

HISTORICAL CONTINUITY: THREE MODERNIST MASTERS, THEIR
PRECEDENTS AND DESCENDANTS

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ASLI MOLLAZADEH

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PRECEDENTS AND DESCENDANTS**

submitted by **ASLI MOLLAZADEH** in partial fulfillment of the requirements for the degree of **Master of Architecture in Department of Architecture, Middle East Technical University** by,

Prof. Dr. Canan Özgen
Dean, Graduate School of **Natural and Applied Sciences**

Prof. Dr. Güven Arif Sargin
Head of Department, **Architecture**

Prof. Dr. Aydan Balamir
Supervisor, **Architecture Dept., METU**

Examining Committee Members:

Prof. Dr. Nur Çağlar
Architecture Dept., TOBB

Prof. Dr. Aydan Balamir
Architecture Dept., METU

Assoc. Prof. Dr. Lale Özgenel
Architecture Dept., METU

Inst. Dr. Serpil Merzi Özaloğlu
Int. Arch. and Env. Design Dept., BILKENT

Inst. Agnes van der Meij
Architecture Dept., METU

Date: 04.09.2014

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, Last name: Aslı MollaZadeh

Signature:

ABSTRACT

HISTORICAL CONTINUITY: THREE MODERNIST MASTERS, THEIR PRECEDENTS AND DESCENDANTS

Mollazadeh, Asli

MArch., Department of Architecture

Supervisor: Prof. Dr. Aydan Balamir

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The aim of this thesis is to uncover the relation between the concept of historical continuity and architectural modernism. Modernism in architecture has often been conceived as a movement that rejects history. The buildings of modernist masters have been seen alien to their environments and the cultural values of the society. Although there have been many studies disproving this widespread opinion, the continuing effects of modernist works on today's architectural environment haven't been fully understood. On the other hand, in the practice of contemporary architecture too, there is a strong dialog established with the past. In this respect, turning back to the beginning of the 20th century, to unfold examples of historical continuity in the works of modernist masters is a necessity for the understanding of today's architecture as well.

This thesis focuses on the works of three master architects of architectural modernism: Frank Lloyd Wright (1886 - 1969), Mies van der Rohe (1886 - 1969) and Le Corbusier (1887 - 1965). Their works are associated with the historical structures from different

periods, which might have affected their architecture. At the same time their effects on descendants are displayed.

Keywords: modernism, historical continuity, modern architecture, contemporary architecture, Le Corbusier, Mies van der Rohe, Frank Lloyd Wright.

ÖZ

TARİHSEL SÜREKLİLİK: ÜÇ MODERNİST MİMAR, ÖNCÜLERİ VE TAKİPÇİLERİ

Mollazadeh, Aslı

Yüksek Lisans, Mimarlık Bölümü

Tez Yöneticisi: Prof. Dr. Aydan Balamir

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Bu tezin amacı, modernizm ve tarihsel süreklilik kavramı arasındaki ilişkiyi ortaya çıkarmaktır. Modernizm genellikle geçmişi reddeden bir akım olarak düşünülmüş, modernist mimari çevrelere ve toplumun kültürel değerlerine yabancı olmakla suçlanmıştır. Bu savın aksini kanıtlayan çalışmalar olmasına rağmen, modernist çalışmaların süre gelen etkileri, günümüz mimari ortamında tam anlamıyla anlaşılammamaktadır. Öte yandan, günümüz mimari pratiğinde geçmişle kurulan güçlü bir diyalog sezilmektedir. Bu bakımdan, 20. yüzyılın başına geri dönerek, modernist mimarların çalışmalarındaki tarihsel süreklilik izlerini bulmak, günümüz mimarisini anlayabilmek için de bir gerekliliktir.

Tez kapsamında, mimari modernizmin üç usta mimarının yapıları incelenmektedir: Frank Lloyd Wright (1867 - 1959), Mies van der Rohe (1886 - 1969) ve Le Corbusier (1887 - 1965). Bu mimarların farklı dönemlere ait tarihsel süreklilik izleri barındıran yapıları, öncülerıyla ve takipçileriyle ilişkilendirilmiştir.

Anahtar kelimeler: modernizm, tarihsel süreklilik, modern mimarlık, çağdaş mimarlık,
Le Corbusier, Mies van der Rohe, Frank Lloyd Wright.

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CHAPTER 1

INTRODUCTION



Figure 1.1: Portraits of Frank Lloyd Wright, Mies van der Rohe, and Le Corbusier.

<http://lifecyclesstory-neil-killion.blogspot.com.tr/>
<http://calarchitecture.com/>
<http://thesuperslice.com/>

1.1 Historical Continuity in Modernism

"In the middle ages and the Renaissance, history was the repository of permanent values transmitted from one generation to the next in the form of myths and apodictic truths¹... The Modern Movement was

¹ Alan Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historical Change*, MIT Press, Cambridge, 1981, p. 11.

aware of technique and language which existed in preindustrial architecture and tried to create a similar unity between industrial building technique and a new system of signification."²

Beginning from the ancient times, it had been thought that history was constant and unchangeable. Historical continuity was the key factor and a basement for ancient times and later on. Vitruvius and Alberti described architecture within the frame of certain principles in their books which are known as pioneers on architecture³. In the "Ten Books on Architecture" Vitruvius explained the mission of an architect as: "A wide range of history is requisite because, among the ornamental parts of an architect's design for a work there are many the underlying idea of whose employment he should be able to explain to inquirers."⁴ In his canonical text "On the Art of Building in Ten Books" (1486) Leon Battista Alberti explained the importance of a historical method as:

"I will never tire of recommending the custom, practiced by the best architects, of preparing not only drawings and sketches, but also models of wood or any other material. These... enable us to examine... the work as a whole... and, before continuing any further, to estimate the likely trouble and expense."⁵

Alberti's architecture was tied strictly to the historical values which based on the laws of nature, mathematics and art. The geometrical and proportional schemes which are gained from precedent examples contributed to the buildings stability as well as their appearance. Throughout the Middle Ages, and after Renaissance, architecture was an important tool to transfer knowledge from one generation to another. The architecture of

²Ibid, p.101.

³ Although Vitruvius lived in the 1st century BC, his multi-volumed work entitled `De Architectura` was one of the basic texts of middle Ages and Renaissance.

⁴ Vitruvius, *Ten Books on Architecture* (De Architectura), Chapter I, The Education of the Architect, 15 BC.

⁵ Leon Battista Alberti, *On the Art of Building in Ten Books*, MIT Press, 1988.

churches with their ornaments, icons and statues was like a stage to depict historical events. Thus, architecture had intertwined with the idea of holiness.

Between 16th and 18th century, a new kind of historicist view developed depending upon new industrial developments. The period saw the decline of powerful monarchies and churches and the rise of democracy and nationalism.

"The origin of architecture was no longer tied exclusively to the authority of the ancient texts of presumably divine origin; instead it was made subject to a hypothetical reconstruction of history whose purpose was to provide a theoretical basis for contemporary practice."⁶

Tradition was no longer associated with the old rules; instead, relativity was prevailing.⁷ Karl Friedrich Schinkel's period in Prussian culture presents a good case to understand this situation. Germany of his time was very lively, the first industries and the first railways started to develop, giving way to iron architecture. With the effects of the wars, Germans wanted to reveal their own identity. With this aim, they adopted Greek Antiquity for their architecture. They gave preference to creating their new modern civic society with the help of Greek individualistic ideals. By redesigning Berlin's urban spaces, Schinkel aimed to create an identity for Prussian society. He used iron and integrated new technology with modern infrastructure in neoclassical style. Thus, history was teared off its own context and was reproduced in accordance with the current conditions.⁸

⁶Alan Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historical Change*, MIT Press, Cambridge, 1981, p. 11.

⁷Lifson, Edward. 2009. *How Truth and Beauty Moved from the Classical to the Modern*, University of Southern California, Master Thesis. p. 17.

⁸ *Ibid.*

In the continuation of this process, the discovery of exotic cultures had also contributed to the breaking down of the belief in classical style's uniqueness.⁹ Different styles were combined and developed with both eclecticism and functionalism. To carve out this new meaning, a purification process was necessary. Thus, architectural standards were extracted from subsequent attachments and used in their primitive and natural forms.

"Ever since the late 18th century, architecture has oscillated between two poles of thought: that according to which all styles are possible and that according to which all styles are forbidden between synchronic and diachronic relativism."¹⁰

With the 19th century, the level where industrial developments have reached carried architecture an "absolute newness". The memory of its own history was not any longer what constitutes the real meaning. Up until the nineteenth century, architecture has been subject to social and technological pressures; this has radically altered the architectural infrastructure. However, academic tradition tended to establish its own separate world. According to Sigfried Giedion,

"In the nineteenth century one stood upon firm ground. The study of history certainly fulfilled a useful purpose. There was a second inventory consisting of the classical orders and Gothic structural features which was accompanied by all the details of entablatures, friezes, and other ornamental accessories. This presented the young architect with a history of styles that proved very useful to him in the

⁹"In the eighteenth century, exotic not only represented the Oriental but also the Primitive, Medieval and Natural." cited from Selçuk Köse, *Sources of the exoticism in the architecture of Louis Sullivan*, Metu, M.Arch Thesis, 2004, p.24.

¹⁰Alan Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historical Change*, MIT Press, Cambridge, 1981, p. 12.

design of Classical Romanesque, Gothic, or Renaissance banks, city halls, and law courts."¹¹

Modern movement was very distinct from the 19th century historicist attitudes. It constituted a response to the previous centuries historicism. Modernists opposed to stylistic and formalistic approaches of traditional art, and occupied with structural potentials of modernism. Modernist architects accepted historical references as methods to form buildings in an ideal order. But its inner meanings and social domains of Classicism should be changed in accordance with the necessities of modern life. With the noted motto "form follows function" Louis Sullivan emphasized the importance of functionalism in the earliest stages of Modern Movement. To reach a functional design, he believed that all decorations should have been eliminated. The modernist's rejection of the past is all related with the imitation of past styles and unnecessary decorations, ornaments. They mostly used classical proportions, forms, and orders in a modern sense with new materials, functions and construction systems.

1.2 Historical Continuity After Modernism

"Modern Movement was focused on the pursuit of a perceived ideal perfection, and attempted harmony of form and function with rejecting ornament."¹²

In the 1960's, with the publication of "Complexity and Contradictions in Architecture" Robert Venturi developed an idea against modernist ideals. The principles of Modern Movement were rejected due to their restriction with simple and linear forms. Colquhoun explained the attitude of Robert Venture as follows:

"He sees past styles as available for reuse, not literally, but as conventional elements whose continuing vitality depends on their

¹¹Sigfried Giedion, *History and Architect, Journey of Architectural Education*, Vol.12, No.2, 1957, p.14)

¹²Louis Sullivan, *The Tall Office Building Artistically Considered*, published Lippincott's Magazine, March, 1886.

being distorted, so that they can be seen in relation to the often contradictory needs of the present.”¹³

Robert Venturi thinks that the language of architecture depends on dialecticism between the memory of cultural forms of the past and today`s experiments. He rejects the notion of a pure form or perfect architectonic detail, instead conspicuously drawing from all methods, materials, forms and colors available to architects. He thinks that modern architecture is rationalized by contrast with the complexity of the past. According to him, architecture should include multitude paradoxes, complex layers that have emerged from old methods of architecture. The famous motto of Mies' 'less is more' was transformed into 'less is a bore' by him because the behaviors of people in a space are much more complex than a simplified, and unified form of modern architecture. Venturi sees the modernist rejection of history, ornament and decorative symbolism as irresponsible, empty, boring and inappropriate.¹⁴ He believes that non-orthogonal angles, color and symbolism should begin to be used again.

Beginning from the 80's past experiences, traditions, values and practices were replaced by a historical reproduction in contemporary case. Eric Hobsbawm in the book titled `The Invention of Tradition` mentions historical reproduction as `invented traditions`.¹⁵ For Hobsbawm, invented tradition means today`s practice is being related with an artificially discovered historical past. Instead of understanding the technical and spatial characteristics of the past, it produces an ideological and symbolic function. (Figure 1.2)

‘Invented tradition’ is taken to mean a set of practices, normally governed by overtly or tacitly accepted rules and of a ritual or symbolic nature, which seek to inculcate certain values and norms

¹³Alan Colquhoun, *Essays in Architectural Criticism: Modern Architecture and Historical Change*, MIT Press, Cambridge, 1981, p. 140.

¹⁴ Robert Venturi, Denise Scott Brown, *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*, Revised Edition, Cambridge, London: MIT Press, 1977, p.139.

¹⁵ Eric Hobsbawm, *The Invention of Tradition*, Cambridge University Press, 1983, p.1.

of behavior by repetition, which automatically implies continuity with the past.¹⁶



Figure 1.2: The 3d image of the New Building Housing the Mufti's Office in Adana <http://mutlukent.wordpress.com/>

According to Hobsbawm, many practices which are presented as traditional are in fact recent inventions. They usually try to establish a connection with a certain past but especially were used for the legitimation of current conditions. Today's architectural environment has been shaped either for the pursuit of invented traditions or individual affords for a meaningful relation established with the past. Finnish author and architect Juhani Pallasmaa mentions in defense of tradition in *'The Eyes of The Skin'* as "an embodiment of the essence of tradition" as a precursor for 'meaningful

¹⁶ Ibid.

creativity".¹⁷ He adds that today's architecture was based on newness and uniqueness whereas they were more related with individuality and self-expression. Individuality has been lack to contact with people which only reflects the artists inner work so does not achieve to communicate with public. Uniqueness and newness are only formal qualities of art works but existential dimension is the communicative and continuum features of it. Herein this communicative power of architecture emerges with only archetypes, origins, context and tradition.¹⁸

Chinese Architect Wang Shue in his speech of the 2012 Pritzker Architectural Prize in Beijing spoke the significance of Chinese traditional values. In the early designs he was influenced by deconstructivist approaches, but in time, understood that his country was losing its cultural values and essence. After this he has struggled with the problem of cultural identity. His buildings do not reflect traditional forms but try to understand the unique atmosphere and timeless architectonics of traditional Chinese architecture. 'From 1950 to 1980 the Chinese were brainwashed, lost confidence in their own culture and blamed it for their poverty,' says Wang Shu. Also he adds:

"The new China lacks appreciation for old things, having never learned about them. The heritage is largely lost, but there is a possibility of bridging the divide between contemporary and past times. That feeds into a widespread desire to become a more creative nation".¹⁹

This example and many others prove that a respectful attitude to tradition doesn't mean nostalgia and unprogressive but an attainment for the whisper of place. The Swiss architect Peter Zumthor also advocates a similar historicist viewpoint as:

¹⁷Pallasmaa Juhani, *The Eyes of The Skin*, first published in Great Britain, 2005, page 18.

¹⁸ Ibid.

