das wie ein Ausschnitt aus dem großen Mietsblock wirkt (sein Modell wurde gleichfalls 1922 im „Salon d'automne" gezeigt und gilt unter dem Rahmen „Maison Citrohan" in der Baugeschichte als das erste konsequent durchgeführte Beispiel der heutigen Wohnarchitektur).

Wir haben an dieser Stelle uns oft genug mit dem Corbusierschen Bauwillen auseinandergesetzt, sodass auf einzelnes nicht mehr hingewiesen werden muss. Die Frage, die heute betont werden soll, ist allein der immer wiederholte Vorschlag Corbusiers, die starre Stockverstellung auch für das Privatleben zu unterbrechen und neben viel niederen Räumen auch einen viel höheren Raum zu schaffen, den „Livingroom", den Raum, in dem man „lebt". Das heißt Häuser zu bewohnen, die nicht nur im Grundriss, sondern auch in der dritten Dimension völlig unstarr durchgebildet werden. Es wird nun zu fragen sein, werden sich Mieter an diese neue Raumgestalltung gewöhnen können. Als ich vor einigen Wochen mit Edmond Manner, dem kühnen Verwirklicher des Corbusierischen Gedankens, durch den Bau ging, da stellte ich zuerst diese Frage. Ich bekam zur Antwort, dass die Banken aus Gründen einer gesicherteren Finanzierung darauf drangen, dass nur ein Teil der Wohnungen zweistöckigen Wohntyp vorzogen. Le Corbusier konnte zwar nicht, wie er es ursprünglich gedacht hatte, einen Teil des Hauses in offene Lufträume (Gärten) auflösen, aber der Anblick des Ganzen, mit seiner kühnen Verwendung durchgehender Glaswände und seinen ganz neu kombinierbaren Menschen eine Freiheit, an die er bis jetzt nicht gewohnt war.

Es handelt sich um einen geschweißten Eisenskelettbau (wie in Itten und Steiger in einem Montana-Sanatorium verwendeten). Seine Möglichkeiten werden voll ausgenützt. Vom Einzimmertyp bis zu Wohnungen von neun Zimmern, deren Mittelraum die ganze Tiefe des Blocks umsaßt (15 Meter) und

– gegen die Front – 5,5 Meter lichter Höhe aufweist, gibt das Innere des Baus verschiedenartigste Wohnmöglichkeiten. Diese Möglichkeiten kann unsere Phantasie heute vielleicht noch gar nicht voll ausnützen. Es ist Luft und Beschwingtheit im ganzen Haus, wie sie dem Mietsblock sonst wesensfremd ist. Denn auf dem Gebiet der Architektur gibt es keinen starreren Typ wie das Mietshaus. Hier wird diesem starren Typ eine ganz neue Beweglichkeit eingeflösst, die für seine spätere Entwicklung entscheidend sein dürfte.

APPENDIX C

Siegfried Giedion, „Walter Gropius“, (*Neue Zürcher Zeitung,* 19 May 1933)

Geschichte bilden diejenigen Erscheinungen, die durch die Entwicklung nachträglich bestätigt werden. Es mag unentschieden bleiben, ob vorausahnende Taten die Entwicklung formen oder nur Wegzeichen sind, die erst später in ihrer Bedeutung voll erkannt werden. Sie sind es jedenfalls, die die Tradition bilden, an der wir Späteren Halt finden.

Walter Gropius, der am 18. Mai 1933 fünfzig Jahre alt wurde, gehört zu den wenigen Architekten – sie sind an den Fingern einer Hand abzuzählen – die das Gesicht unserer Zeit unbestimmt haben.

Der erste größere Bau von Walter Gropius, die Fagus-Werke bei Hannover, die der 26jährige Architekt errichtete, wirken innerhalb der damaligen deutschen Entwicklung mit ihrer Betonung des Monumental-Zyklopenhaften heute noch wie ein Wunder. Die neuen Möglichkeiten von Eisen, Glas und Beton, die organische Auflichtung des Innern scheint uns hier von Architektenhand zum erstenmal bewusst gewählt.

1914, auf der Kölner Werkbund-Ausstellung, errichtet Gropius jenes Bureauhaus mit den berühmten gläsernen Treppenhäusern an der Außenseite, die Jahrzehnte später architektonisches Allgemeingut wurden (Treppenhaus der Zürcher Neuen Börse). Das Dach dieses Bureauhauses bildete einen bedeckten Garten, einen Dachgarten, der als Tanzplatz Verwendung fand. Das sind nicht Einzelheiten, die durch Zufall entstehen, sondern – wie das gesamte Werk von Gropius – Vorausahnung kommender Entwicklungsmöglichkeiten.

Dann macht der Krieg einen Strich unter die Entwicklung von Gropius. Vier Jahre lang dient er als Offizier an der Front. 1919 gründet er das Bauhaus in Weimar. Man hat die Funktion des Bauhauses vielfach bis heute missverstanden, sein eigentlicher Sinn war, die neuen künstlerischen Möglichkeiten aus den Ateliers der Maler oder Architekten direkt ins Leben, in den Nachwuchs zu verpflanzen. Wenn die Pariser Ecole Polytechnique von 1797 es als ihre Aufgabe ausfasste, Wissenschaft und Leben direkt miteinander zu verbinden, so wollte das Bauhaus unter der Leitung von Walter Gropius die Kunst mit dem Leben vereinigen und die Architektur als eigentliches Bindeglied dazwischen einschalten. Man hat oft über die Materialstudien des Bauhauses gelacht, die den Schüler unmittelbar zum Wesen der verschiedenen Stoffe führen sollten und doch lag ihnen der gleiche Sinn zugrunde, der im Werk eines Picasso oder Braque verborgen liegt. In Deutschland selbst haben nur wenige die Bedeutung des Bauhauses erkannt. Man war erstaunt, als 1930 auf der Deutschen Werkbund-Ausstellung in Paris, die im Grunde nichts war als eine letzte Manifestation des alten Bauhauses unter Walter Gropius und seinem Kreis, auch die deutschfeindlichste Presse in diesen einfachen Räumen das Symbol eines neuen sportfreudigen Geschlechtes sah.

Die Arbeit des Bauhauses wird erst jetzt voll einschätzbar. Alle lebendigen Ansätze auf dem Gebiet der künstlerischen Schulung, gleichgültig, ob sie in Amerika, in Spanien, in Algier zutage treten, gehen auf die Grundsätze zurück, die das Bauhaus zum erstenmal pädagogisch verwirklicht hat.

Mit dem pädagogischen Wirken von Walter Gropius bleibt auch sein bekanntester Bau verbunden: das Bauhaus von Dessau (1926), Architektonisch bildet es die Weiterführung der Fagus-Werke und des Bureauhauses auf der Kölner Werkbund-Ausstellung. Man hat viel über die gläserne Wand des Werkstättengebäudes des Dessauer Bauhauses geschimpft. Heute zeigt es sich, dass dieser Bau in einer großen Tradition steht. Nach rückwärts, im 19. Jahrhundert, ist er mit den Ausstellungshallen eines Eiffel verbunden und nach

vorwärts mit der amerikanischen Entwicklung und mit der achtstöckigen fensterlosen Glaswand der Armée du Salut (Heilsarmee), die Le Corbusier jetzt in Paris vollendet. Dazugekommen ist heute nur die größere technische Vollkommenheit. Wir haben es heute in der Hand, durch bestimmte amerikanische Ventilationssysteme von außen unabhängig zu werden und Temperatur und Feuchtigkeit so zu regeln, wie es uns zuträglich erscheint. Der Griff aber, den Gropius im Bauhaus tat, war trotz der damaligen Beschränktheit in technischen Mitteln befreiend und wegbahnend.

1928 trat Walter Gropius von der Leitung des Bauhauses zurück und zog nach Berlin. Er hat einige Siedlungen gebaut und hat eine menschliche Form für das Wohnhaus von 14 Stockwerfen gefunden, die erst dann in ihrer Bedeutung richtig erkannt werden wird, wenn jedermann es satt hat, zwischen engen Strassen zu wohnen. Jene große Berliner Siedlung, in der diese Wohnform durchgeführt werden sollte, wurde nachträglich von einer Genossenschaft ohne Rücksicht auf das ursprüngliche Projekt ausgeführt.

Man hat in Deutschland zwischen 1926 und 1930 viel gebaut und viel Pseudo-Modernes. In dieser Zeit gesteigerter Bautätigkeit saß Gropius allein in Berlin, ohne dass man ihm eine Aufgabe übergeben hätte, die seinen Möglichkeiten entspräche. Es ist in allen Ländern so, dass die eigentlich führenden Architekten verhältnismäßig wenig praktische Auswirkung haben.

So allgemein gültig auch das Werk von Walter Gropius ist, es bleibt doch in der deutschen Entwicklung verankert. Er selbst gehört einer alten Berliner Architektenfamilie an, deren Werke die Historiker seit dem Beginn des 19. Jahrhunderts kennen. Es besteht kein Zweifel darüber, dass in ihm gewisse Elemente Gills und Schinkels wiederkehren. Aber er blieb nicht in der Vergangenheit stecken. Er schuf aus der ihm gegebenen Grundlage die Möglichkeiten für eine neue Zeit.