¹⁹cited from <http://www.pritzkerprize.com/2012/biography>

“When I design a building, I frequently find myself sinking into old, half- forgotten memories, and then I try to recollect what the remembered architectural situation was really like, what it had meant to me at the time, and I try to think how it could help me now to revive that vibrant atmosphere pervaded by the simple presence of things, in which everything had its own specific place and form. And although I cannot trace any special forms, there is a hint of fullness and of richness, which makes me think: this I have seen before. Yet, at the same time, I know that it is all new and different, and that there is no direct reference to a former work of architecture which might divulge the secret of the memory- laden mood.”²⁰

Architectural environment in the world is mostly represented by individual works. Peter Zumthor, Wang Shu, Jean Nouvel, Rem Koolhaas, and Richard Meier are only some of them in the twenty first century architectural stage. Differentiating former centuries’ modernist approaches, today's architecture have been shaped by much more pluralistic media like contextualists, pure modernists, post modernists, and deconstructivist. This study focuses on individual approaches on historical continuity. Without emphasizing and discussing the certain movements and styles in detail, it gives much more priority to modernists own lives, their carriers and experiments. At this point, time concept appears an important element which forms everything. This study emphasizes the idea that something is modern only in relation to its situation in time and space.

1.3 The Potentials of Modernity

The French poet and critic Charles Baudelaire (1821 - 1867) in his work “The Painter of The Modern Life” makes the definition of modernity as:

²⁰Peter Zumthor, *Thinking Architecture*, Birkhauser, Berlin, 1988, p.10.

"Modernity is the transient, the fleeting, the contingent; it is one half of art, the other being the eternal and immovable. There was a form of modernity for every painter of the past ...every age has its own carriage, its expression, its gestures.... "21

Modernity depends on the present states of affairs so everything maintains their quality and status throughout time. Therefore something is modern only in relation to its situation in time and space. According to Jürgen Habermas, modernity has not been discovered enough in terms of so many potentials that it embodies.

"The modern avant-garde spirit has sought to use the past in a different way; it disposes those pasts which have been made available by the objectifying scholarship of historicism, but it opposes at the same time a neutralized history which is locked up in the museum of historicism."22

Tracing of those mentioned definitions, Hilde Heynen in her book entitled "Architecture and Modernity: A Critique" makes two new classifications of modernity: programmatic and transitory. For her, these two concepts exist at the same time since their formations. Thus, the structure of modernity is binary in itself. 23

The transitory modernity concept is interpreted the modern as the transient and momentary. A typical advocator of this concept Baudrillard defines modernity as a characteristic mode of civilization that is in opposition to tradition.24 According to him, modernity establishes change and crisis as values, but these values increasingly lose their immediate relation with any progressive perspective. The result is that modernity sets the scene for its own downfall. It is claimed that there is an inconsistency between

²¹ Charles Baudelaire, *The Painter of the Modern Life and Other Essays*, Phaidon Press, 1964, p.420.

²² Jürgen Habermas, *Modernity- an incomplete Project*, first published in *New German Critique*, 22 winters, 1981.

²³Hilde Heynen, *Architecture and Modernity: A Critique*, MIT Press, Cambridge, England, 1999, p.29.

²⁴Ibid. p.12.

economic and cultural modernity. It regards modernity as characterized by the collapse of an integrated experience of life. 1950s postmodern architecture and invented traditions of today's architecture were some of the results of that kind of overview.²⁵

However, programmatic concept views modernity primarily from the perspective of the newness. A typical advocator of this concept, Habermas makes great emphasis on the idea of present giving form to the future so it must then be developed according to the inner logic of science, art and morality.²⁶

“Programmatic modernity denies the contradictions, dissonances and tensions and sees modernity as a concerted struggle for progress. Progress is seen as harmonious and continuous, as though it developed to the advantage of everyone and without any significant interruptions.”²⁷

Modern architects of the 20th century, Le Corbusier, Mies and Wright advocated this concept of modernity. Le Corbusier in the book “Towards a New Architecture” supported the progression of the epoch as follows:

“A great epoch has begun. There exists a new spirit. There exists a mass of work conceived in the new spirit: it is to be met with particularly in industrial production...Our new epoch is determining, day by day, its own style.”²⁸

Mies also enhanced this statement combining with the wisdom of the past ages:

“Architecture is the will of an epoch translated into space... (And continues) Where can we find greater structural clarity than in the

²⁵ Fredrick Jameson, *Postmodernism or, The Cultural Logic of Late Capitalism*, first published New Left Review, 1984.

²⁶ Jean Baudrillard, *Modernité*, in *La modernité ou l'esprit du temps*, Biennale de Paris, Section Architecture, 1982, p. 28.

²⁷ *Ibid*, Heynen, p.12.

²⁸ Le Corbusier, *Towards a new architecture*, Dover Publications, New York, 1923, p.82.

wooden buildings of the old? Where else can we find such unity of material, construction, and form? Here the wisdom of whole generations is stored.”²⁹

What make modernity as interesting and valuable are these divergent aspects. Since Modern Movement, the individual has experienced modernity between these two poles: transitory and programmatic. Modernity is turned into a struggle for personal development and the nostalgia for what is irretrievably best.³⁰ Therefore, today`s architectural environment have a strong bond with these two ideas. Many of contemporary architects have accepted the ideals of Modern Movement as a base for their designs and also searched the potentials of the pasts.

1.4 Method of the Study

This study is based on visual expression as an efficient method to show formal similarities between the designs of three master architects and their precedents, as well as numerous descendants. For this reason, electronic media was an effective tool through the study. Firstly, all of the built and unbuilt projects of three master architects (Le Corbusier, Mies, Wright) were reviewed. To select the precedent examples, the research focused on people and events which might have affected the masters, from their employers to certain cultural events gathered from the literature. Secondly, for their descendants, three architects are determined, who are known to have been affected by the masters: Tadao Ando for Le Corbusier, SOM architects for Mies, and Eero Saarinen for Wright. They were the first examples that comes to mind but this pursuit wasn`t widespread across the study. The third exploration is on the web sources, Archdaily being one of them which publishes new designs regularly. Among popular web pages, interest is chosen for its collection of images. Keywords like 'Modern Traditionalist', 'Modern Classical', 'Modern Historicist', 'Contemporary Classical', and 'Historical

²⁹ See P. Johnson, *Mies van der Rohe*, New York, p.191-2.

³⁰Ibid, Heynen, p.12.

Continuity' were helpful to find designs which had formal similarities with modernist works. Search engines Google, Yahoo, Yandex have also provided images about aforementioned topics. In addition, the titles of each table of comparison helped to find the descendant examples. After the identification of formal relations between first and second cases, the third cases are found on the basis of specified relations.

After 6 months of web searching, the survey was completed and tabulated. Each table submits formal similarities within itself. First image is for precedents, second one for modernist masters, and third one for descendants. For the formal repertoire of the study, plans, façades, masses, and structures are utilized. At the beginning of each chapter, there are tables which classify the preceding tables in terms of plan, façade, structure and mass organizations.

CHAPTER 2

THE BASES OF WRIGHT'S IDEAS ON HISTORICAL SOURCE

The following table shows the classification method of the consecutive tables in the chapter. This method is based on certain formal similarities: plan, façade, mass, and structural details. For Frank Lloyd Wright, the contents in the tables illustrate his sources of inspiration.

Table 2.1. Classification of Formal Similarities in Wright's Architecture

Plan	Façade	Mass	Structure
Cross Plan Schema with hearth	Classical Order	Cantilever	Lotus form
Dome with Greek Cross	Portals	Eaves	Modularity
Gongen Style	Aqueduct	Hierarchy	
		Shelter	
		Ramp	
		Pagoda form	
		Horizontal planes	
		Stratification	

Table 2.2. **Influences on Wright`s Organic Architecture**

Joseph Lyman Silsbee (1848 - 1913)
Louis Sullivan (1856 - 1924)
Arts and Crafts Movements (1860 - 1910)
Primitive American Architecture
Traditional Japanese Art and Architecture
American Transcendentalism
Nature (Organic Architecture)

2.1. Joseph Lyman Silsbee

There have been many events and circumstances that affected Frank Lloyd Wright's (1867 - 1959) ideas and design methodology in the late nineteen century. The first essential factor that affected his ideas was to meet **Joseph Lyman Silsbee (1848 - 1913)** in 1887. The same year, as a young man, Wright arrived to Chicago; the city was under new development as a result of the Great Chicago Fire of 1871 and recent population explosion.³¹ As a result of this fire, the Chicago School style was developed among a

³¹Meryle Secret, *Frank Lloyd Wright: A Biography*, University of Chicago Press, 1992, p.72.

group of young architects to reshape the city. These architects included mentors of Wright's were working with new materials and fresh ideas.

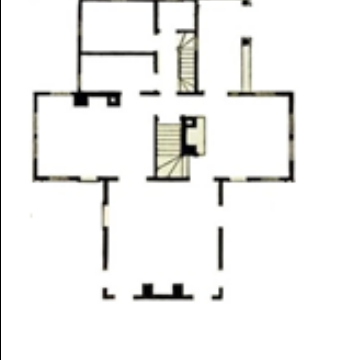
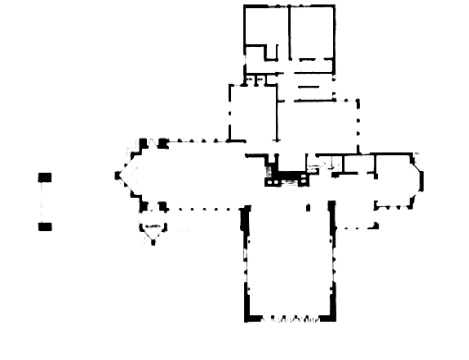
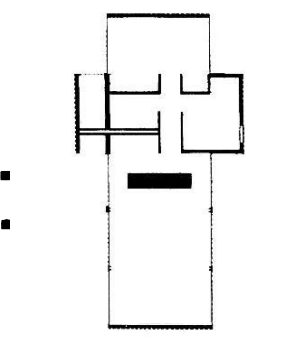
Wright came to Chicago without any university degree, and any special interest to architecture. When he was hired as a draftsman with the architectural firm of Silsbee, this became the first school of his life. In those years, there were many styles common in USA architectural milieu like Queen Anne, Victorian and Shingle Styles. The major architects working with these styles included William Ralph Emerson, H.H. Richardson, Joseph Lyman Silsbee and Bruce Price. Wright's working period with Silsbee affected his interest towards Shingle Style. The common characteristics of this style were horizontal window bands, triangular gables, cylindrical towers, introverted masses and hipped roofs.³²He designed buildings in other styles too. His own house in Oak Park in 1889 and Winslow house in 1893 were some early examples of Queen Anne and Victorian Style. There were also a few houses in Tudor style upon client's request.

Wright worked for Silsbee less than a year and in the fall of 1887 he left the firm. He found Silsbee's work to be more picturesque than the other brutalities of the period. Hence, he was tired of Silsbee's architectural style and began to seek new challenges elsewhere. However, Silsbee's influence on the young architect was considerable and his Japanese art collection made a great effect on his ideas later. Silsbee's first cousin Ernest Fenollosa was a leading scholar on the Art of Japan. Through Fenollosa, Wright's views on Japanese architecture shaped and solidified during his early career life.

Silsbee, and other architects of the period were affected from Japanese houses' flexibility and fluidity. Bruce Price offered the best known examples on Japanese influences. When he designed the Kent House, the idea of placing the fireplace in the center of the house which was common in Japanese traditional tea houses was very noticeable both his designs and Wright's even in earliest houses.(Table 2-3)

³² Vincent Scully, *Frank Lloyd Wright*, New York: George Braziller, 1960. p, 14.

Table 2.3. Cross Plan Schema with Hearth

		
Bruce Price: Kent House New York, USA, 1885. http://eng.archinform.net/	Frank Lloyd Wright: Ward Willits House Chicago, USA, 1900. http://www.pinterest.com/	Richard Meier: Lambert House New York, USA, 1962. http://www.archweb.it/

2.2. Louis Sullivan

Another turning point for Wright was to start working in **Louis Sullivan's (1856-1924)** office after he left the office of Silsbee.³³ Louis Sullivan's famous quote "Form follows function" became one of the basic expressions of "new" architecture that was beginning to be produced in the 19th century.³⁴ Wright became deeply attached to Sullivan, who would become his greatest mentor. In his autobiography expressed Sullivan's influence as:

“I believe the Master used to talk to me to express his own feelings and thoughts, regardless, forgetting me often. But I could follow him, and the radical sense of things I had already formed intuitively...got

³³Filiz Sönmez, *Organic Architecture and Frank Lloyd Wright in Turkey within the Framework of House Design*, Ankara: METU. Master Thesis. 2006, p. 11

³⁴Curtis, William (1987). *Walter Gropius, German Expressionism, and the Bauhaus*. Modern Architecture since 1900, Prentice-Hall. p. 114.

great encouragement from him. In fact, the very sense of things I had been feeling as rebellion was at work in him in this way".³⁵

Wright learned to think and act like Sullivan when he was working with him. Sullivan thought that architecture should never be studied as a series of styles, because styles did not deal with building's main design and construction. He was interested in the art and architecture of the exotic cultures³⁶ that increased in the 19th century. Although Neoclassicism was very common in that period, the imitation of the Classical and Renaissance forms created an environment of monotony. At the same time, the exotic cultures were seen not being destroyed by civilization.³⁷ They had protected the original way of life. These people, contrary to what is believed, had lived in harmony with nature.

One of the important figures forming the ideas of Sullivan in those directions and his apprentice was Gottfried Semper (1803 - 1879). In his book "The Four Elements of Architecture" Semper claimed that the construction of a building was made by four elements; the hearth (fire place), the mound (foundation), the roof (shelter) and the enclosure (weaving).³⁸ This idea was parallel with Wright's interior arrangements. The hearth (fireplace) was placed in the center of the houses, and there wasn't any other element which defined the space. (Table 2-3) Roofs were also designed as an expanding shelter towards the exterior of the houses to enhance the sense of sheltering. The walls of the houses were comprised of different materials and construction methods like the richness of weaving methods.

Eugene E. Viollet Le Duc (1814 - 1879) was another important figure forming the ideas of Sullivan and his apprentice. The works of the "primitive" had been best analyzed by him among other European intellectuals. Viollet Le Duc examined the architectural

³⁵ F. L. Wright. *Frank Lloyd Wright: An Autobiography*, FLW foundation, Arizona, 1943, p. 103.

³⁶ Selçuk Köse, *Sources of the exoticism in the architecture of Louis Sullivan*, Metu, M.Arch Thesis, 2004, p.24.

³⁷ Dell Upton, *Architecture in the United States*, Oxford. University Press, 1998, p. 113.

³⁸ Gottfried Semper, *The Four Elements of Architecture*, Cambridge University Press, New York, 1989, p. 103.

styles of the past for universal principles that might be valid for all time. Unlike the modern critics of his era, he believed that the primitive art was the purest state to produce art. According to him, to rescue from dogmas and constant ideas, man should have discovered the thoughts of the Greeks instead of imitating their forms. Because, forms were the result of the intentions and not a reason to produce something.

These two intellectuals' thoughts had probably affected Sullivan's and Wright's ideas deeply.³⁹ Sullivan's interest to the structure of the flowers and leaves in nature also overlapped with Viollet Le Duc's following expressions:

"The Orientals are our superiors in architectural ornamentation, because among them that ornamentation never obscures the dominant conception; on the contrary, it always powerfully aids its expression and is its natural manifestation..."⁴⁰




Sullivan believed that decoration like the growth pattern of a plant should become a constituent element of a building. For him there was inner meaning in the form of plants that provided the basis for his ornament. While Sullivan's ornamentation was based on natural forms, Wright used geometric order as a source. (Table 2-4)Wright developed this ornamentation idea to be integral to the building itself. He suggested that his own Unitarian- transcendental inheritance had been reinforced by Sullivan. Also, he stated, "This Transcendental train of thought, getting into architecture, found in the suggestions of Louis Sullivan's philosophy as it came through his theory of ornament, made effective impact upon my own upbringing. The consequences are still in action and the end is not yet."⁴¹

³⁹SelçukKöse, *Sources of the exoticism in the architecture of Louis Sullivan*, METU, March Thesis,2004, p.22.

⁴⁰ Ibid.

⁴¹ William Ellery Channing, *Self-Culture*, NewYork: Thomas Crowell Company, 1897.

Table 2.4. Lotus Flower

		
Lotus plant	Frank Lloyd Wright: Johnson Wax Headquarters	Toyo Ito: The College of Social Sciences of National Taiwan University
	Wisconsin, USA, 1939.	Taipei, Taiwan, 2013.
http://www.theotherdaytoday.com/	https://www.flickr.com/	https://c1.staticflickr.com/

Wright's years with Sullivan passed very productive and educative. He always mentioned Sullivan as his "Lieber Meister". The exoticism in Sullivan's works created a strong impact on the architecture of Wright. While he was working with Sullivan, his buildings were under the influence of exotic cultures like Mediterranean architecture, especially Turkish and Romanesque. (Table 2-5, 6, 7, and 8) With the beginning of the 20th Century and the effect of World Columbian Fair of 1893, the Mediterranean exoticism in his architecture transformed into Pre- Columbian and Japanese exoticism. His real interest to Japanese architecture would begin with his visit to Japan in 1905. Until that time, he was only influenced by their structure's unique forms but after his visit he would discover those inner meanings and intentions.

Table 2.5. Cantilever




		
An example from Turkey Traditional Houses	Louis Sullivan: Henry Babson House	Frank Lloyd Wright: Charnley House
Muğla region.	Illinois, USA, 1909.	Illinois, USA, 1892.
http://www.mugla.gov.tr/	http://archrecord.construction.com/	http://www.mavialosangeles.com/

Table 2.6. Combination of Dome with Greek cross

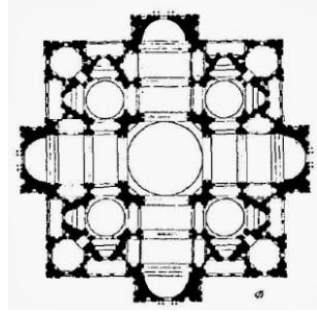
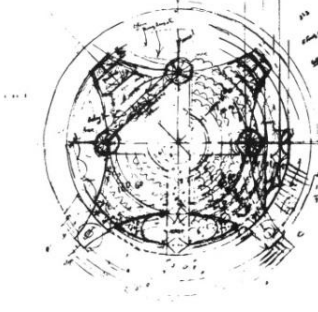
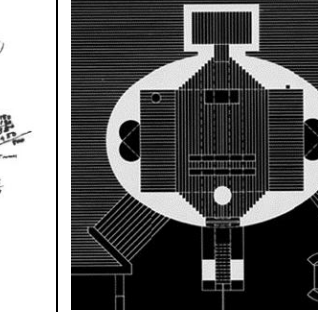
		
Greek Cross Plan was widely used in Byzantine architecture.	Frank Lloyd Wright: Annunciation Greek Orthodox Church	Mario Botta: Church of 1st John the Baptist
http://christopheronstad.com/	Milwaukee, USA, 1956.	Mogno, Switzerland, 1998.
	http://www.whitehousegiftshop.com/	http://www.pinterest.com/

Table 2.7. **Classical Order/ Pantheon**








		
Charles Fowler: Fine Arts Building	Frank Lloyd Wright: Ward Willits House	Michael Graves: Disney Hotel
Atwood, USA, 1893.	Illinois, USA, 1901.	Mame-la-Vallee, France, 1989.
http://commons.wikimedia.org/	http://content.lib.utah.edu/	http://www.cartoonbrew.com/

Table 2.8. **Portals**

			
One of the city gates of the Marrakesh.	Louis Sullivan: Transportation Building-at the World's fair	Frank Lloyd Wright: Morris Gift Shop	Norman Foster: Metro Bilbao
	Chicago, USA, 1893.	San Francisco, USA, 1948.	Bilbao, Spain, 1995.
http://www.shutterstock.com/	http://www.studyblue.com/	http://en.wikipedia.org/	http://www.arcspace.com/

Besides these circumstances, Sullivan and Wright also developed the Prairie style, an American style of architecture completely opposite of European classical architecture. Prairie style lacked all the fuss and gingerbread that was popular during the Victorian/Queen Anne period, and focused on clean lines and open floor plans. Then, this style popularized among architects as **Prairie style** and Wright was its pioneer. The Prairie Style developed in sympathy with the ideals and design aesthetics of the Arts and

Crafts Movement. With the Prairie architecture, Wright set out to achieve definite aims in an effort to create a new type of American domestic building.

“He wanted to give the interior a sense of unity by eliminating as many walls and doors as possible. The boxes that are rooms would be eliminated, too, by allowing the ceiling and floors to flow into each other; by making the whole interior one large space with only minor divisions. He would eliminate the basement, allowing the building to rest instead on a visible low foundation. This would again blend the house with the surrounding land. As far as possible, he would not combine many different materials, but would keep the building clear and simple, using straight, natural lines. Lighting, heating, and other fixtures would become architectural parts of the house, and the furnishings would also be kept simple and straight to blend with the house. Organic Architecture was becoming a reality, and a natural simplicity was its basis.”⁴²

Wright's residential designs were known as "prairie houses" because the designs complemented the land around Chicago. These houses featured extended low buildings with shallow, sloping roofs, clean sky lines, suppressed chimneys, overhangs and terraces all using unfinished materials. Whenever possible windows were long, and low, allowing a connection between the interior and the exterior, that was new to Western architecture and reflected the influence of Japanese architecture on him. The manipulation of interior space in residential and public buildings was a hallmark of this style.




Wright's early Prairie houses involved more formal similarities with Japanese architecture. After his trip to Japan, he internalized the true spiritual essence of the traditional buildings of Japan. As a result, his later Prairie style works reflected

⁴²Naden, Corinne, *J. Frank Lloyd Wright: The Rebel Architect*. New York: Franklin Watt. 1968. p. 37.

simplicity, natural continuity, buildings relation with their surroundings and sense of protection. (Table 2-9)

During the USA depression, Wright developed a simplified version of Prairie style called **Usonian**, low-cost homes beginning in 1936 with the Jacobs House. Usonians were built on small lots and incorporated a single-story dwelling with flat roofs, cantilevered overhangs, solar heating/radiant-floor heating, clerestory windows, and carports.

Table 2.9.Eaves

		
Goju-no-To Pagoda	Frank Lloyd Wright: Robie House	Tadao Ando: Pulitzer Arts Foundation
Miyajima, Japan, 16. century.	Chicago, USA, 1909.	Missouri, USA, 2001.
http://bbs.qyer.com/	http://www.huffingtonpost.com/	http://www.contractdesign.com/

2.3. Arts and Crafts Movements

Another factor that affected Wright’s architectural manner was **Arts and Craft Movements** which flourished between 1860 and 1910.⁴³ It was led by the artist and writer **William Morris** (1834–1896). The movement developed first in the British Isles, but spread across the rest of Europe and North America. This style shared an embrace of

⁴³FilizSonmez, *Organic Architecture and Frank Lloyd Wright in Turkey within the Framework of House Design*. Ankara: METU, Master Thesis, 2006, p. 10.

handcrafting and craftsman guilds as a reaction against the new assembly line, mass production manufacturing techniques. It stood for traditional craftsmanship using simple forms and often applied medieval, romantic or folk styles of decoration. They generally emphasized the quality of materials used and patterns influenced by nature. Like William Morris, Wright also stressed the need for furnishings to fit the homes they were in. He introduced revolutionary changes in domestic design and treated both inside and out as a complete work of art. He opened up interiors, banished applied ornament and instead integrated features such as stained glass into spaces defined by the furniture. He also sought to bring nature into his design by using native plants as abstract motifs

2.4. Primitive American Architecture

Primitive American Architecture such as Toltec, Aztec, Zapotec, Mayan, and Inca ruins were also crucial sources for Wright's architecture. His interest grew out of two events: 1893 World's Columbian Exposition and Louis Sullivan's interest to primitive cultures. Especially, his designs between 1920 -1930 illustrated the influence of Pre- Columbian cultures. Specifically, Maya and Zapotec ancient civilizations made great influence on him with viable alternatives to European classical architecture. (Table 2-10, 11, 12, and 13) In his book *The Future of Architecture*, Wright claims: "In Maya [architecture] we see a grand simplicity and concept of form. Probably it is greater elemental architecture than anything remaining on record."⁴⁴

Many of his buildings had a sloping exterior wall in a form common in the architecture of ancient Mesoamerica. The effects of primitive shelter can be seen in the mass conception and plan arrangements of Wright's buildings. Central fireplace defines the whole space in primitive structures like Japanese culture. Robert Twombly asserts that

⁴⁴ Wright, F. 1953. *The Future of Architecture*. Horizon Press.

“he often referred to the fireplace as the heart of the house, and by that he meant the spiritual as well as the control center.”⁴⁵

Table 2.10. Monolithic Mass





		
House of the Turtles	Frank Lloyd Wright: Warehouse	Herzog de Meuron: Philharmonic Hall
Uxmal, Mexico, 950 AD.	Wisconsin, USA, 1921.	Hamburg, Germany, 2017.
http://www.anthroarchaeart.org/	http://host.madison.com/	http://www.elbphilharmonie.de/

Table 2.11. Sheltering Roof

		
Aztec temple	Frank Lloyd Wright: Friedman House	Mario Botta: Agora Club House
Malinalco, Mexico, 15th century.	New Mexico, Mexico, 1948.	Jeju Island, South Korea, 2008.
http://schools.yrdsb.ca/	http://www.pinterest.com/	http://www.scoop.it/

⁴⁵ Twombly, C. Robert. 1973. *Frank Lloyd Wright an Interpretive Biography*. New York: Harper and Row, Pp, 32.

Table 2.12. **Ramp**


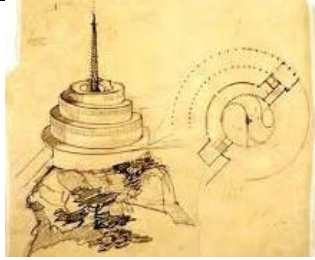




		
Circular Temple of Quetzalcoatl	Frank Lloyd Wright: The Gordon Strong Automobile Objective	BIG Architects: Danish Pavilion
Calixtlahuaca, Mexico, 11-16th century. http://www.peterchowphotography.com/	Maryland, USA, 1924-1925. http://tpsna.sonjara.com/	Shanghai, China, 2010. http://culture.china.com.cn/

Table 2.13. **Hierarchy**

		
Aztec Traditional House	Frank Lloyd Wright: Heller House	Robert Stern: Jacksonville Library
Mexico City, Mexico, http://www.tcpapp.com/	Chicago, USA, 1897. http://www.prairieschooltraveler.com/	Florida, USA, 2005. http://www.pinterest.com/

2.5. Traditional Japanese Art and Architecture

Thanks to Silsbee and Sullivan, Wright had an acquaintance with **Traditional Japanese Architecture**. But this acquaintance in his later years transformed into a something that identified with him.

Unlike his contemporaries, he has taken his inspirations from non-European sources, including the Orient. Especially **Japanese art** takes an important place on the formation of Wright's ideas. His artistic debt to Japan goes much deeper than coincidence and simple formal similarities.⁴⁶ He searched, observed and abstracted Japanese architectural values, making them his own in the designs. His interest in Japanese architecture began in the late 1880's. World's Columbian Exposition in Chicago in 1893 was his first encounter with Traditional Japanese Architecture. His country's acquaintance with Japanese art had gone back to the Centennial Exhibition in 1876. Americans quickly embraced this exotic culture which became the symbol of daily life objects: Japanese woodblock prints, cloisonné, lacquer, and porcelains were imported, and they permeated everything, including greeting cards, furnishing, theater, music.⁴⁷

The World's Columbian Exposition had a great impact on Frank Lloyd Wright who newly resigned from Sullivan's office. His observations would help define his ideas for later. Japanese Ho-o-den, a reproduction of famous temples near Kyoto, caught the attention of Wright. (Table 2-14) He often mentioned about those marvelous temples in his local newspaper, the Oak Park Reporter.⁴⁸ Ho-o-den Temples' white stucco exterior walls emphasized with wood trims, flowing spaces, sheltering roof covered the building with overhanging eaves, moving (partition) walls, horizontal lines, decentralized axes, minimization of furniture, and dynamic mass conception would soon become the distinctive features of Wright's Prairie Style houses. Especially, Ho-o-den Temples have a unique atmosphere for each confined space. All the historical eras in Japanese culture were defined within these spaces according to their distinct features. The rooms surrounding the central hall were transitional spaces like flow of life and communicated

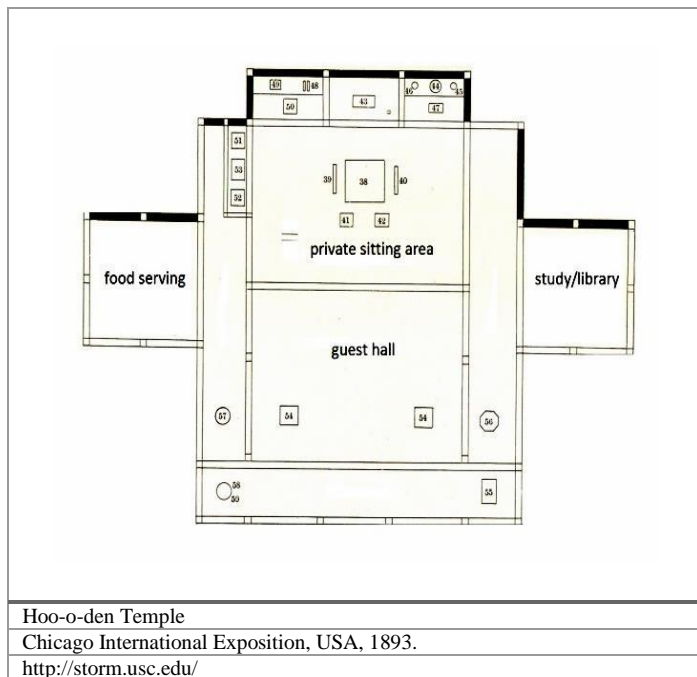
⁴⁶Hosley, William. *The Japan Idea: Art and Life in Victorian America*. Connecticut: Wadsworth Atheneum, Pp. 16.

⁴⁷ Ibid.

⁴⁸Nute, Kevin. 1993. *Frank Lloyd Wright and Japan*. New York: Van Nostrand Reinhold, p. 55. The name given to this exhibit, the Japanese Ho-o-den was derived from the architectural elements of the exhibit building. The Ho-o-do is a traditional form of Japanese architecture. The Ho-o was used to reflect the overall religious styling of the Amida Hall, and the den portion of the name to reflect Japanese residential form.

with the Zen gardens. The mostly open and natural relations of Ho-o-den Temple were very flexible and the roof eaves, terraces gave a sense of protection. For Wright, this unconstrained and sheltered space had a spiritual meaning and interpreted it as the core of life. In fact, the reality of space is no longer created in the walls and roofs. He handles it in the sense of shelter extended, shortened, or perforated, or occasionally eliminated.