APPENDIX D

Sigfried Giedion, „Leben und Bauen“, (Neue Zürcher Zeitung, 24 June 1934)

Je mehr die augenblickliche Entwicklungsphase denjenigen recht zu geben scheint, die behaupten, dass wir uns in einer Zeit des Chaos befänden, in der ganz deutlich der einen Tag niederträte, was der vorangegangene geboren habe, um so eindeutiger möchten wir betonen: Wir stehen in der Anfangsperiode einer Entwicklung auf lange Sicht!

Diese Phase beginnt im späten 18. Jahrhundert. In einer früher völlig undenkbar gewesenen Eindringlichkeit begann damals die Wissenschaft die Natur anzupacken und komplexe Vorgänge in ihre Elemente zu zerlegen. Früher waren Feuer, Luft und Wasser Elemente. Nun erkennt Lavoisier in dem roten Häutchen, das sich beim Quecksilber bei Erhitzung bildete, den Sinn des Verbrennungsprozesses und mit ihm die Zusammensetzung der Luft.

Das aggressive Zerspalten der gegebenen Natur in Elemente und Kräfte führt zu einer neuen Art der Dienstbarmachung früher ungreifbar gewesener Vorgänge. Die Laboratorien jener Zeit, die den Einblick in das Wesen chemischer und physikalischer Vorgänge gewährten, bilden ebenso die selbstverständliche Vorbedingung für die spätere Industriebildung, wie die Denker des 18. Jahrhunderts die Voraussetzung für die Französische Revolution darstellen.

Liest man die Quellenschriften aus der ersten Hälfte des 19. Jahrhunderts, so spürt man, wie die Zeitgenossen fast geblendet waren von der Fülle neuentdeckter Zusammenhänge und ihren Perspektiven. Diese Industriebildung hat die Wirtschaft und mehr noch – unsere menschliche Basis – erschüttert und durcheinandergebracht. Von Anfang an bis heut. Wie war das möglich?

Es zeigt sich immer deutlicher, dass das fragile, organische Geschöpf, das man Mensch nennt, wahrscheinlich mehr als wir heute wissen, primitiven Gesetzen folgen muss, die sich nur wenig verändern. Dieses Geschöpf erfindet und erdenkt Dinge. Diese Dinge, die doch von ihm ausgehen, lösen sich von ihm, werden selbständig und bedrohen oder steigern in ihrer Auswirkung seine Existenz.

Das Gleichgewicht – oder wenn man will, das innere Ausgeglichensein, das ein Leben erst sinnvoll macht, hängt nicht von der Zahl der Erfindungen oder der Höhe der Produktionsziffern ab, sondern von der Fähigkeit, das Erfundene und das Produzierte gefühlsmäßig, wirtschaftlich und politisch zu absorbieren. Dieses Nicht-Fertigwerden mit der Realität, die wir selbst geboren haben, diese mangelnde Fähigkeit, mit dem Herzen zu verarbeiten, was das Gehirn geschaffen hat, ist das schlimmste Übel, das seit mehr als hundert Jahren – also seit der Zeit der Industriebildung – einmal schwächer und einmal fast bis zur Lebensabwürgung sich fühlbar macht.

*

Sieht man von unserer Nahperspektive aus, so scheint es, als hätte keine Zeit zuvor so rasch und so viel produziert wie die unsere. Aber man hüte sich, eine rasche Tourenzahl mit der wirklichen Kraftleistung zu identifizieren. Selbstverständlich wird jeder von uns den Sorgen und auch von den Fortschritten unserer Zeit betäubt und verliert leicht die Perspektive: denn es ist unser Schicksal, um das es geht, und dieses Schicksal erlebt man nur einmal. Durch diese Blendung hindurch aber kann der Historiker nur feststellen: die Geschichte braucht heute ebenso lange wie in frühern Epochen, um für das Leben und die neu hinzukommenden Bedingungen einen annähernden Ausgleich zu finden. Nicht der Mangel an Erfindung drückt uns heute, sondern die mangelnde Fähigkeit, das Erfundene und das Produzierte gefühlsmäßig zu absorbieren.

Von diesem Standpunkte aus erstaunt uns z. B. an den Griechen des 5. Jahrhunderts weniger die ungeheure Erkenntnismenge, die sie produzierten, als die Raschheit, mit der sie sie gefühlsmäßig mit dem Niveau ihrer Gesamtkultur zu verschmelzen wussten.

*

Es ist selbstverständlich, dass eine künstliche Erdrosselung der Industrie, das heißt eine willkürliche Vereinfachung unseres Lebens und eine künstliche Rückkehr zu Produktionsweisen und Lebensformen früherer Epochen, am Ende nur einen lächerlichen Ausgang haben kann. Nicht die Abdrosselung, sondern die Regulierung des Maschinellen ist das Ziel. Und darüber hinaus die Schaffung einer Lebensform, die die zur Verfügung stehenden Möglichkeiten ins Positive umwertet. Unser Mangel an geschichtsbildender Kraft zeigt sich darin, dass man seit mehr als einem Jahrhundert vergeblich versucht, eine Lebensform zu schaffen, die diesen innern Ausgleich zustande brächte. Ehe nicht – im weitesten Sinne – eine Lebensform verwirklicht wird, die die uns zur Verfügung stehenden Möglichkeiten so zu verwerten weiß, dass sie anstatt Krisen Steigerungen hervorbringen, so lange wird keine Ruhe sein, so lange werden wir nicht Herr unserer selbst sein!

*

Die Architektur steht an einem merkwürdigen Kreuzungspunkt. Immer wieder ist sie seit Beginn dieses Jahrhunderts aus ihrem fachumgrenzten Kreis mit dem Anspruch auf Allgemeininteresse herausgetreten. Wie ist dies zu erklären?

Die Architektur hat in den letzten Jahrzehnten in mancher Beziehung eine wegweisende Funktion, da sie intensiv darum bemüht war, die neuen Möglichkeiten, die die Ingenieure neutral zur Verfügung stellten, menschlich umzuwerten. Erst die Architekten entdeckten z. B. im Skelettbau aus Eisen oder Eisenbeton – also aus scheinbar neutralen Konstruktionsprinzipien – erstaunliche Übereinstimmungen mit Bedürfnissen, die im heutigen Menschen schlummerten. Sie vollzogen jene Umwertung und Auswertung ins Gefühlsmäßige, in die menschliche Beziehung, die auch in allen andern

Gebieten erfolgen sollte. Sie entdeckten, dass diese neuen Konstruktionsprinzipien besser als die vorhandenen Bauweisen dafür geschaffen waren, den intensiven Bedürfnissen nach Licht, Luft, Öffnung und freiem Grundriss entgegenkamen und – sie verfügten über die Kraft, die Erkenntnis in Tat umzusetzen.

*

Wann geschah dies?

In der letzten Entwicklung zeichnen sich vorläufig vier Stufen ab. Bekanntlich haben während des ganzen vorigen Jahrhunderts immer wieder Vorausblickende darauf hingewiesen, wie selbständig unsere technische und industrielle Entwicklung im Gegensatz zur haltlos gewordenen privaten Lebensform war; davon, sowie von den englischen Bestrebungen eines William Morris – seit den sechziger Jahren des vergangenen Jahrhunderts – sehen wir ab.

Praktisch ging man vom Wohnproblem auf Grund der neuaufgekommenen Möglichkeiten erst in der Zeit des beginnenden 20. Jahrhunderts aus: Frank Lloyd Wright in Amerika, die Brüder Perret in Paris oder Toni Garnier in Lyon. Die Geschichte wird es Toni Garnier nicht vergessen, mit welcher Visionskraft er um 1900 als Schüler der Academie Medici in Rom in seinem großen Werk, der „Cité Industrielle“, die Möglichkeiten, die im Eisenbeton verborgen lagen, für das private Leben umwertete. In ihrer architektonischen Ausdrucksweise aber waren diese Vertreter noch unfrei und innerlich von klassischen oder romantischen Formelementen abhängig. Dies war die erste Stufe.

Die Zweite Stufe, die das Vokabular schuf, das heute allen selbstverständlich ist, vollzog die eigentliche Umwertung. Diese Umwertung geschah im engen Zusammenhang mit der Schaffung einer neuen Konzeption. Die Malerei – seit dem Kubismus – schuf die Vorbedingungen dafür. Nun erst fand man den Mut

und auch die Kraft, die Konsequenz auch in der architektonischen Ausdrucksweise für die spätere Entwicklung. Sie kann umschrieben werden mit Le Corbusier, Walter Gropius, J. P. Oud u. a., ohne dass ein schematischer Schnitt möglich wäre.

Die dritte stufe vollzog die Reinigung und betonte – wie dies der Holländer Oud schon von Anfang angetan hatte – im Wohnproblem stark die soziale Seite. Ihren Vertreten war es darum zu tun, die Bauprobleme zu differenzieren und klar zu stellen. Diese Reinigungsaktion kam in einer scharfen Abwehrstellung gegen Mitläufer und Pseudomoderne zum Ausdruck, denn nichts ist gefährlicher, als zur Zeit der Entwicklung, während der alles in Fluss ist, unschöpferische Naturen entscheidend mitsprechen zu lassen. Das ästhetische Problem, das unter falschen Voraussetzungen so oft die saubere Lösung einer Aufgabe verunmöglichte, wurde gleichfalls bewusst lastgestellt.

Uns will scheinen, als ob die wirklichen Wortführer dieser sozialen und puritanischen Einstellung bei den Holländern (z. B. Mart Stam) und den Schweizern (z. B. Hans Schmidt) zu suchen find. Als wir 1928 im Schloss von La Sarraz unsere Thesen für die Gründung der Kongresse ausstellten, gab das Aufeinandertreffen der zweiten und dritten Stufe gerade die gesunde Reibung, um sie lebendig zu machen.

Und schließlich die vierte Stufe, die Zeit, in der wir uns befinden. Die Bewegung fließt ins Breite und mündet immer mehr in die städtebaulichen Grundfragen und die Landesplanung, ohne deren Klärung keine Entwicklung mehr möglich erscheint. Die Bewegung fließt ins Breite. Die Kampfstellung kann fallen gelassen werden, denn es besteht keine Gefahr mehr, dass die Ziele verunklärt werden könnten.

Die Bewegung ist auf lange Sicht eingestellt. Wenn heute leider zwei wichtige Länder wie Deutschland und Russland aus verschiedenen Gründen sich von ihr

abwenden, so wird zur gleichen Zeit doch das ganze Mittelmeerbecken lebendig (Italien, Spanien, Algier, Griechenland), aber auch Frankreich und darüber hinaus England, Amerika und die Nordländer.

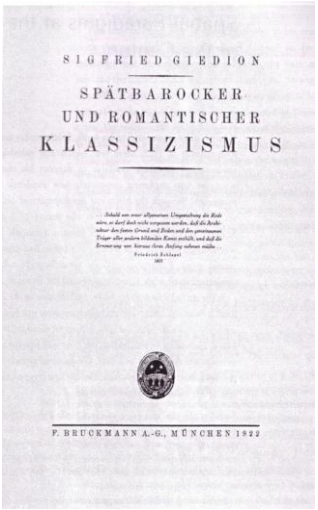
Heute, da keine Gefahr innerer Erschütterung mehr besteht, werden die Einbeziehung der Vergangenheit, der Ästhetik, um die man so gebangt hatte, ja sogar die Aufgaben der staatlichen Repräsentation wieder lebendig. Alle diese Dinge haben volle Lebensberechtigung und dürfen nicht vernachlässigt werden von einer im Lebensganzen verankerten Architektur. Aber es braucht wohl nicht betont zu werden, dass unser Verhältnis zu diesen Dingen einer neuen Sensibilität folgt, die sich, gegenüber früher, in vielen Punkten radikal geändert hat. Eine Bewegung kann erst dann sich mit allen Fragen auseinandersetzen, wenn die Gesetze ihres Handelns geklärt sind und keine Gefahr mehr besteht, durch zu frühes Inangriffnehmen komplizierter Aufgaben unzulängliche oder klischeehafte (unehrliche) Lösungen hervorzurufen.

APPNDIX E

FIGURES

Source: Georgiadis, Sokratis, "Introduction" in *Building in France, Building in Iron, Building in Ferroconcrete*, Sigfried Giedion (Santa Monica, CA:The Getty Center for the History of Art and the Humanities, 1995 [1928])

Figure 1. Sigfried Giedion



Source: Georgiadis, Sokratis. *Sigfried Giedion: An Intellectual Biography*. (Edinburg: Edinburg University Press Ltd, 1993)

Figure 2. Sigfried Giedion. *Spätbarocker und romantischer Klassizismus.* (Munich, 1922). Titlepage

Source: www.artsparx.com/bauhausstyle.asp

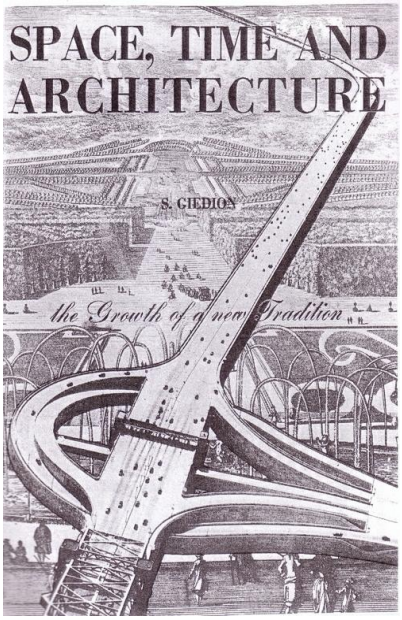
Figure 3. Poster of Bauhaus Week by Oskar Schlemmer

Source: http://www.retropolis.net/exposition/postwarparis.html

Figure 4. Promotional Poster of *exposition internationale des arts Decoratifs et industriels modernes* (*Esprit Nouveau* Exhibition) in Paris, 1925 by Robert Bonfils.

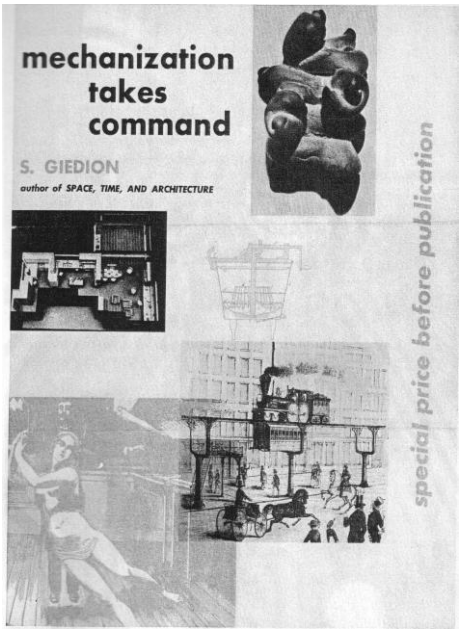
Source: Georgiadis, Sokratis. *Sigfried Giedion: An Intellectual Biography.* (Edinburg: Edinburg University Press Ltd, 1993)

Figure 5. Sigfried Giedion. *Bauen in Frankreich – Bauen in Eisen – Bauen in Eisenbeton.* (Berlin: Klinkhardt & Biermann, 1928) Bookjacket



Source: Georgiadis, Sokratis. *Sigfried Giedion: An Intellectual Biography.* (Edinburg: Edinburg University Press Ltd, 1993)

Figure 6. Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1941) Prospectus for the first American edition



Source: Georgiadis, Sokratis. *Sigfried Giedion: An Intellectual Biography.* (Edinburg: Edinburg University Press Ltd, 1993)

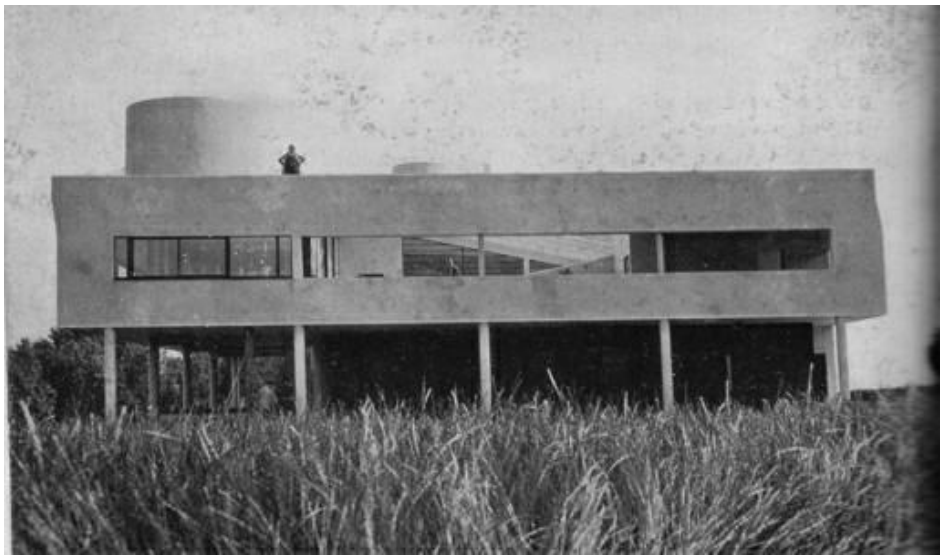
Figure 7. Sigfried Giedion. *Mechanization Takes Command: A Contribution to Anonymous History,* (New York: Oxford University Press, 1948) Prospectus

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 8. Bauhaus, Walter Gropius. Dessau, 1926.