Table 2.14. **Ho-o-den Temple**



Lao Tzu, one of the philosopher and poet of ancient China, clarifies the above mentioned idea, “The reality of the building does not consist in the four walls and the

roof but in the space within to be lived in.”⁴⁹The importance lies not in the boundaries of the room, but by what is contained within and by the play of light and shadow, created when rooms open towards the outside. In the Japanese home, sliding screens were used mostly instead of fixed walls to enlarge spaces. Another important aspect of traditional Japanese houses was tatami mats which measure approximately two meters long and one meter wide. Thus, this measurement gave a scale and modularity from a single room to whole house, from inside to outside. (Table 2-15)

Table 2.15. **Modularity**

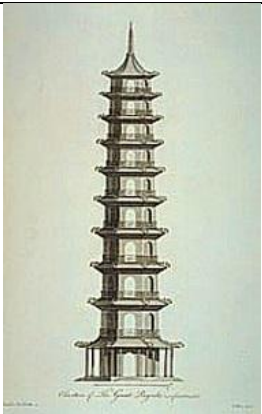


<p>Traditional Japanese Modular home.</p>	<p>Frank Lloyd Wright: Tonkens House</p>	<p>Shigeru Ban: Aspen Art Museum</p>
<p>http://www.pinterest.com/</p>	<p>Ohio, USA, 1955.</p>	<p>Colorado, USA, 2014.</p>
<p>http://www.pinterest.com/</p>	<p>https://www.flickr.com/</p>	<p>https://www.flickr.com/</p>

Also, roofs as a striking element of Japanese structures represented the protective sense of primitive structures which were the basis of human mind and purified from all styles and norms. Wright expresses this idea as follows: (Table 2-16, 17)

⁴⁹ Wright, Frank Lloyd. 1955. *An American Architecture*. Selected by Edgar Kaufmann. New York: Horizon Press, Pp, 80.




Man soon came to feel that if he had no roof, he had no house. Later he came to speak of his house as his ‘roof ... his roof was his only shelter, it was his dignity, as well as his sense of home.’⁵⁰

Table 2.16. Multiple Eaves: Pagoda

		
<p>Sir William Chambers: Pagoda</p>	<p>Frank Lloyd Wright: Anderson Shops</p>	<p>SOM: Jin Mao Tower</p>
<p>Kew, London, 1972.</p>	<p>Beverly Hills, USA, 1952.</p>	<p>Shanghai, China, 1999.</p>
<p>http://www.ribapix.com/</p>	<p>https://www.flickr.com/</p>	<p>http://www.architecturescope.com/</p>

⁵⁰Nute, Kevin. 1993. *Frank Lloyd Wright and Japan*. New York: Van Nostrand Reinhold, Pp, 42.

Table 2.17. **Dominant Roof**

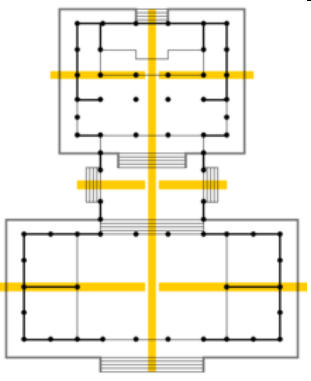
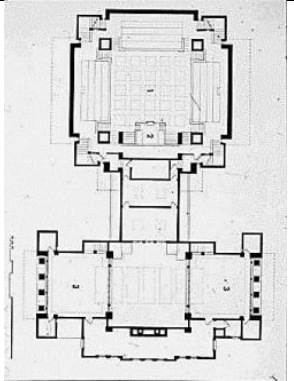
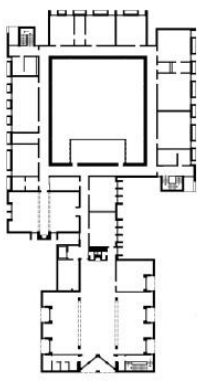
		
Gravestones	Frank Lloyd Wright: Christian Church	Eero Saarinen: North Christian Church
Koyasan, Japan, 15-16th century.	Arizona, USA, 1949.	Indiana, USA, 1964.
http://www.pinterest.com/	http://architectdesign.blogspot.com.tr/	http://www.pinterest.com/

Another thing which affected Wright's ideas on Japanese architecture was his trips to Japan. After his first trip in 1905, he secondly went to Nikkoo where the most impressive temples of Japanese culture took place like Tosho-gu and Taiyu-in-byo.⁵¹ These structures unique form which is known as gongen-style would have probably affected the plan order of Unity Temple which was constructed after a year later from the trip. This typology also provided a base for many of his later public buildings in terms of public- private and administrative- working spaces separation. According to Peter Blake, the plan arrangement of Unity Temple gave a solution for every functionalist to the organization of multi-functional buildings.⁵² (Table 2-18)

⁵¹ Kevin Nute, *Frank Lloyd Wright and Japanese Architecture: A Study in Inspiration*, Journal of Design History, Vol. 7. No:3, 1994, p.169-185)

⁵² Peter Blake, *Frank Lloyd Wright: Architecture and Space*, Penguin, 1964, p.50.

Table 2.18. **Gongen Style Temple (public worship and public meetings)**

		
Gongen-zukuri shrine	Frank Lloyd Wright: Unity Temple	Louis Kahn: Unitarian Church
Kyoto, Japan, 9th century.	Illinois, USA, 1908.	New York, USA, 1967.
http://fi.wikipedia.org/	http://www.pinterest.com/	http://commons.wikimedia.org/

Though Wright accepted his interest in Japanese woodprints, he denied their influence on his works. However, he always placed a particular importance to Japanese Traditional Architecture. In his work entitled *An Autobiography* Wright adds:

Ever since I discovered the print, Japan had appealed to me as the most nature inspired country on earth. Later, I found that Japanese art and architecture really did have organic character. Their art was nearer to the earth and a more indigenous product of the natural condition of life and work, therefore more nearly modern as I saw it, than any European civilization alive or dead.⁵³

2.6. American Transcendentalism

The roots of his interest to the Orient can also be traced back to the **American Transcendentalism** which is a religious and philosophical movement that was

⁵³ Wright, *An Autobiography*, Frank Lloyd Wright Foundation, Arizona, 1943, 125.

developed during the late 1820s and 1830s.⁵⁴ Among the transcendentalists' core beliefs was the inherent goodness of both people and nature. Transcendentalists believe that society and its institutions ultimately corrupt the purity of the individual. They have believed that people are at their best when truly "self-reliant" and, independent and, also It is only real individuals who can form the true community. Wright's own upbringing was the practice of this self-culture, and his primary education included the reading of Transcendentalists. William Ellery Channing (1780-1842) who was a prominent Unitarian leader at the time wrote a book called *Self-Culture*.⁵⁵ Channing in his book believed in an organic conception of human life which have become popular among Transcendentalists and played a significant role in Wright's organic architecture.

⁵⁴ Wright. 1949. *Genius and Mobocracy*. in his collected writings, IV, Pp, 363.




⁵⁵ Naden, Corinne, J. 1968. *Frank Lloyd Wright: The Rebel Architect*. New York: Franklin Watt, Pp, 44.



Figure 2.1. **Frank Lloyd Wright: Falling Water, Pennsylvania, USA, 1939**

<http://www.pinterest.com/>

Table 2.19. **Horizontal Planes (Floors as a sheltering)**

		
<p>Goju-no-To Pagoda</p>	<p>Frank Lloyd Wright: Kaufmann House</p>	<p>David Chipperfield: America's Cup Building</p>
<p>Miyajima, Japan, 16. century.</p>	<p>Pennsylvania, USA, 1939.</p>	<p>Valencia, Spain, 2006.</p>
<p>http://www.longstay.org.tw/</p>	<p>http://tr.wikipedia.org/</p>	<p>http://architect.com/forum/</p>

2.7. Nature (Organic Architecture)

Unlike his contemporaries Wright opened a new way in modernism by searching **nature**. The idea of the inspiration of natural forms was not new to architecture.

Traditional Japanese architecture provided a basis for Wright's own organic principles. His first visit to Japan was in 1905. He documented this first trip with photographs.⁵⁶ Especially, religious structures, temples, shrines were the main focus of those photographs. Also, in these prints, it was easy to see the coherent relation set with nature.

In Japanese tradition, nature is a part of the house, and there is no separation between inside and outside. Wright, for example, in the Falling Water maintained transition from outside to inside which is gradual with projections, terraces. (Table 2.19) It has unlimited spaces not divided with rooms, so all around the house nature can be recognized easily. In Japanese tradition, natural materials also have an important place. From ancient times the Japanese have regarded materials as having special inner life.⁵⁷ In the Falling Water, the natural and carved stone were used to emphasize the verticality. The tea gardens in Japan help guests to recognize the beauty of nature and relaxation. In Wright's works, the effect of nature can be seen in a similar way. Tearooms have no furniture and its open space emphasizes the impact of emptiness. Plaster, wood and shoji paper were used only as materials. They are in accord with natural settings around. The simplicity of tearooms reflects the tranquility and purifies someone from the pressures of the outside world. For that purpose, Wright inspired traditional Japanese teahouses especially further works like Imperial Hotel, Taliesin West etc.

Rather than directly imitating natural forms, Wright uncovered their hidden dimensions. As asserted by him "Nature is my manifestation of God. I go to nature every day for

⁵⁶ Vann, Pamela Kay. 1998. *The Influence of Japanese Architecture on the Architecture of Frank Lloyd Wright*. Master of Arts, California State University, Pp, 26.

⁵⁷ Vann, Pamela Kay. 1998. *The Influence of Japanese Architecture on the Architecture of Frank Lloyd Wright*. Master of Arts, California State University, Pp, 51.

inspiration in the day's work. I follow in building the principles which nature has used in its domain."⁵⁸

Afterwards, Wright developed an idea called organic architecture based on the existence of the rules of nature. He also discovered that buildings should be built by relating to nature and never harming it. The unique context of each site provided a basis for his design ideas. Hence, climate conditions, topography, orientation, terrain pattern, local materials and techniques were main concerns for him.(Table 2.20) For example, in selecting building materials, Wright took into account the materials which are around. He used natural materials in their pure forms without losing their character. He believed that materials should be used as what they are being, stone should be seen as stone, wood as wood etc.⁵⁹Likewise, he preferred to use at least two different kinds of materials in most of his designs to show various conjecture shapes. Thus, his success should be found in his special details. All the materials usable in building-construction are more than ever important. They are all significant: each according to its own peculiar nature. Old or new materials have their own lively contributions made to the form, character, and quality of any building. ⁶⁰

In his last building which was constructed three years after his death, the Marin County Civic Center was the pick point of his ideas about Organic Architecture.(Table 2-21) As he told a Marin crowd in 1957 "the county would have architectureits own only when we know that the good building is not entire one that hurts the landscape, but is one that makes the landscape more beautiful than it was before that building was built. In Marin

⁵⁸ All-Wright Site. *Frank Lloyd Wright Quotations*. Online. Available at: <http://www.geocities.com/soHo/1469/flwquote.html>.

⁵⁹ Wright, Frank Lloyd. 1960. *Writings and Building*. Selected by Edgar Kaufmann, Ben Raeburn. New York: Horizon Press, Pp, 294.

⁶⁰Ibid., Pp, 320.

County you have one of the most beautiful landscapes I have seen, and I am proud to make the buildings of this county characteristic of the beauty of the county".⁶¹

Table 2.20. **Stratification**


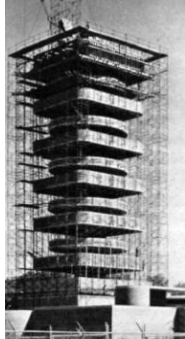




		
Grand Canyon	Frank Lloyd Wright: Johnson Research Laboratory Tower	MVRDV: `4 Tower in 1`
Arizona, USA. http://hhe.wikispaces.com/	Wisconsin, USA, 1947. http://www.buffalonews.com/	Shenzhen, China, 2009. http://de.urbarama.com/

Table 2.21. **Aqueduct**

		
Pont du Gard	Frank Lloyd Wright: Marin County Civic Center	Toyo Ito: Tama Art University Library,
France, 1st century AD. http://www.answers.com/	California, USA, 1962. http://www.pinterest.com/	Tokyo, Japan, 2007. http://www.dezeen.com/

⁶¹Terdiman, D. *Frank Lloyd Wright gem in Northern California*. Online. <http://www.cnet.com/news/a-frank-lloyd-wright-gem-in-northern-california/>

CHAPTER 3

THE BASES OF MIES' IDEAS ON HISTORICAL SOURCE⁶²

The following table shows the classification method of the consecutive tables in the chapter. This method is based on certain formal similarities: plan, façade, mass, and structural details. For Mies van de Rohe, the contents in the tables illustrate his sources of inspiration.

Table 3.1. Classification of Formal Similarities in Mies' architecture

Plan	Façade	Mass	Structure
Centralized Plan	Colonnade Order	Solid Mass	Grids
Horizontal and Vertical Planes	Georgian Revival Style		Separations
Separation between public and private space	Functional Order		Suspended System
	Tribal Façade Pattern		Pile Piers

⁶²On March 27th, 1886 Ludwig Mies was born in Aachen, Germany. He would later incorporate his mother's maiden name ("Rohe") into his own as he rose to prominence in the architectural community.

Table 3.2. **Mies' Architecture Influenced by**

Karl Friedrich Schinkel (1781-1841)
Bruno Paul (1874 - 1968)
Peter Behrens (1868 - 1940)
De Stijl movement (1917 - 1931)
Far Eastern Architecture: Japanese and Chinese
Aachen (Native City)

3.1 Schinkel's Influence

When he came to Berlin in 1905, young architect Ludwig Mies van der Rohe (1886-1969) was under the influence of **Karl Friedrich Schinkel's** classical architecture. As a Prussian architect, city planner, designer and painter Schinkel (1781-1841) had a great influence on not only Mies, but also his young colleagues. Mies wrote his influence as follows,

When I came as a young man to Berlin and looked around, I was interested in Schinkel because Schinkel was the most important architect in Berlin. There were several others but Schinkel was the most important man. His buildings were an excellent example of Classicism - the best I know. And certainly I became interested in that.

I studied him carefully and came under his influence. That could have happen to anybody. I think Schinkel has wonderful constructions, excellent proportions, and good detailing.⁶³

What makes Schinkel so impressive was in fact the result from his innovative thinking process which combined the Classical architecture with the new developments experienced in the era he lived. In those years, Northern Europe hosted many of experimental works regarding architecture. The Germany of his time was very lively, the first industries and the first railways started to develop and the iron architecture came to light. Until 1815 Schinkel hadn't built anything due to the war between Prussia and France. After the Prussia's victory, to crown this triumph, monuments were built in central Berlin.⁶⁴ With the effects of the wars, Germans wanted to reveal their own identity. Hence, Germans adopted Greek Antiquity for their architecture and gave preference to create their new modern civic society with the help of Greek individualistic ideals. The ancient Greeks had sublimed the individual and tried to understand his inner life. For their philosophy, individual and society had had a strong bond and affected each other. Schinkel similarly believed in architecture's power to inspire civic consciousness. By redesigning Berlin's urban spaces he aimed to create identity for Prussian society. He hoped that thanks to architecture societies could organize themselves into the best they could be. For this reason, he advocated the idea as follows: "To turn something useful, practical, functional, into something beautiful, that is architecture's duty."⁶⁵ According to him, to achieve this civic consciousness, architecture must have established a direct relationship with the people. Buildings had to reflect their functions and structures honestly. Structure was the essence of architecture, and this was only achieved by pure forms. Since for him the utility was the basic principle of the entire building, using of pure forms went beyond historicism. His

⁶³ Puente, Moises, Editor. *Conversations with Mies van der Rohe*, Princeton Architectural Press, 2008.