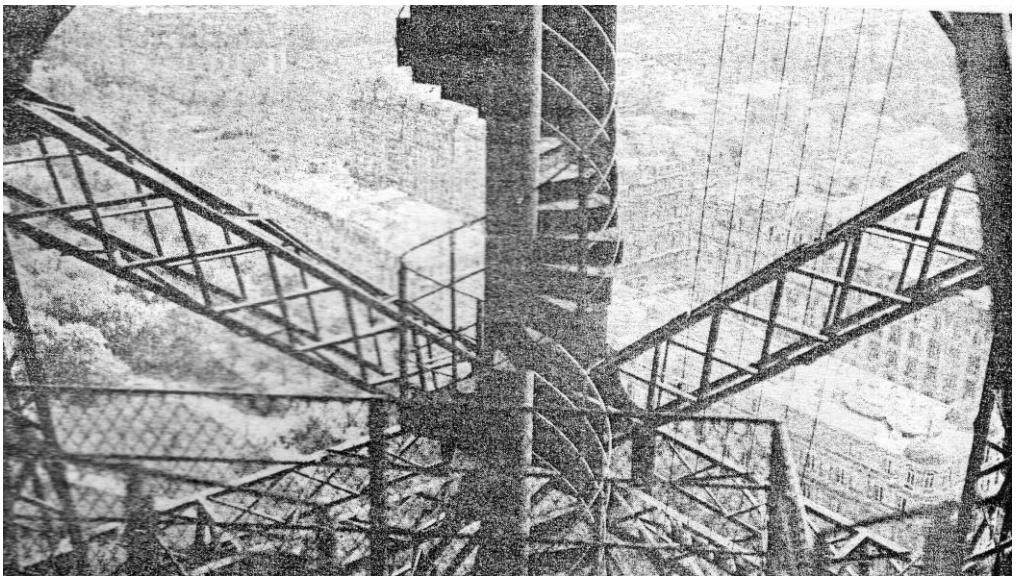
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 9. Fagus Factory, Walter Gropius. Alfeld on the Leine, 1911



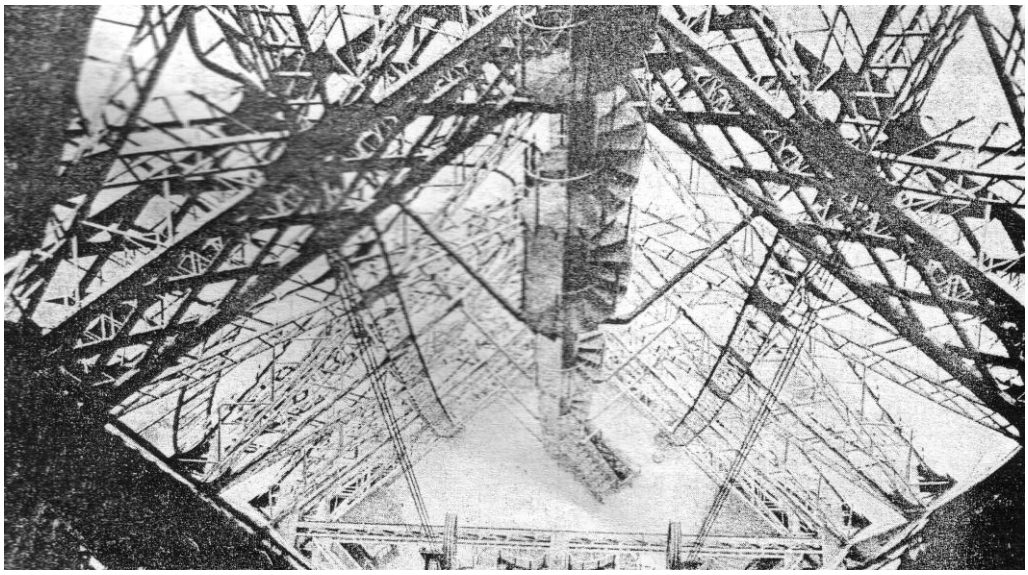
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 10. Villa Savoye, Le Corbusier. Poissy, 1928-30



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 11. Eiffel Tower, Gustave Eiffel. Paris, 1889.



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 12. Eiffel Tower, Gustave Eiffel. Paris, 1889.

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

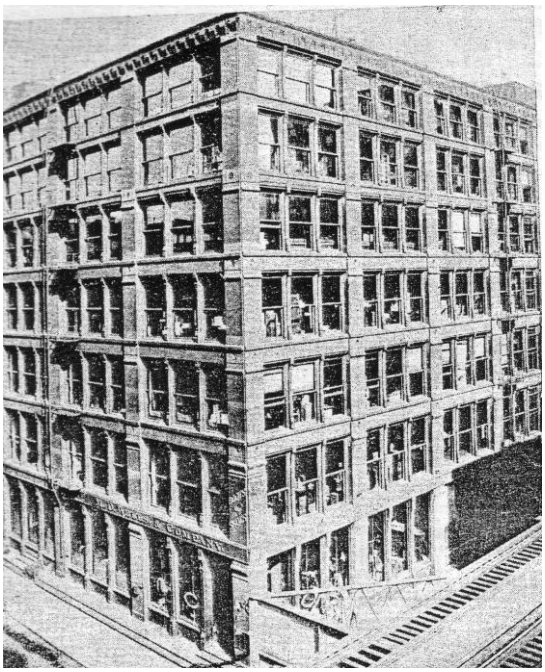
Figure 13. Pont Transbordeur (Ferry Bridge), Ferdinand Arnodin. Marseilles, 1905

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 14. Fresco of the Trinity, Masaccio. Santa Maria Novella, Florence, 1425.

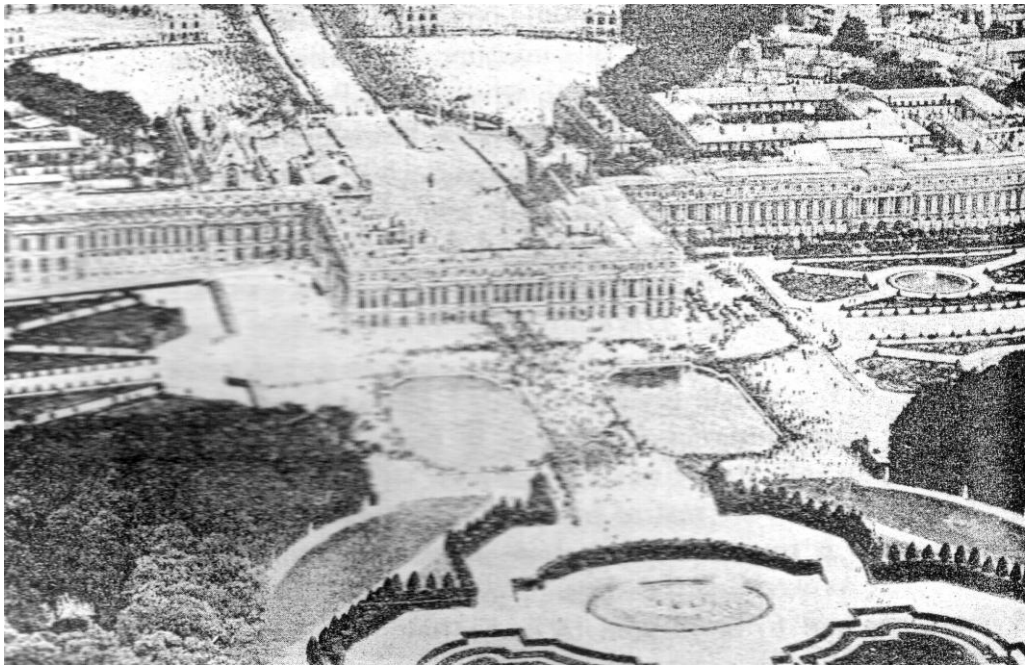
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 15. San Carlo alle Quattro Fontane, Francesco Borromini. Rome, 1662-67.



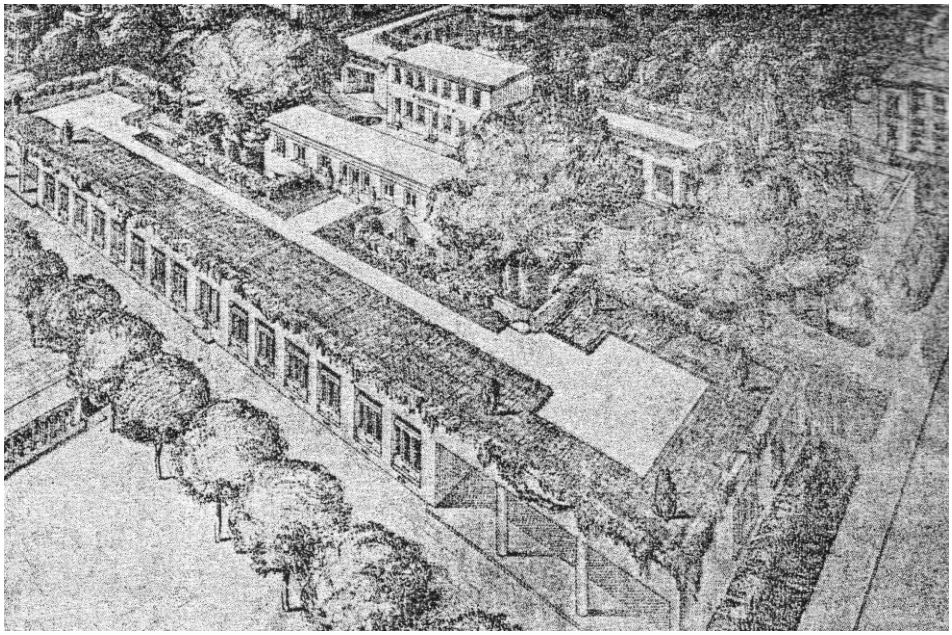
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 16. First Leiter Building, William Le Baron Jenney. Chicago, 1879.



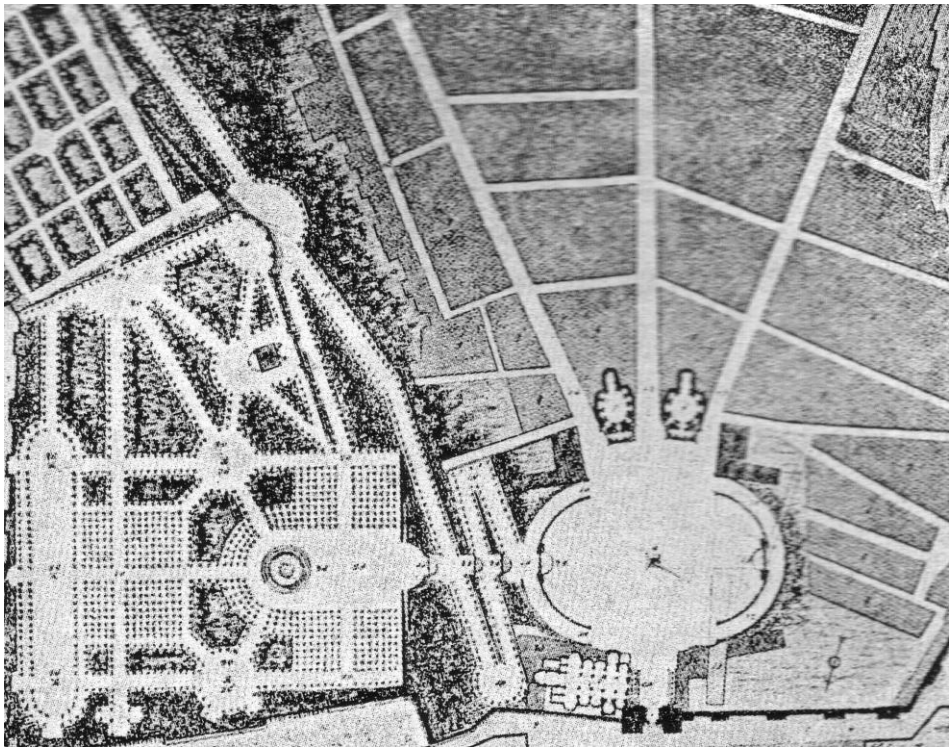
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 17 Versailles Palace, Louis Le Vau and Jules Hardouin-Mansard. Paris, 1661-1708.



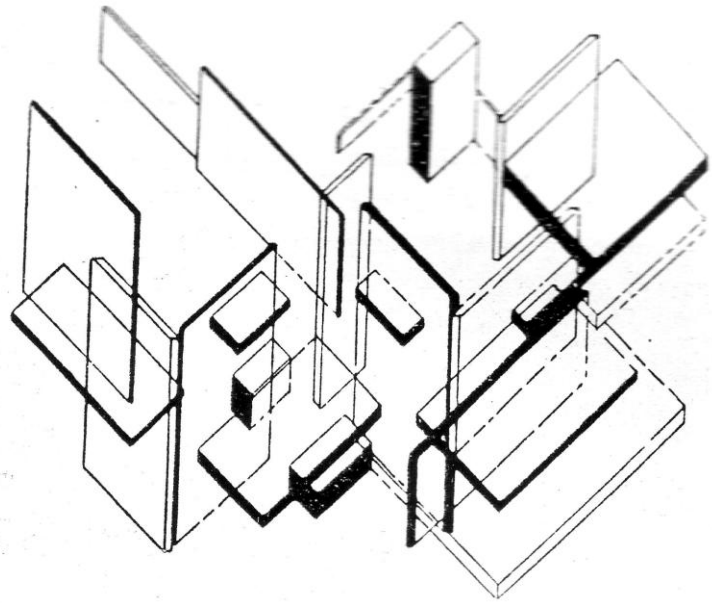
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 18. Cité Industrielle, Tony Garnier. A City Project, 1901-04.



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 19. Piazza Del Popolo, Giuseppe Valadier. Rome, 1816.



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

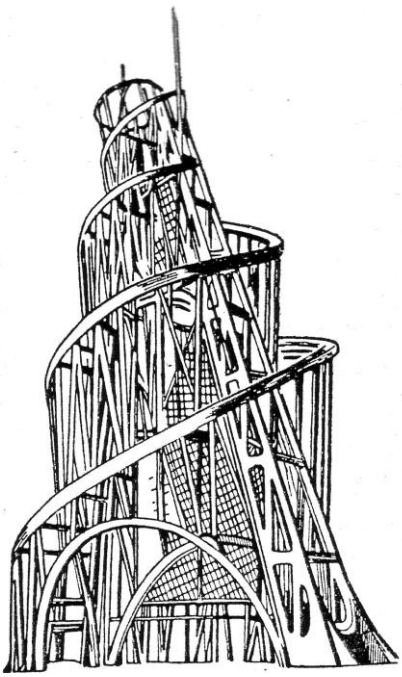
Figure 20. Drawing, Theo van Doesburg. 1920.

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 21. Lantern of Sant' Ivo, Francesco Borromini. Rome, 1642-62.

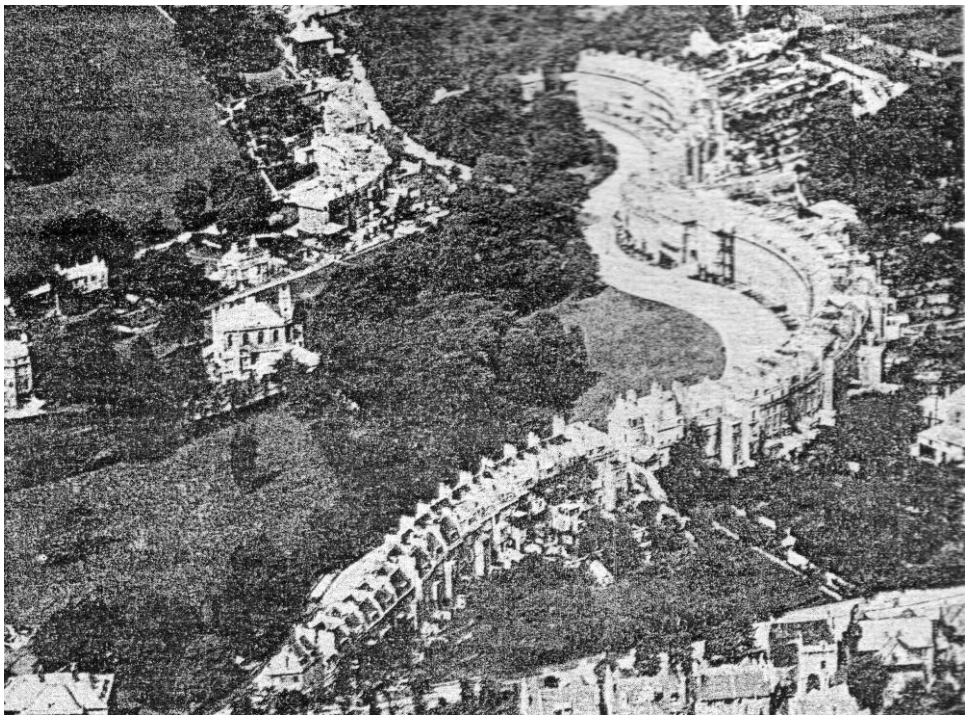
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 22. Head sculpture, Picasso. 1910.



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 23. Project for a monument, Vladimir Tatlin. Moscow, 1920.



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 24. Lansdowne Crescent, architect unknown. Bath, 1794.

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 25. Scheme for skyscrapers, Le Corbusier. Algiers, 1931.

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

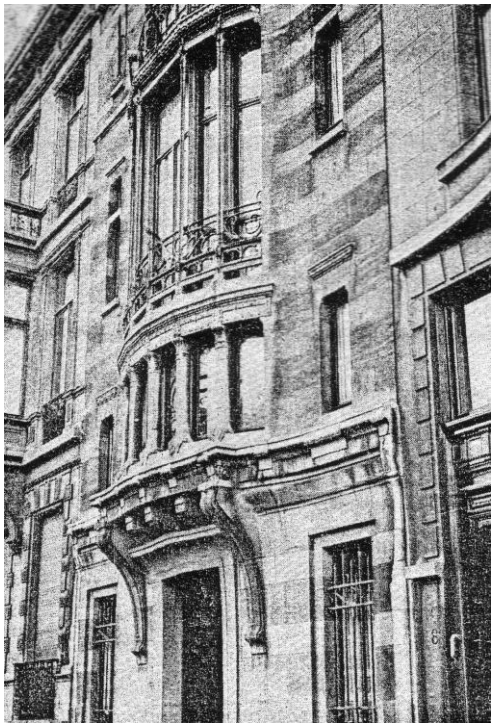
Figure 26. Project for Chicago Tribune Tower, Walter Gropius. 1923.

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 27. Reliance Building, Daniel Burnham. Chicago, 1894.