⁶⁴ Lifson, Edward. 2009. *How Truth and Beauty Moved from the Classical to the Modern*, University of Southern California, Master Thesis. p. 17.

⁶⁵ Steffens, Martin. *Karl Friedrich Schinkel, An Architect in the Service of Beauty*. Taschen, 2003.

interpretation of history was different from his contemporaries. Instead of completely rejecting history, on the contrary, he believed that without history the construction and utility were meaningless and tasteless.⁶⁶ Schinkel didn't want to replicate the Greek buildings. Their proportion system, scale, harmony between parts attracted his attention. Mies gave a special place to Schinkel's these ideals, as Paul Westheim wrote in 1927:

"Schinkel puts the industrial technology in correlation with his design; he uses iron and integrates technology and modern infrastructure in neoclassical style. A clear example is the famous Unter den Linden bridge (1830), one of the projects of the Prussian Berlin, realized in a distinctly neo-Renaissance style, but with cast-iron railings and gas lamps. For Schinkel, new materials and technology are not incompatible with high standards of design. This can be seen even in an attempt to make new inventions using elements of well-made craft, as a sort of precursor of Art and Crafts of William Morris; Schinkel realizes a book of sketches for artisans that will be studied by Behrens and therefore also by Mies."⁶⁷

Mies adopted Schinkel's ideas about the potentials of the new technology and began to implement this idea bravely. He believed that technology was shaping the present and maintaining its effect through the coming epoch. Like Schinkel's defense of technology, Mies later said in 1950s that;

"(Technology) is a real historic movement- one of the great movements which shape and represent their epoch. It can be compared only with the Classic discovery of man as a person, the Roman will to power, and the religious movement of the Middle Ages."⁶⁸

⁶⁶Bergdoll, Barry. *Karl Friedrich Schinkel: An Architecture for Prussia*. Rizzoli, 1994.

⁶⁷Westheim, Paul. *Mies van der Rohe - EntwickelungeinesArchitekten*. Das Kunstblatt 11 (1927), 57-58.

⁶⁸ Puente, Moises, Editor. *Conversations with Mies van der Rohe*, Princeton Architectural Press, 2008.

On the other hand, for Mies classical age represented not only standardization of values but also universal design principles. Throughout his career, Mies worked on standardization of symmetry, balance, order and proportions that are appropriate to human scale. Using modern materials, he re-interpreted the aesthetic values of classical age in his own works. Especially, the spiritual dimension of classical architecture was more influential for him to create a new kind of universality. According to Mies, architecture should have allowed standards that would transcend time and place like classical architecture had done before. Schulze puts this in another way, "the older he grew, saw between material fact and immaterial spirit, between the thing and its essence".⁶⁹

The idea of universality needed the functional flexibility and structural clearness instead of new formal inventions. Architectural historian Peter Blake also stated as:

"The only function one could be sure of in any building built to last was the function of flexibility of use throughout its lifetime. So, the only kind of building which would make sense, in terms of functionalism, would be a building not adjusted to any specific function at all! The concept of the "universal building" probably came to Mies out of his knowledge of Karl Friedrich Schinkel and the classical tradition. The greatest contribution the classicists had made to our civilization-from the Parthenon to the Greek Revival - was the idea of universality. They believed that mankind needed not special but universal solutions- solutions as applicable to a temple as they might be to a palace...What Mies did...was to take the classical notion of universality and translate it into steel, brick, and glass."⁷⁰

⁶⁹Schulze,Franze., *Mies van der Rohe*, University of Chicago Press,Pp.2012. 103.

⁷⁰ Blake, Peter.*Master Builders*, W.W. Norton & Company, New York, 1960, p.236.

The interiors of his buildings ensured a great flexibility in plan arrangements to make room for other functions. Thus, they only contained compulsory equipments like elevators, stairs, toilets, storages, shafts. Especially, the entrance floor of his high-rise buildings only contained service cores. This typology has been later repeated frequently even in today's high-rise buildings. (Table 3-4)

Schinkel's usage of new materials with the old ones was also significant feature of Mies' oeuvre. He used old materials to create a remarkable contrast. For instance, the steps at Crown Hall were of Roman travertine whereas the structure of building was made black steel. Like Greek temples this difference created a meeting platform which is broad and dramatic. This meeting space has been used again many of institutional buildings as a transitional space. (Table 3-3)

Schinkel's another interest to bring nature inside was also a common feature of Mies' designs. To create a visual continuity, he mostly extended walls and roofs towards gardens. Thus, the limits of his buildings were mostly uncertain so, they seemed like they were parts of the environment. This idea also overlapped with the ideals of De-Stijl movement which is discussed at the next parts.

Mies' architectural concept includes not only appreciation of classical values but also their relation with the modernized world. He accepted classicism as a method to form buildings in an ideal order. But its inner meanings and social domains of classicism should be changed according to the necessities of modern life. Thus, his projects had always simple plans, transparent facades whereas Classicism had complex plans divided with walls and opaque facades which prevented the penetration of light and air properly. According to Mies house should be a pure expression of its age, a transparent house in a green landscape.⁷¹ Through his minimalist attitude, he has affected the traditional concept of domestic life deeply. The house once seen as a boundary from the outside world has become a spatial continuum of the outside world. Transparency of modern


⁷¹Mies van der Rohe cited by David Spaeth in *Mies van der Rohe*, New York: Rizzoli, 1985, p. 15.

house destroyed the intimacy of private sphere and dissolved optical barriers while preserving the physical separation between inside and outside.

Mies explained his intention on Modern architecture in 1964 as:

"Advancing technology provided the builder with new materials and more efficient methods, which were often in glaring contrast to our traditional conception of architecture. I believed, nevertheless, that it would be possible to evolve architecture with these means. I felt that it must be possible to harmonize the old and new in our civilization. Each of my buildings was a statement of this idea and a further step in my search for clarity."⁷²

Table 3.3. Colonnade Orders

		
Karl Schinkel: Altes Museum	Mies van der Rohe: Crown Hall	Philip Johnson: Lincoln Center
Berlin, Germany, 1830.	Chicago, USA, 1956.	New York, USA, 1964.
http://www.pinterest.com/	http://arpc167.epfl.ch/	http://www.nyouthsymphony.org/

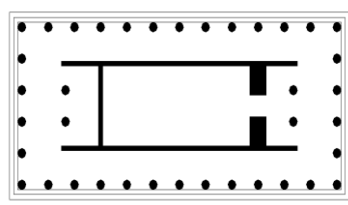
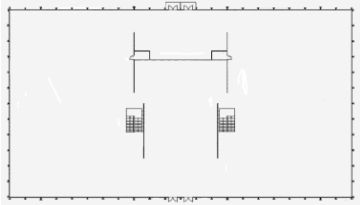
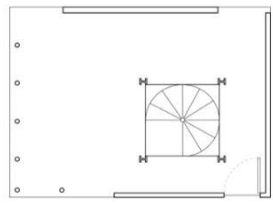
3.2. Bruno Paul's Influence

Another turning point of Mies' life began with working process in Paul Bruno's and Peter Behren's offices. In his working period in **Bruno Paul's (1874 - 1968)** office Mies realized his first projects. They illustrated the solid traditionalism of the surroundings. The windows of the houses with stone frames and the character of the roofs were based

⁷² Mies van der Rohe, quoted in Werner Blaser, New York, Praeger, 1972, p. 10.

on local examples. In those years, Mies had been sent to Italy for three months by one of the clients. On this trip Mies became very interested in the work of Palladio and Brunelleschi. In Florence he was particularly impressed by the Palazzo Pitti: "A huge stone wall with windows cut out of it. And that is that. You see with how few means you can make architecture!"⁷³ In Rome he was impressed by the Roman ruins especially Parthenon. (Table 3-4)The Basilica of Constantine was of great interest to him like the antique aquaducts. "The aquaducts were all of the same character, the form changed only to suit the geographic situation, there was no regionalism involved."⁷⁴ This expression, gave an idea about his thought on regionalism. His projects reflected a common language which could be suitable for all around the world like aqueducts. Thus, his unique design concept didn't stem from modernist ideals; on the contrary, it came from a historical basis.

Table 3.4.Hall with Inner Space

		
Architectural Types in Roman Architecture	Mies van der Rohe: Crown Hall	SANAA: Small House
Sicily, Italy.	Illinois, USA, 1956.	Tokyo, Japan, 2000.
http://www2.palomar.edu/	http://www.studyblue.com/	http://images.lib.ncsu.edu/

In Bruno's office Mies didn't only discover Roman architecture, but also his first acquaintance with Schinkel goes back to that working period. Mies worked with him

⁷³ Carter, Peter. *Mies van der Rohe at Work*, Phaidon Press Limited, New York, 1974, p. 174.





⁷⁴ *ibid.*

less than a year in 1907, but it was quite enough to see the influence of Schinkel on Bruno Paul`s works. (Table 3-5, Table 3-6) Bruno Paul was an Art Nouveau architect and furniture designer. His favored vocabulary, an abstracted classicism, had a profound influence on the later works of Mies. Although, Bruno didn't work with new materials in a modern sense, his achievement of the details was quite impressive on Mies` following works. Also, Mies' well-known furniture designs bear the trace of his furniture designs based on Art-Nouveau tradition.

Table 3.5. Georgian Revival Style

		
Karl Schinkel: Owinska Palace	Bruno Paul: SanitoriumPutzchen Doctor Health Building	Mies van der Rohe: Mosler House
Berlin, Germany, 1806.	Berlin, Germany, 1913.	Babelsberg, Germany, 1926.
http://commons.wikimedia.org/	http://www.ebay.com/	http://www.wissenschaftliches-bildarchiv.de/

Table 3.6.Functional Order

			
Karl Schinkel: Bauakademie	Bruno Paul: Gerling-Quartier	Mies van der Rohe: Martin Luther King Library	Louis Kahn: Yale Center for British Art
Berlin, Germany, 1836.	Köln, Germany, 1936.	Washington, USA, 1972.	New Heaven, USA, 1977.
http://www.studyblue.com/	http://www.skyscrapercity.com/	http://modernesia.blogspot.com.tr/	http://www.pinterest.com/

3.3. Behren's Influence

After Bruno Paul's office Mies joined the staff at **Peter Behrens (1868 - 1940)** Atelier in 1909. Behrens was an important figure in the development of modernist movement. He was one of the first designers to embrace industrialization as a means of designing useful objects for the mass. Not only Mies worked with him, but also other modernist masters like Le Corbusier, Walter Gropius worked with him. Behrens was also a strict follower of Karl Friedrich Schinkel.

Mies' interest to theoretical conception of construction began with Behren's office. As he developed his own ideas, Mies considered this concept from a different angle and also became critical of Behrens.⁷⁵ He thought that construction itself included all essence of architecture with its proportions, rhythms, scales, and volumetric relations. Mies rejected Behren's work by saying: "He who builds a factory as if it were a temple lies and disfigures the landscape."⁷⁶ According to Mies, buildings should have reflected rational construction methods instead of stylistic approaches. It was necessity to prevent the social disease which was growing in the twenties depending on economic crises and World wars.

However in another conversation Mies mentioned about Behrens as follows:

"They found it natural to build factories in a modern way, but all representative buildings were in the classicistic expression. I think it must be very hard to break a tradition like that; it is a slow process."⁷⁷

Despite these contradictory statements, his initial works clearly reflected the characteristics of Behrens' architectural conception. (Table 3-7) Especially, his acquaintance with pure forms related with Behrens' apartment designs. (Table 3-8) Mies

⁷⁵ West, Christophe Charles, 1994. *A Critical Analysis of the Tectonic Concepts in the Thought and Work of Ludwig Mies van der Rohe*, Rice University, Master Thesis, p. 14.

⁷⁶ Neumeier, Fritz. *The Artless Word: Mies van der Rohe on the Building Art.*, Cambridge: MIT Press, 1991, p. 27.

⁷⁷ Carter, Peter. *Mies van der Rohe at Work*, Phaidon Press Limited, New York, 1974, p. 176.

explained Behrens' influence on his as follows, "Peter Behrens had a great sense of form. That was his main interest and that I certainly understood and learned from him."⁷⁸

Table 3.7. Georgian Revival Style




		
Karl Schinkel: Schloss Klein	Peter Behrens: Wiegandhaus	Mies van der Rohe: Hugo Perls House
Berlin, Germany, 1837.	Berlin, Germany, 1912.	Berlin, Germany, 1911.
http://ww2.smb.museum/	http://www.dainst.org/	http://www.ncmodernist.org/

Table 3.8. Voids in Solid Mass

		
Peter Behrens: New Ways	Mies van der Rohe: Afrikanischestrass	Kazuhiko Namba: Muji Infill House
Northampton, England, 1926.	Berlin, Germany, 1927.	Tokyo, Japan, 2004.
http://www.artandarchitecture.org.uk/	http://www.ncmodernist.org/	http://mocoloco.com/

⁷⁸ *ibid.*

3.4. De Stijl Influence

Between the years of 1917 - 1930 **De Stijl movement** prevailed among the artists and architects. The most prominent figure of this movement was Theo van Doesburg (1883–1931). Mies was profoundly affected by his encounter with him, and everything he designed in the succeeding period 1920s and 1930s is in one way or another was impressed with the De Stijl ideas especially recognizable at the Brick Houses of 20s. (Table 3-9)

De Stijl's central goal was the abolition of all institutional boundaries both in painting and in architecture. In painting the frame which was the most obvious limit of the composition was abolished. Remaining on the canvas was merely a fragment of an unlimited continuity. Provision of this idea in architecture was described by Theo van Doesburg as follows:

"The new architecture has broken through the wall, thus destroying the separateness of inside and outside... This gives rise to a new, open plan, totally different from the classical one, in that interior and exterior spaces interpenetrate."⁷⁹

Nineteenth century philosophers, especially Hegel gave Doesburg inspiration to form De Stijl theory. In the 'Philosophy of History' Hegel described history, "not as merely a record of events and the cross connections between events, but as something that has a purpose, a goal; and that goal is the evolution of the spirit towards a fuller consciousness of itself."⁸⁰

Mies van der Rohe approaches to this idea with his expressions:

"Architecture is an historical process; it has little or nothing to do with the invention of interesting forms or with personal whims. I believe

⁷⁹Padovan, Richard., *Towards Universality Le Corbusier, Mies, De Stijl*, Routledge, London, 2002, p. 10.