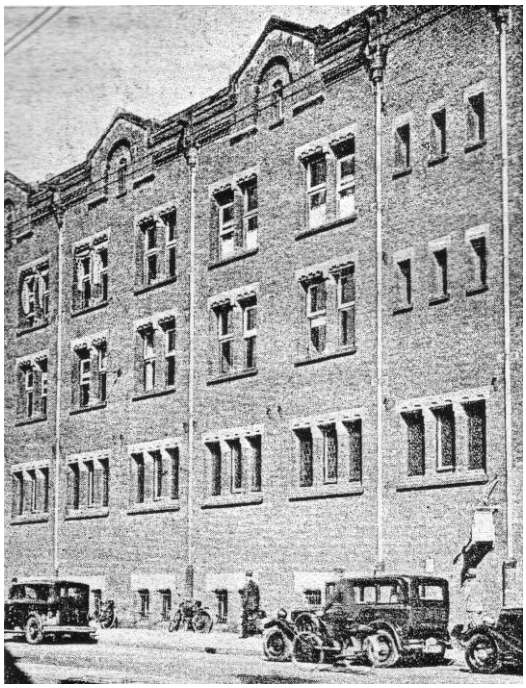
Source: http://media-2.web.britannica.com/eb-media/35/13735-004-3355189D.jpg

Figure 28. Red House, William Morris. Kent, 1859



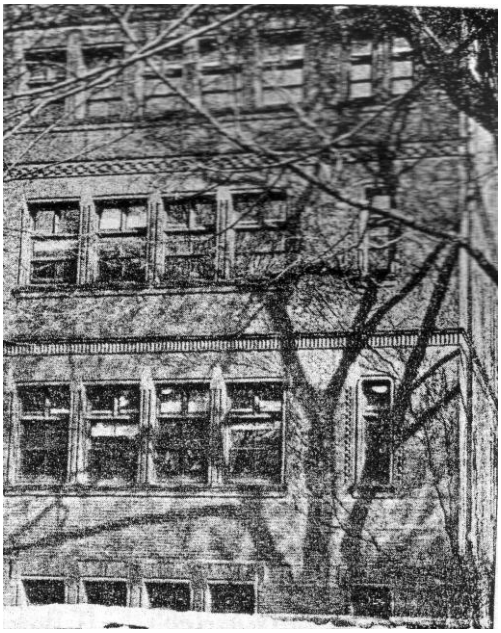
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 29. House at Rue de Turin, Victor Horta. Brussels, 1893.



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 30. Stock Exchange Building, H.P. Berlage. Amsterdam, 1898-1903.

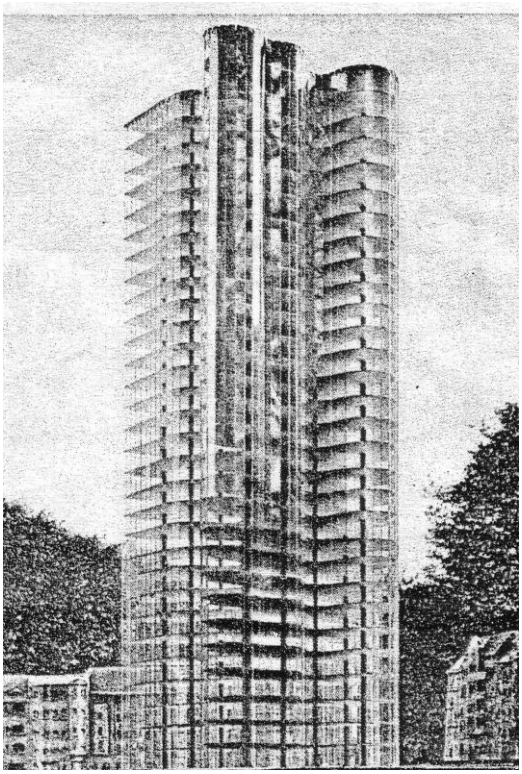


Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 31. Sever Hall, H.H. Richardson. Harvard University, Cambridge, 1878.

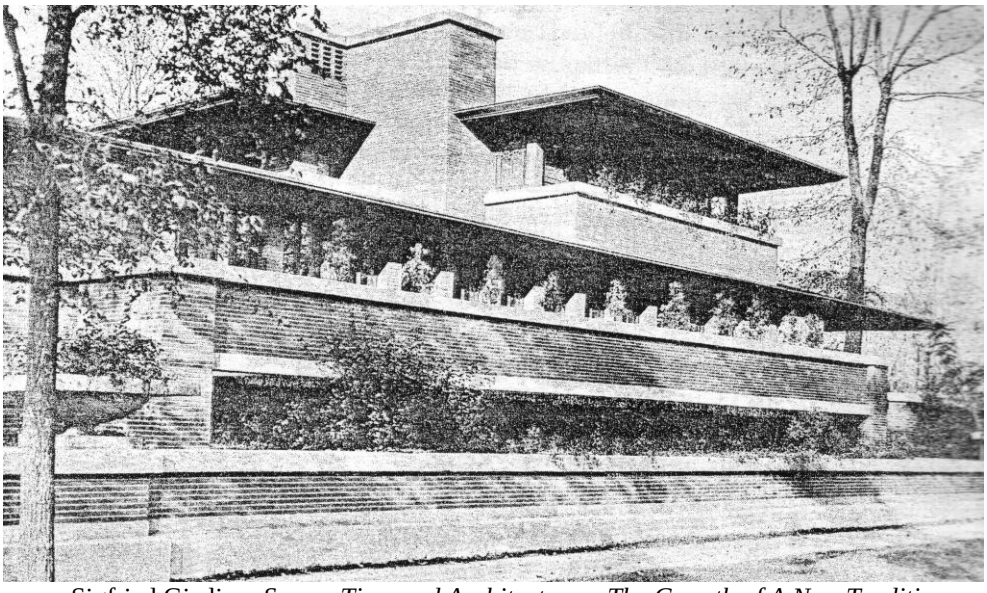
Source: http://www.galinsky.com/buildings/clarte/index.htm

.Figure 32. Maison de Verre, Le Corbusier. Geneva, 1932.



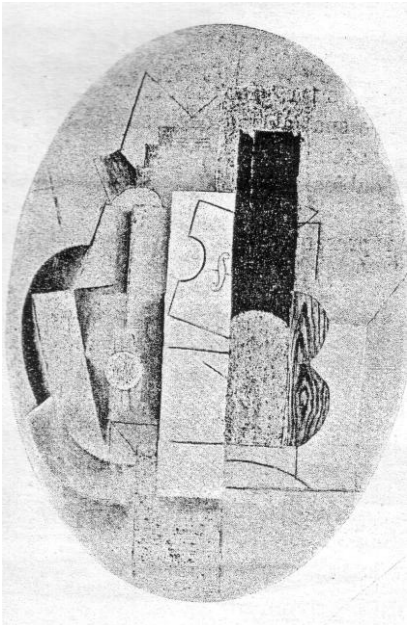
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 33. Project for a glass tower, Mies van der Rohe. 1921.



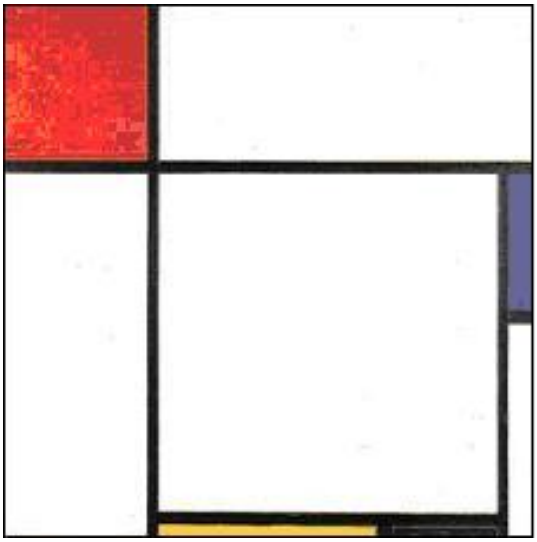
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 34. Robie House, Frank Lloyd Wright. Chicago, 1908.



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 35 Still life, Picasso. 1914.



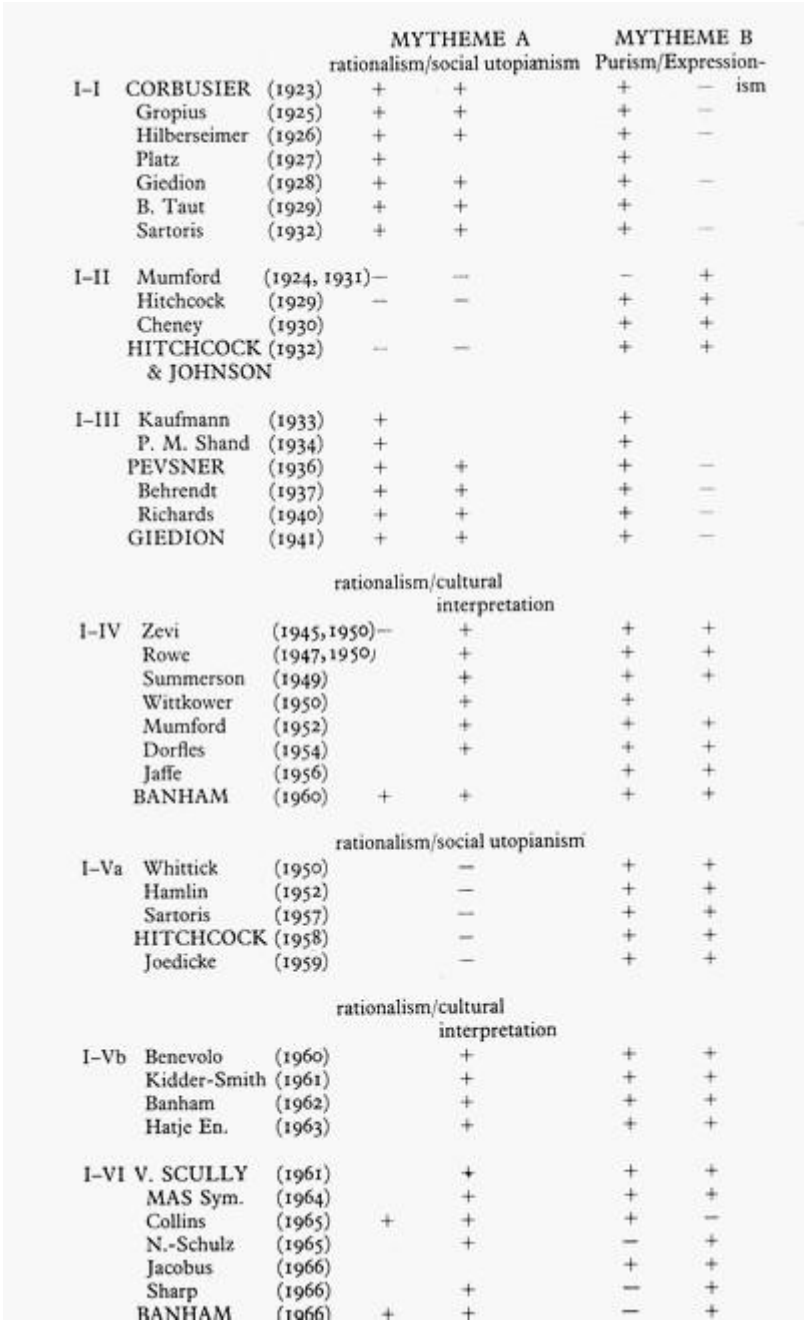
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press, 1954 [1941])

Figure 36 Composition, Piet Mondrian.

Main Explanatory Variable	*Key Assumptions about Architecture*	*Argument*	*Relevant Authors*
Industrialization	Architecture is shaped by material and intellectual conditions.	Modernism in architecture was a response to the machine age, to industrialization, enabled by new techniques and materials (glass, steel, cement), and inspired by romanticism and rationalism.	Hitchcock and Johnson [1932] 1995; Pevsner [1936] 1960; Giedion [1941] 1982; [1948] 1969; Hitchcock [1958] 1971; Tafuri 1976; Frampton [1980] 1992.
			Emphasis on intellectual conditions: Scully [1961] 1974; Collins [1965] 1998; Zevi [1973] 1994; Banham [1960] 1980.
Sociopolitical upheaval	Architecture responds to social and political conditions. Architectural discontinuities occur during periods of intense social and political change.	Modernism in architecture emerged in the wake of industrialization out of a concern for social reform, and benefited from revolutionary politics.	Jencks 1973; Benevolo [1960] 1977; Lodder 1983; Bowler 1991; Bozdoğan 2001.
Class dynamics (rise of the worker-consumer & mass consumption)	Architecture and design are shaped by the tastes and preferences of those who use it and/or pay for it.	Only with a belated rise of the new class of worker-consumers did an autonomous modernist architecture emerge.	Bourdieu 1984, 1996; Adorno 1994, 1997; Gartman 2000.
New sponsors (industrial firms & the state)	Architecture and design are shaped by the tastes and preferences of those who commission it or pay for it (though not necessarily use it).	Modernist architecture emerged only when industrial and state sponsorship made it autonomous from the upper class and from the market.	Campbell 1978; Lane 1985; DiMaggio 1991; Nolan 1994.
Professionalization of architecture linked to engineering	Architecture in the contemporary world is shaped by the way in which it has become a professional activity based on a body of abstract knowledge.	Modernism in architecture emerged and flourished when the engineering model influenced the education and professionalization of architects.	Kadushin 1976; Guillén 1997; Pfammatter 2000.

Source : Guillâen, Mauro F. *The Taylorized beauty of the mechanical: scientific management and the rise of modernist architecture*. (Princeton: Princeton University Press, 2006).

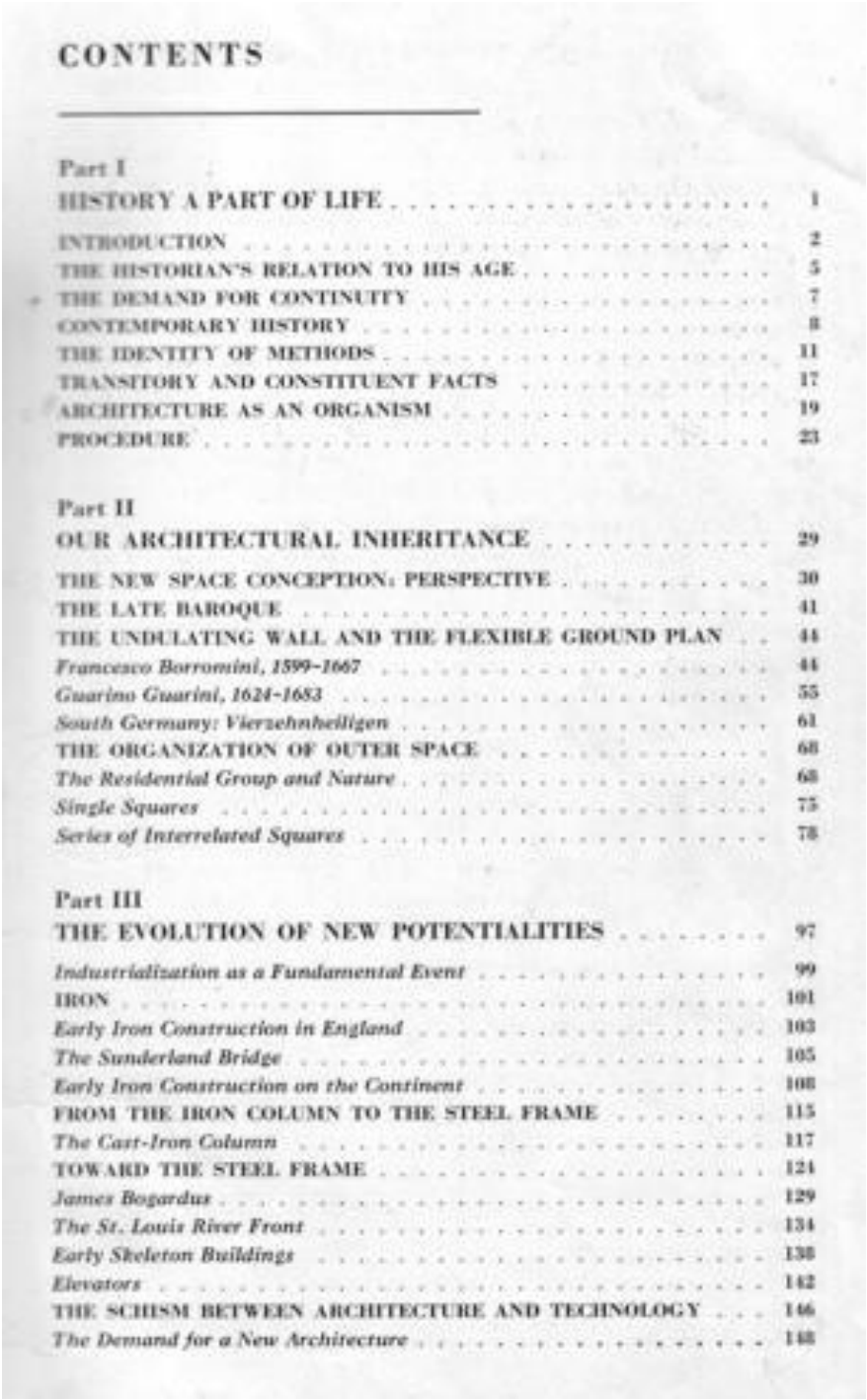
Figure 37. Table of *Explanations for the Rise of Machine-Age Modernism in Architecture*, Mauro F. Guillâen.