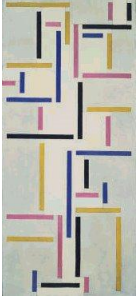
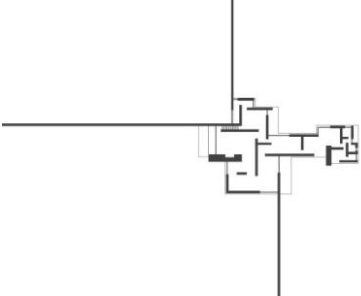
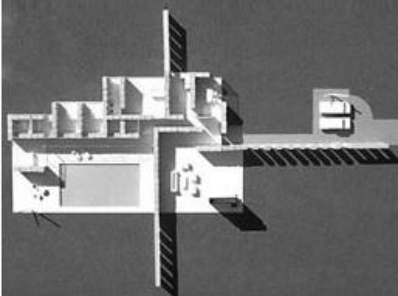
⁸⁰G.W.F. Hegel, *The Philosophy of History*, Dover Publications, New York, 1956, p.19.

that architecture belongs to the epoch, not to the individual. That, at its best, it touches and expresses the very innermost structure of the civilization from which it springs."⁸¹

Until 1930s, Mies continued to develop De Stijl concept in his court houses and well known Barcelona Pavilion. The structure and wall separated from each other and gained their freedoms. Whereby, the walls turned into free moving screens. They varied easily depending on the function.

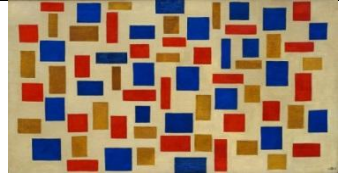
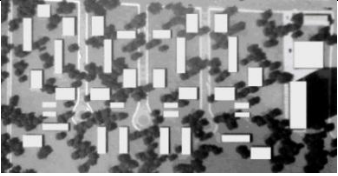

When he immigrated to the USA in 1938, he began to abandon the ideals of the movement. Although Mies was one of the significant advocators of De Stijl, his idea about primacy of structure was opposed to the aim of the movement. He began to design high rise buildings there, and so his attention was about structural stability and cost efficiency of those buildings. He continued to work on neoclassical ideas. However, even in a few of his later projects like Lafayette Park Settlement, it was possible to see some ideas of De Stijl movement being a basic principle of the layout of the blocks.(Table 3-10)

Table 3.9. Horizontal and Vertical Planes

		
Theo Doesburg: Russian Dance	Mies van der Rohe: Brick Country House	Shigeru Ban: Sagaponac House
1918.	unbuilt project, 1923.	Lond Island, USA, 2008.
http://www.pinterest.com/	http://www.worldarchitecture.org/	http://infdw.com/

⁸¹ Carter, Peter. *Mies van der Rohe at Work*, Phaidon Press Limited, New York, 1974, p. 172.

Table 3.10. **Horizontal and Vertical Planes**

		
Theo Doesburg: Composition XI	Mies van der Rohe: Lafayette Park Master Plan	SANAA: Moriヤマ House
1918.	Detroit, USA, 1958.	Tokyo, Japan, 2005.
http://www.4-construction.com/	http://www.moma.org/	http://www.pinterest.com/

3.5. Far Eastern Architecture: Japanese and Chinese Influence

Before his emigration to the USA in 1938, Mies met Frank Lloyd Wright at Taliesin in 1937. However, Mies had met the work of Wright in an exhibition that took place in Berlin in 1910. After that date, he had studied Wright's work very carefully and found that it helped to clarify his ideas. His friendship with Frank Lloyd Wright was influential especially on his interest in **Far Eastern architectures**. Additionally, his conversations with that profound expert on Eastern wisdom Graf Karlfried von Dürckheim may have strengthened this influence.⁸² From the few theoretical writings or speeches by Mies, it is seen that he didn't give direct reference to Chinese or Japanese inspiration. However, he was a collector of Chinese books, and the writings of Confucius and Laotze formed part of his library. Mies' idea about continuation between inner and outer space overlapped with the ideals of traditional Far Eastern architectures. Japanese sliding shoji partitions dissolve the closed solidity of borders, and make integration between inside and outside. In Tugendhat House, outer walls were covered with these transparent partitions to create a continuation between inside and outside. (Table 3-11) In Chinese traditional architecture the integration and separation of spaces were defined following questions as: "Where does the garden end, and where does the house begin? Where the garden

⁸²Blaser, Werner. *West meets East Mies van der Rohe*. Birkhauser, Switzerland, 1996, p. 6.

begins and the house ends"⁸³The transparency of the border separating interior and exterior permits the eye to perceive other elements that create special order: fences, trees, stones, woods, mountains, clouds. A unity between nature and the human being becomes possible. According to Laotze, nature is "the great void" in which various types of space-forming demarcation are possible- not only walls and posts, but also the aforementioned natural shapes and objects. Nature is not appreciated with the visual senses; nature also becomes an ordering factor in that "greater space" -in the unity of heaven and earth.⁸⁴This way of building, in which nature becomes a determining planning factor, does not glorify the house as a perfect geometrical body like the cases of Palladio or Vitruvius. Their houses were placed like an object on the land. On the contrary, Far Eastern architectures have seen the house as a complementary or integrated component of the natural environment. Hence, mathematically derived proportions which are obtained from Greek Classicism do not determine the beauty of Mies' works. Those proportions only used to give an order to the construction of the buildings. The main concern for him was to combine physical components of the buildings with spiritual meanings.

Table 3.11.Screens

		
Traditional Japanese interior partitions.	Mies Van Der Rohe: Tugendhat Villa	Tadao Ando: Yu-un House
	Brno, Czech Republic, 1930.	Naoshima, Japan, 2009.
http://www.pinterest.com/	http://www.pinterest.com/	http://www.pinterest.com/

⁸³Richard, Wilhelm, *Laotse*, Tao Te King, Köln, 1975, chapter 1.

⁸⁴Blaser, Werner. *West meets East Mies van der Rohe*. Birkhauser, Switzerland, 1996, p. 14.

After Mies' meeting with Wright, his latest designs reflected not only Far Eastern influences, but also American local cultures. (Table 3-12, Table 3-13, Table 3-14) Traditional structure's purity and their bare decorations which had spiritual meanings might have affected Mies' architectural ideas. Those structures had been living centuries without changing. That implies their superiority and structural stability. Also, these structures' plan arrangements were simple and included only the most useful equipments used in a house. Farnsworth House and 50*50 House were the most recognizable examples which reflect the simplicity of interior arrangements.

Table 3.12. **Hovering Roof**


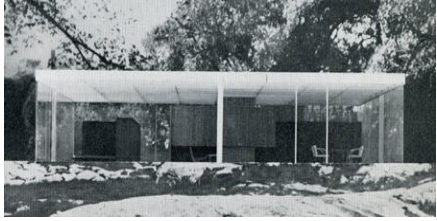

		
Mexican Palapa hut	Mies van der Rohe: 50*50 house unbuilt project, 1951.	SB&V Architects: Tarrytown Texas, USA, 2008.
http://depositphotos.com/	http://www.pinterest.com/	http://www.steinbomer.com/

Table 3.13. **Pile Piers**




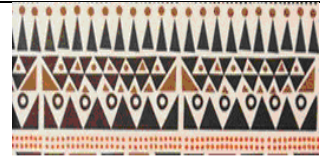
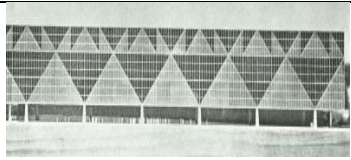

		
A traditional house on the Brunei river.	Mies van der Rohe: Farnsworth House	OMA: Dutch House
http://tr.wikipedia.org/	Illinois, USA, 1951.	Holten, Netherlands, 1995.
	http://www.pinterest.com/	http://www.archdaily.com/

Table 3.14. **Tribal Façade Pattern**

		
Indian American tribal pattern.	Mies van der Rohe: Convention hall	OMA: Shenzhen Stock Exchange
http://printpattern.blogspot.com.tr/	Illinois, USA, 1954.	Guangdong, China, 2013.
	http://www.agefotostock.com/	http://finance.qq.com/

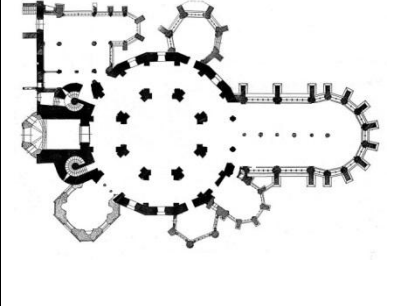
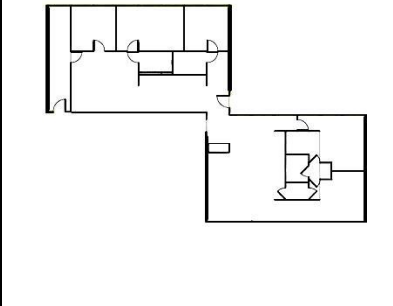
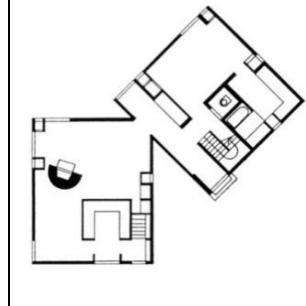
3.6. Aachen Influence

Another turning point for Mies was the effect of his native city, **Aachen** in Germany. Throughout his life he felt the effect of that small city. (Table 3-15) The medieval atmosphere of Aachen had a great impression on especially his latest designs. He mentioned about this city as follows:

"I remember seeing many old buildings in my hometown when I was young. Few of them were important buildings. They were mostly simple, but very clear; I was impressed by the strength of these buildings. They didn't belong to any epoch; they had been there for a

thousand years and were still impressive, and nothing could change that. All the great styles passed, but they were still there. They didn't lose anything and they were still as good as on the day they were built. They were medieval buildings, not with any special character, but they were really built.⁸⁵

Table 3.15. **Public and Private Realms**

		
Münster Church	Mies van der Rohe: McCormick house	Louis Kahn: Fisher House
Aachen, Germany, 805 AD.	Illinois, USA, 1952.	Pennsylvania, USA, 1967.
http://www.essential-architecture.com/	http://www.flor.com/	http://www.pinterest.com/

⁸⁵ Carter, Peter. *Mies van der Rohe at Work*, Phaidon Press Limited, New York, 1974, p. 174.

CHAPTER 4

THE BASES OF LE CORBUSIER`S IDEAS ON HISTORICAL SOURCE

The following table shows the classification method of the consecutive tables in the chapter. This method is based on certain formal similarities: plan, façade, mass, and structural details. For Le Corbusier, the contents in the tables illustrate his sources of inspiration.

Table 4.1. Classification of Formal Similarities in Le Corbusier`s Architecture

Plan	Façade	Mass	Structure
Centralized Plan	Classical Order	Hanging Gardens	Vaulted Units
	Hanging Gate	Stoa/Linearity	Vaults
	Horizontal and Vertical Axes	Cylindrical	Slabs and Façade independent of columns
	Infiltration of Light	Pyramid	Pilotis
	Three order of functional arrangement	Industrial Products	
	Geometric Patterns	Stepped Well	
	Jaali/Lattice	Irregular Openings	
	Brise Soleil	Parabolic	

Table 4.2. **Influences on Le Corbusier`s Architecture**

Charles L'Eplattenier (1874-1946)
Auguste Perret (1875-1954)
Peter Behrens (1868-1940)
Voyage to the East
Classical Influences
India Influences
De Stijl

4.1. Charles L'Eplattenier

Charles Edouard Jeanneret (1887 - 1965) spent his childhood in the city of La Chaux-de-Fonds in Switzerland. This isolated community, famous for watchmaking, was attached firmly to the past. To carry on the family tradition young Jeanneret was sent to L'Ecoled'Art in 1901. Regionalism was the main theme of the schools' curriculum, and his first mentor Charles L'Eplattenier (1874-1946) was one of the influential figures of the school. L'Eplattenier taught the importance of the natural environment that gives the identity of a place. He encouraged his students to search the nature to inspire their art.⁸⁶ Thus, Le Corbusier's early villas included many of the Jura regions motifs, plants, rocks, and soil configurations. In many of his sketches he showed plants with their roots and


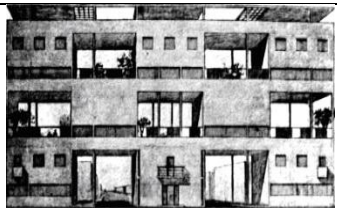

⁸⁶Hazem Osman, *Crossings: Journey Through Le Corbusier's Villa La Roche*, Master Thesis, Carleton University, Ottawa, Canada, 1999, p.7.

details of soil structure. Owen's *The Grammar of the Ornament* and Ruskin's *Seven Lamps of Architecture* were their main sources in those times. Le Corbusier's first commission, the Villa Fallet, was a Ruskinian-type dwelling with its regional motifs and decorations. After that first job, Jeanneret went to Italy in 1907 to search for inspiration. This first trip had a major impact on his ideas. From Bern to Milan, Genoa, Riviera, Pisa, Pistoia, Prato, and then Florence, his eyes were guided by Blanc, Baedeker, Ruskin, and Taine (all recommended by L'Eplattenier).⁸⁷ Being under the influence of his mentor, he did not look beyond the middle ages and its decorative arts. One of his letters to L'Eplattenier expressed his commitment as:

"Am I doing wrong? ... A word from you will help me greatly..."⁸⁸

During these trips, Le Corbusier discovered many of things which would give shape his later works. His acquaintance with the Monastery of Chartreuse du Val d' Ema corresponded to those days. Many writers of his period often described the beauty of that place. Especially priest's private dwelling units would be a basis in the design of aerial gardens in high rise projects and especially in the clusters of La Tourette Monastery. (Table 4-3)

Table 4.3. Hanging Gardens

		
Chartreuse du Val d'Ema Monastery Florence, Italy, 1341. http://www.iparigi.com/	Le Corbusier: aerial garden project unbuilt. http://www.gizmoweb.org/	MVRDV: Multiple Family dwelling Madrid, Spain, 2009. http://commons.wikimedia.org/

⁸⁷ Ibid, p.13.

⁸⁸ Allen Brooks, *Le Corbusier's formative years*, letter to L'Eplattenier in September 19, 1999.

After Italy, his second step was Vienna. Architects and artists such as Otto Wagner, Adolf Loos, and Joseph Hofmann avant-gardes were working there at that time. However, none of their works attracted his attention, and he didn't even give place to them in his sketch books. Having spent four months in Vienna, Le Corbusier decided to make his next trip to Paris.