			MYTHEME A		MYTHEME B	
			rationalism/social utopianism		Purism/Expression-	
I–I	CORBUSIER	(1923)	+	+	+	– ism
	Gropius	(1925)	+	+	+	–
	Hilberseimer	(1926)	+	+	+	–
	Platz	(1927)	+		+	
	Giedion	(1928)	+	+	+	–
	B. Taut	(1929)	+	+	+	
	Sartoris	(1932)	+	+	+	–
I–II	Mumford	(1924, 1931)	–	–	–	+
	Hitchcock	(1929)	–	–	+	+
	Cheney	(1930)			+	+
	HITCHCOCK & JOHNSON	(1932)	–	–	+	+
I–III	Kaufmann	(1933)	+		+	
	P. M. Shand	(1934)	+		+	
	PEVSNER	(1936)	+	+	+	–
	Behrendt	(1937)	+	+	+	–
	Richards	(1940)	+	+	+	–
	GIEDION	(1941)	+	+	+	–
			rationalism/cultural interpretation			
I–IV	Zevi	(1945, 1950)	–	+	+	+
	Rowe	(1947, 1950)		+	+	+
	Summerson	(1949)		+	+	+
	Wittkower	(1950)		+	+	
	Mumford	(1952)		+	+	+
	Dorfles	(1954)		+	+	+
	Jaffe	(1956)			+	+
	BANHAM	(1960)	+	+	+	+
			rationalism/social utopianism			
I–Va	Whittick	(1950)		–	+	+
	Hamlin	(1952)		–	+	+
	Sartoris	(1957)		–	+	+
	HITCHCOCK	(1958)		–	+	+
	Joedicke	(1959)		–	+	+
			rationalism/cultural interpretation			
I–Vb	Benevolo	(1960)		+	+	+
	Kidder-Smith	(1961)		+	+	+
	Banham	(1962)		+	+	+
	Hatje En.	(1963)		+	+	+
I–VI	V. SCULLY	(1961)		+	+	+
	MAS Sym.	(1964)		+	+	+
	Collins	(1965)	+	+	+	–
	N.-Schulz	(1965)		+	–	+
	Jacobus	(1966)			+	+
	Sharp	(1966)		+	–	+
	BANHAM	(1966)	+	+	–	+

Source: Jencks, Charles. "History As Myth" in Jencks, Charles and Baird, George. *Meaning in Architecture*. (New York: George Braziller, 1969)

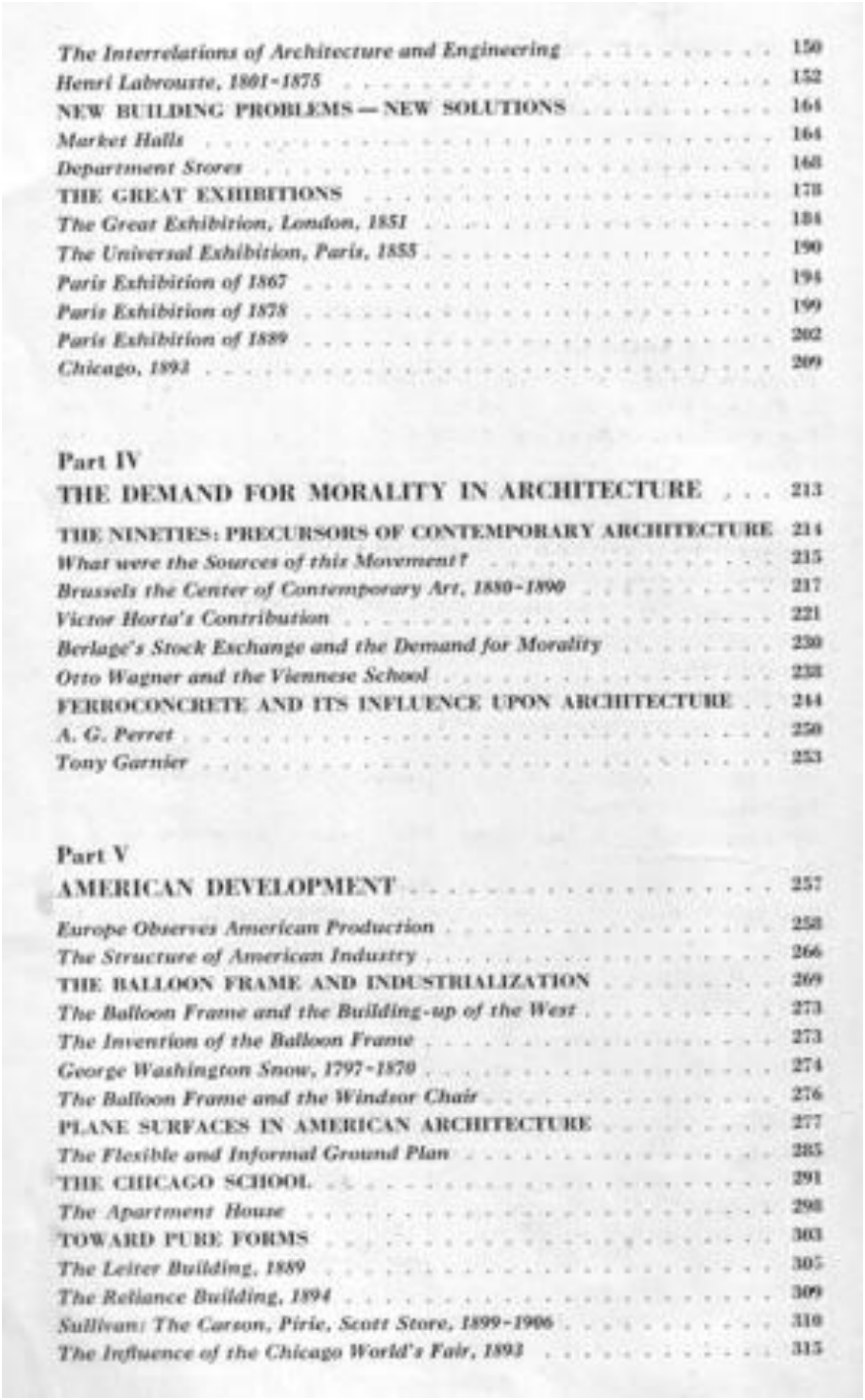
Figure 38 Table of *Mythical Transformations*, Charles Jencks.



CONTENTS

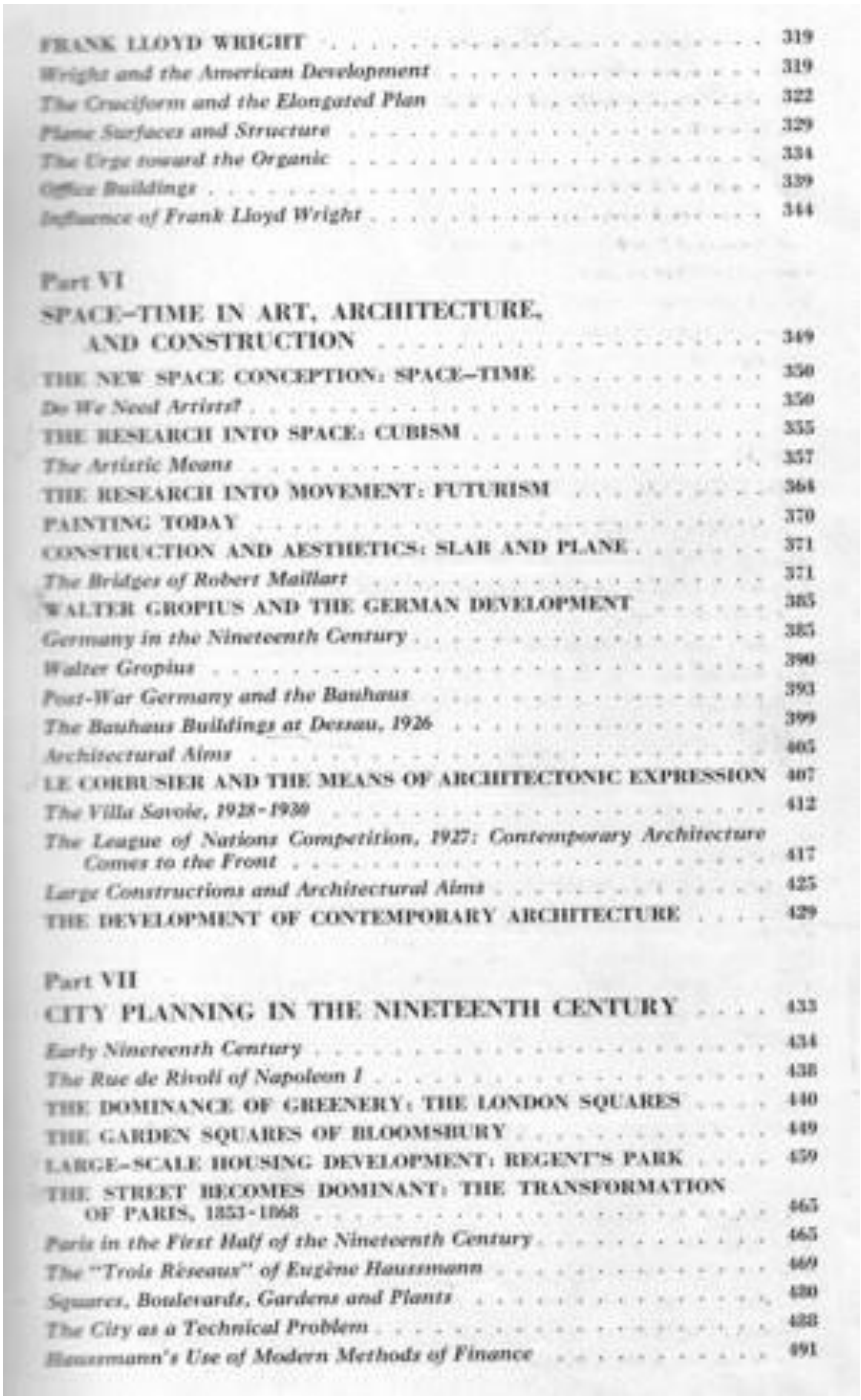
Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press,1941)

Figure 39. Contents page of the 1941 edition



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press,1941)

Figure 40. Contents page of the 1941 edition



Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press,1941)

Figure 41. Contents page of the 1941 edition

Source: Sigfried Giedion. *Space, Time and Architecture – The Growth of A New Tradition*. (Cambridge: Harvard University Press,1941)

Figure 42. Contents page of the 1941 edition