4.2. Auguste Perret

Before coming to Paris, Le Corbusier had felt no interest to classical architecture.⁸⁹ He had never sketched any of the works of Renaissance masters like Bramante, Leonardo da Vinci, Michelangelo, and Donatello. He had sketched only the examples of regionalism. But, Paris would be a breaking point from his regionalist ideas. At the beginning of the year 1908, he started work with the Perret Brothers. Auguste Perret (1874-1954) became a new mentor for him, he found in him a guide who combines various opposing visions. Auguste Perret focused on a new interpretation of neo classical style, and carried the banner of 19th century rationalism after Viollet-le-Duc. Le Corbusier mentioned about him as follows:

"Auguste Perret in Paris aspired to equip architecture with new means and was ready to throw all traditional aesthetic practices into the melting-pot."⁹⁰


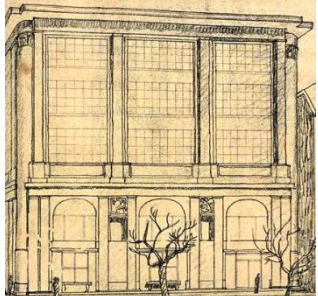

Le Corbusier received lessons from him about the potentials of the classical architecture, and modern methods. His projects in that period reflected both classical façade orders and Behrens` guidance. (Table 4-4) He continued his interest in Gothic architecture, but in a new perspective. Especially, Viollet Le Duc was a key figure for him to discover the new dimensions of Gothic. He also continued the school of École des Beaux Art in Paris. Mechanics, statics, and strength of materials were some courses which he took

⁸⁹Hazem Osman, *Crossings: Journey Through Le Corbusier's Villa La Roche*, Master Thesis, Carleton University, Ottawa, Canada, 1999, p.13.

⁹⁰ Le Corbusier *The Decorative Art of Today*, trans. James Dunnett, MIT Press, Cambridge, 1987, p.134.

there. In spite of his dislike of mathematics, these courses opened him to rational and structural point of view. One of his letters to L'Eplattenier adds: "*this mathematics-Paris cries out to me: logic, truth, honesty.*"⁹¹ At the same time, he was introduced to reinforced concrete by Auguste Perret. Instead of conventional massive walls, this material allowed a new way of construction system.

Table 4.4. **Classical Order**

		
Auguste Perret: Theatre des Champs- Elysees	Le Corbusier: Magasin, La Chaux- de- Fonds	Michael Graves: Minneapolis Institute of Arts
Paris, France, 1913.	Suisse, France, 1913.	Minneapolis, USA, 2006.
http://www.pinterest.com/	http://www.fondationlecorbusier.fr/	http://www.mprnews.org/

4.3. Peter Behrens

After Paris, his next trip was Germany in April 1910. Traditionalist and modernist discussions were prevailing in Germany at the time. Debates between the scholars of He started to work for Peter Behrens'(1868-1940) architectural firm nearly a year later. Before Behrens' office he was a medievalist, but there he became a classicist. He mentioned his evolution to L'Eplattenier in a letter as: "*Gothic is completely dethroned...classicism is enabled, and Louis XVI is crowned.*" He added also in the same letter:

⁹¹ Allen Brooks, *Le Corbusier's formative years*, letter to L'Eplattenier in September 19, 1999, p.244.

"(At) Chez Behrens, the shock was brutal...I arrived at Behrens' knowing almost nothing about what was a style...Behrens rigidly insists upon rhythm and subtle proportions and so many other things that were entirely unknown to me..."⁹²

He worked there for a short period of time but he learned a new style that was based on hierarchy, efficiency, and accuracy. Besides, Behrens' working principle would later become influential on Le Corbusier's character. The classical tradition of proportions and regulating lines were common features of Behrens' designs. Regulating lines which gave a sense of unity and hierarchy to a design were used not only for architecture, but also for furniture and minor accessories. The discovery of proportions had a profound effect on Le Corbusier, and he eventually developed his understanding of it. He again expressed his ideas on regulating lines in a letter to his first mentor as: *"to create volumes which play under the light in rhythms based on geometrical shapes; joy of form rediscovered for a feast of the eyes."*⁹³

4.4. Orient ('Voyage d 'Orient')

From the late 18th century to the early 19th century, Orientalist overview had been developed in the Europeans which had been long represented by romanticism and exoticism. Paris was also the capital of Orientalism and this interest has continued to evolve throughout the twentieth century. Edward Said framed that interest as:

"It includes the places 'of Europe's greatest and richest and oldest colonies, the source of its civilizations and languages, its cultural contestant, and one of its deepest and most recurring images of the other."⁹⁴

⁹² Allen Brooks, *Le Corbusier's formative years*, letter to L'Eplattenier in January 16, 1999, p.244..

⁹³ Balkrishna Doshi, *Le Corbusier and Louis Kahn*, in the *Le Corbusier: the acrobat of architecture*, Vastu-Shilpa Foundation, Ahmedabad.

⁹⁴ William Edward Said, *Orientalism*, London, Penguin, 2003.

Le Corbusier's orient journey started at Dresden, continued to Prague, Vienna, Vac, Budapest, Baja, Adrianople, Constantinople and Bursa. He made lots of sketches and recorded his impressions on a diary. In 1911, Le Corbusier visited İstanbul and experienced by Turkish traditional architecture. He was affected by Byzantine architectural remains and Ottoman domestic life. He praised the High Sophia as: "*Such unity! Such timelessness! Such wisdom!*"⁹⁵ According to Le Corbusier, good urbanism depended on formal unity achieved by modular design system. İstanbul's mosques had cubic shapes defined by gridal domes. This idea makes İstanbul a masterpiece of urbanism due to his idea that great architecture is cubic.⁹⁶ In Islam geography the first cubic structure was the Kaaba, and its simple form determined the orientation of the axis of every mosque. Also, in the historical cities of Islam, mosque was the creator of the whole axis, roads and streets. This central scheme left an impact on him.⁹⁷

In his early designs, it was possible to see the effects of this voyage to İstanbul and Bursa. In his diaries, he described the Turkish house as: "*The Konak, the Turkish wooden house is an architectural masterpiece.*"⁹⁸ Villa Jeanneret-Perret (1912), Villa Favre-Jacot (1912), and VillaSchwob (1916) had similar interior organizations with Traditional Turkish konaks.⁹⁹ (Table 4-5) In the later designs his attention also shifted to Mediterranean and Islamic architecture. The weekend house (1935), the Roq and Rob project (1949), and the MaisonJaoul (1956) were the most recognizable among them. (Table 4-6)

⁹⁵ Le Corbusier, *Journey to the East*, edited and annotated by Ivan Zaknic, Cambridge, MIT Press, 1987, 240.

⁹⁶ Le Corbusier, *Sketchbooks*, 1:6.

⁹⁷ ZeynepÇelik, *Le Corbusier, Orientalism, Colonialism*, Assemblage, No. 17, 1992, p.58-77.

⁹⁸ Ibid. Le Corbusier, p.167.

⁹⁹ Ibid. Çelik, p.58-77.

Table 4.5. **Centralized Plan**

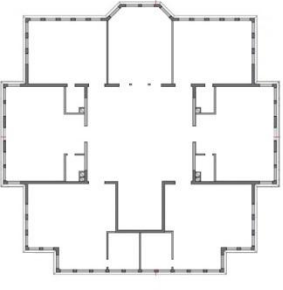
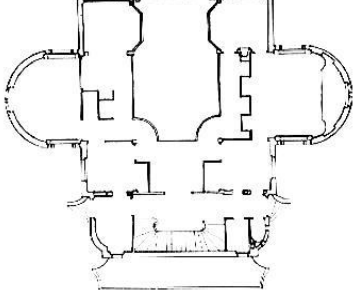
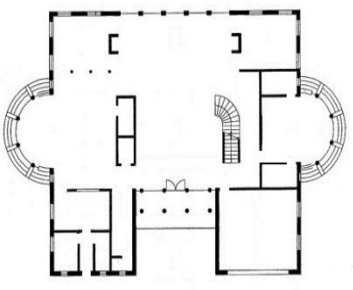
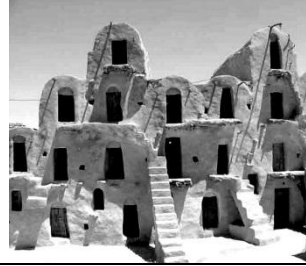
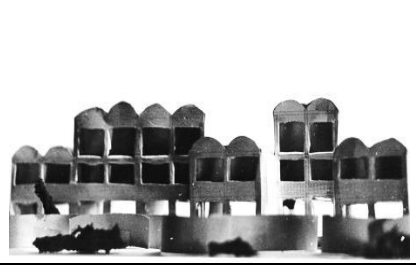

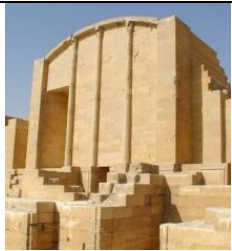
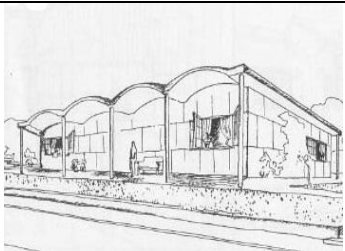

		
Şerifler Mansion Emirgan, Istanbul, 1782. http://www.tarihkentlerbirligi.org/	Le Corbusier: Villa Schwob/Turkish house La Chaux de Fonds, Switzerland, 1916. http://www.studyblue.com/	Jakob Schilling: Villen in Shanghai Shanghai, China, 2005. http://www.jschilling.ch/

Table 4.6. **Vaulted Units**

		
Traditional Berber Houses Matmata, Tunisia. http://soleilbleu1.free.fr/	Le Corbusier: the Roq and Rob project Roquebrune-Cap-Martin, France, 1949. http://www.fondationlecorbusier.fr/	Ken Craft village SidiKhalifa, Tunisia, 1994. http://archnet.org/

His journey to the East was only limited with İstanbul, Bursa and Algiers. He experienced other Eastern cultures from the paintings and books. In his publications of L'Esprit Nouveau, he gave place to the images of the Orient, such as ancient cities of Mesopotamian, Persian palaces, Indian temples, the Great wall of China, even though he had never seen those places.(Table 4-7)

Table 4.7. **Vaults**




		
HebSed court Step Pyramid, Egypt. http://countrylicious.com/	Le Corbusier: Maison Monol not located, 1919. http://www.lecorbusier.org/	Norman Foster: Cranfield University Library Bedfordshire, UK, 1993. http://www.getting-in.com/

His works had similar ideas with Far Eastern cultures and their structural systems of traditional temples. (Table 4-8) For example, in Chinese traditional architecture rectilinear and rectangular shapes were commonly used to reflect the hierarchy and social and ethical values.¹⁰⁰ In those traditions, columns and beams support the roofs instead of walls. This idea has a similar view with Le Corbusier's "free plan" concept which was a part of five points of his architecture.¹⁰¹

¹⁰⁰Mingkang Liang, *Le Corbusier's imaginary journey to the Far East*, University of Edinburgh,, Forum. Vol.7.

¹⁰¹"By removing the façade's prominence in favor of a more suggestive way of creating mass, they have turned their original design signature on its head." (Michael Holt and Marissa Looby. "From Facades to Floor Plates & Form: The Evolution of Herzog & de Meuron" 06 Jul 2014. ArchDaily. Accessed 06 Jul 2014. <<http://www.archdaily.com/?p=523080>>)

Table 4.8. **Hanging Gate**

		
Japanese Traditional Torii Gate.	Le Corbusier: Curutchet House La Plata, Argentina, 1953.	Tadao Ando: Azuma House Osaka, Japan, 1979.
http://commons.wikimedia.org/	http://lecorbusierweblog.wordpress.com/	http://www.pinterest.com/

4.5. Classical Influences

In 1918, through his mentor Auguste Perret, Le Corbusier was introduced to the artist and philosopher Amedee Ozenfant. His wide philosophical interests and fame fascinated Le Corbusier. They later developed the basic principles of a new purist movement. Especially, L'Esprit Nouveau articles and many paintings helped him to shape his purist point of view which was a variation of Cubist movement and a criticism to Cubism. In the purist manifesto, Cubism was accused of being a decorative art of romantic ornamentism. Also, according to the manifesto, decorative art was at the base of all arts whereas the human figure at the summit.¹⁰² In a letter to Ozenfant, he expressed his feelings as: *"I feel that I am at the threshold of discoveries, while you [Ozenfant] are concerned with their realization."*¹⁰³ In creating a new concept of design, he utilized the traditional design metaphors. Instead of repeating them, he eventually derived new meanings from traditional methods. To create a new construction, the essence of existing values must be understood genuinely. Thus, his trips helped him to solidify his

¹⁰²Susan Textball, *Ozenfant and Purism: The Evolution of a style 1915–1930*. Ann Arbor, Michigan: UMI Research Press. 1981, p.213.

¹⁰³Quoted in Jacques Guiton, *The Ideas of Le Corbusier in Architecture and Urban Planning*, New York Braziller, 1981, p.14.

purist theory. One of the lessons that Le Corbusier gained from those trips is "axis" which was based on "symmetry" in classical architecture. His first mentor L'Eplattenier often emphasized the significance of symmetry, and also the writings of John Ruskin which was their bible in those years, about Gothic masterpieces hosted many symmetrical designs. Later, at the Ecole Des Beaux Arts he once again encountered the idea of symmetry as the representation of beauty. Both Auguste Perret and Peter Behrens were giving much more attention to symmetry too. And finally, his following journey to the East would demonstrate the universality of symmetrical designs. However, he was looking into a new dimension of symmetry. The old point of view conceived symmetry static, but his vision based on dynamism. He described the axis idea as: (Table 4-9, Table 4-10)

"An axis is perhaps the first human manifestation; it is the means of every human act. The toddling child moves along an axis, the man striving in the tempest of life traces for him an axis. The axis is the regulator of architecture. To establish order is to begin to work. Architecture is based on axes. The axis is a line of direction leading to an end. In architecture you must have a destination for your axis. In the Schools they have forgotten this and their axes cross one another in star-shapes, all leading to infinity, to the undefined, to the unknown, to nowhere, without end or aim. The axes of the School are a recipe and a dodge. Arrangement is the grading of axes, and so it is the grading of aims, the classification of intentions. The architect therefore assigns destinations to his axes. These ends are the wall (the plenum, sensorial sensation) or light and space (again sensorial sensation)."¹⁰⁴

¹⁰⁴Le Corbusier, *Towards a New Architecture*, New York: Praeger Publishers, 1960, p.173.

Table 4.9. **Linearity**







		
Stoa of Attalos, The Ancient Agora	Le Corbusier: La Tourette Monastery	David Chipperfield: Museum of Modern Literature
Athens, Greece, 2nd century BC.	Eveux, France, 1957.	Marbach, Germany, 2006.
http://en.wikigogo.org/	http://www.panoramio.com/	http://www.e-architect.co.uk/

Table 4.10. **Regulating Lines**




		
Giovanni Bon: Palazzo Ca O'Oro	Le Corbusier: Gratte-ciel	MVRDV: Mirador Housing
Venice, Italy, 1430.	Algiers, Algeria, 1938.	Madrid, Spain, 2005.
http://www.arte.it/	http://www.fondationlecorbusier.fr/	http://www.mvrdv.nl/

Another lesson learned from classical architecture was the **basic forms** of the major historical monuments and its relation with current machine aesthetic. (Table 4-11, Table 4-12) Le Corbusier believed in standardization and basic forms used in Greek temples. He expressed his passion to these forms in "VersUne Architecture" as:

"Architecture is the masterly, correct and magnificent play of masses brought together in light. Our eyes are made to see forms in light; light and shade reveal these forms; cubes, cones, spheres, cylinders or pyramids are the great primary forms which light reveals to advantage; the image of these is distinct and tangible within us without ambiguity. It is for this reason that these are beautiful forms, the most beautiful forms."¹⁰⁵

New industrial structures such as bridges, planes, factories were based on these basic forms, universal laws of symmetry and efficient axis. The basis of Le Corbusier's ideas which he outlined in *VersUne Architecture (Towards an Architecture)* was about standards and perfection. He thought that "*all men have the same needs*" and that a house should be "*a machine for living*".¹⁰⁶ Thus, his projects contained many references of industrial structures like ships, bridges, factories etc. He especially fascinated with oceanliners. (Table 4-13) He thought them as the symbols of 20th century architecture. He noted that "oceanliners demonstrated the potential of highly-serviced mega structures to provide ideal living conditions."¹⁰⁷

Table 4.11. **Cylindrical Mass**

		
Gottfried Semper: Theatre at Dresden Dresden, Germany, 1841. http://www.gutenberg.org/	Le Corbusier: Student Center Chandigarh, India, 1960. http://en.wikipedia.org/	Richard Meier: ULM Stadthaus Ulm, Germany, 1993. http://archiseek.com/

¹⁰⁵ Le Corbusier, *Towards a new Architecture*, Dover Publications. Inc., New York, 1985, p.29.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

Table 4.12. Pyramid


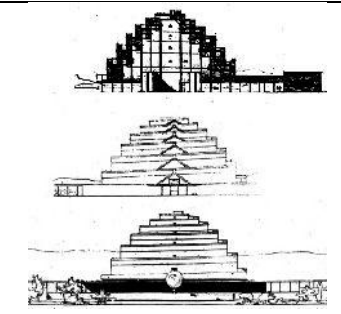

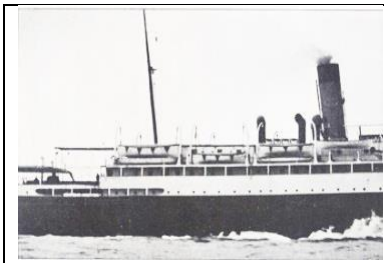
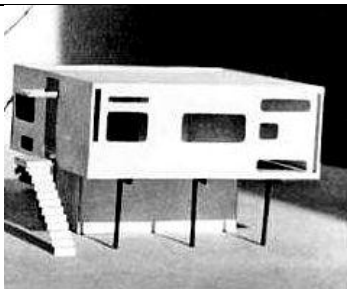
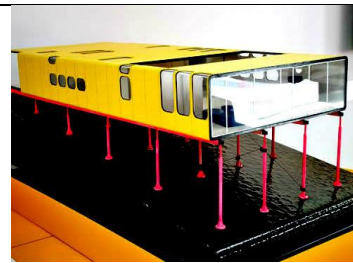
		
Imhotep: Pyramid of Djoser	Le Corbusier: Musée Mondial	Herzog de Meuron: Triangle Tower
Third Dynasty of Egypt	Suisse, France, 1929.	Paris, France, 2017.
http://misreilmahrousa.com.eg/	http://www.fondationlecorbusier.fr/	http://www.herzogdemeuron.com/

Table 4.13. Industrial Products

		
Ocean liner	Le Corbusier: Maisons Rurales	Richard Rogers: Zip up house
from "Towards a new Architecture"	Lagny, France, 1950.	London, England, 1971.
http://semiconstructed.wordpress.com/	http://www.fondationlecorbusier.fr/	http://www.archdaily.com/




In Le Corbusier's architecture, **color** was also another recognizable factor which was adapted from Mediterranean oldest cities. The facades of most of his 1920s villas were whitewashed. The effect of white color came from his journeys to the traditional Mediterranean cities. He noted as: "*In the course of my travels I found whitewash wherever the twentieth century had not yet arrived...*"¹⁰⁸ This color would later become

¹⁰⁸ Le Corbusier, *Towards a new Architecture*, Dover Publications. Inc., New York, 1985, p.189.

the symbol of purism. Especially, by the end of his life this effect of color was further developed with the help of light wells and material textures such as famous Notre Dame du Haute Chapel at Ronchamp.(Table 4-14) He expresses his passion to light in the "Versune Architecture" as:

"Space, light and order. Those are the things that man need just as much as need bread or a place to sleep."¹⁰⁹

Table 4.14. **Infiltration of Light**

		
Muness Castle	Le Corbusier: Ronchamp Chapel	Eero Saarinen: Hill House College
Shetland, Scotland, 1598.	Haute-Saone, France, 1954.	Pennsylvania, USA, 1960.
http://voussoirs.blogspot.com.tr/	https://www.flickr.com/	http://hiddencityphila.org/

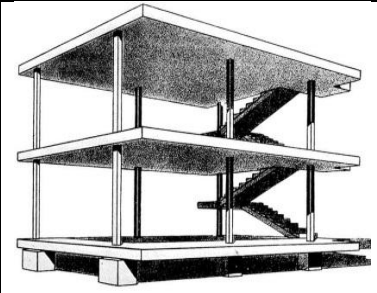


The idea of **promenade** was also existent even in his early designs and was one of characteristic features of his design agenda. First encounter with this idea goes back to his journey to the northern Italy. Allen Brooks asserted that the Monastery of Ema with its walkways constitutes the essence of Le Corbusier's architectural promenade idea.¹¹⁰ In fact, in Europe, the idea of promenade hadn't been common. There wasn't any relation and continuity between the parts of a house. The houses had been planned as separated rooms. Traditional structural systems hadn't allowed long-span and partitioned spaces.

¹⁰⁹ Ibid. p.29.

¹¹⁰ Brooks, Allen. *Le Corbusier's formative years*, letter to L'Eplattenier in September 19, 1999.

In 1915s well known Domino House, Le Corbusier introduced the independence of columns from façade and walls.(Table 4-15)From 1907 to 1923 this idea received several elaborations and the Villa La Roche (1925) was its first manifestation.

Table 4.15.Slabs and Façade Independent of Column

		
Le Corbusier: Domino House Model	Rem Koolhaas: Jussieu Library model	Herzog de Meuron: Lincoln Road Parking
Unbuilt project, 1915. http://www.dezeen.com/	Paris, France, 1992. http://en.nai.nl/	Florida, USA, 2010. http://www.pinterest.com/

Like many avant-gardes of the 20th century, Le Corbusier's desire was to create an ideal view for the new epoch. New technology and new functional requirements including Le Corbusier forced modernist architects to reject tradition. The existing academicism was based on styles such as Art Deco and Art Nouveau. In the book "Versune Architecture", he argued against architectural "style" and ornament. He believed in the power of industrial made materials such as concrete, steel and glass and a revolution was made possible with those materials. He rejected the existing academicism, instead found his inspirations from different sources. Classicism has been the basis of his ideas. Throughout his trips, he discovered the meaning of classical buildings in a different way. He revealed the new principles of architecture convenient to the epoch like his

followed architects Vitruvius, Alberti, and Palladio. He was influenced by the ancient Greek temple Parthenon's proportions and structure. In 1911, his journey to the east included the Parthenon. He spent weeks visiting the acropolis, and he noted that:

"Days and weeks passed in this dream and nightmare, from a bright morning, through intoxicating noon, until evening, when the sudden whistle of the guards would tear us away from all this..."¹¹¹

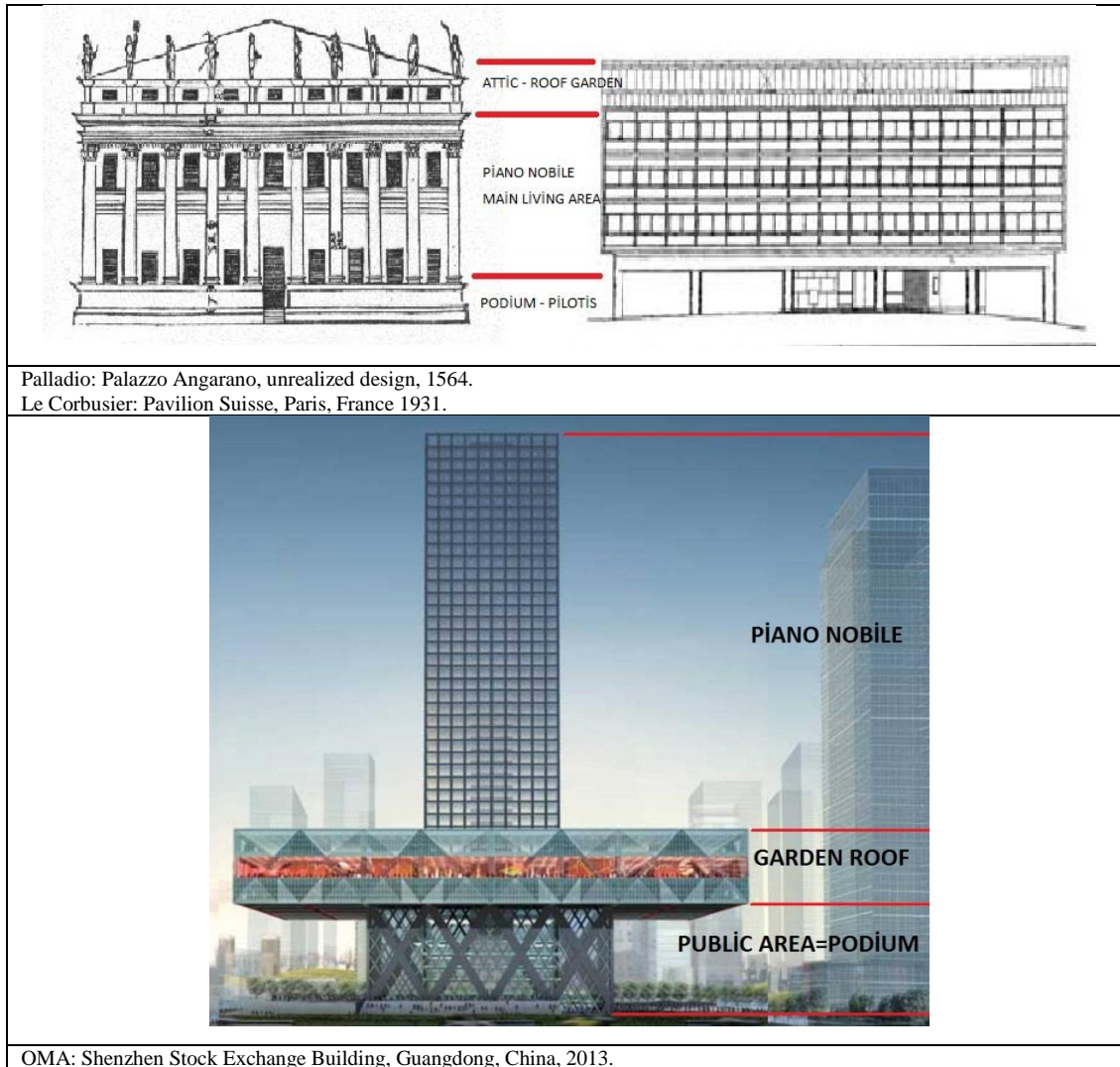
Cylindrical columns, rectangular walls and triangular pediment were standardized for the each Greek temple. However, this didn't lead to all temples appearing the same; designers had room to express their creativity. The original practice constituted pragmatic and metaphoric bases to the new one. Thus, architectural principles of Greek temples represented an architectural order which is formed in a long time. In Le Corbusier's repertoire, the elements of the classical architecture attained a newly formed symbolic significance. For example, classical elements such as attic storey, podium, pianonobile referred to the roof garden, repeating floors and raised on pilotis in modernist vision. Kenneth Frampton described these historical references of his "Five Points" as:

"The use of pilotis is a reversal of the classical podium; it accepts the classical separation of the Piano Nobile from the ground but interprets this separation in terms of void rather than mass. The fenetre en l'air is a contradiction of the classical window aedicule. The roof terrace contradicts the pitched roof and replaces the attic story with an open -air room. The free façade replaces the regular arrangement of window openings with a freely composed surface. The free plan contradicts the principle by which distribution was constrained by the need for vertically continuous structural walls and

¹¹¹ Le Corbusier, *First Journey to the East*. 1st ed. Cambridge, Massachusetts: MIT Press, 2007. Print, p.230.




replaces it with a free arrangement of nonstructural partitions determined by functional convenience."¹¹²(Table 4-16, Table 4-17)

Table 4.16. Tripartite Order of Functional Arrangement



¹¹² Kenneth Frampton, *Modern Architecture and Historical Change*, Architectural Design, vol. 43, April 1972, p. 220-243.

Table 4.17. **Pilotis**

		
Model of Prehistorical Pile Dwellings	Le Corbusier: Villa Savoye	OMA: Villa Dall'Ava
Switzerland, from 5000 to 500 BC.	Paris, France, 1929.	Paris, France, 1991.
https://www.flickr.com/	http://www.bc.edu/	http://www.pinterest.com/

4.6. De Stijl

Le Corbusier's encounter with De Stijl movement was around in 1923-1924 while the De Stijl manifesto was composed in 1918 by Van Doesburg.¹¹³ According to the manifesto, there was a conflict between old and new, individual and universal. The De Stijlists represented the new generation and elevated mechanical perfection over craftsmanship. In addition, they sought to eliminate subjectivism from art. Their design's basic characteristic was a pure universality which based on the origins of color and form. (Table 4-18, 4-19)

¹¹³Padovan, Richard., *Towards Universality Le Corbusier, Mies, De Stijl*, Routledge, London, 2002, p. 10.

Table 4.18. Geometric Patterns

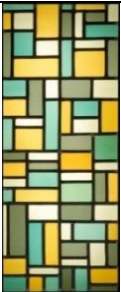
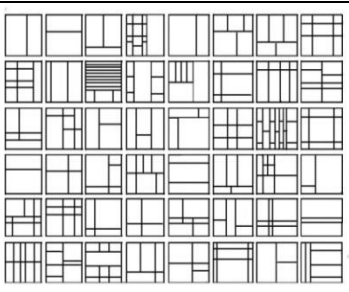

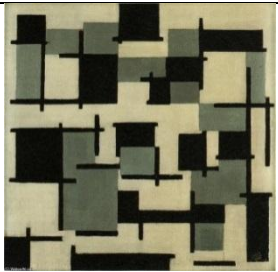


		
Theo Van Doesburg: Stained Glass Composition IX	Le Corbusier: Panel Exercises from The Modulor	Jean Nouvel: 100 11 th Avenue
1918.	1950.	New York, USA, 2010.
http://www.pinterest.com/	http://www.pinterest.com/	http://pandiscio.com/

Table 4.19. Irregular Openings

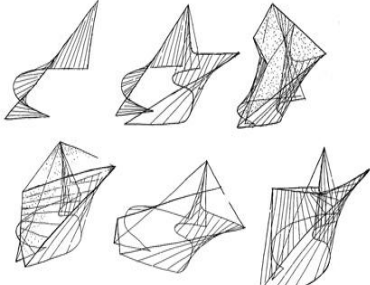


		
Theo Van Doesburg: Composition XIII	Le Corbusier: Unite d'Habitation	SANAA: Zollverein School
1918.	Nantes, France, 1954.	Essen, Germany, 2006.
http://alcanfordelasinfantas.wordpress.com/	http://www.pinterest.com/	http://archdialog.com/

After Le Corbusier's acquaintance with De Stijl movement, using of color, various geometric shapes and their combination gained much more importance in the designs. Especially, his companionship with artists opened new horizons for the later designs. For example, in the Philips Pavilion, Le Corbusier worked with Iannis Xenakis who was an experimental composer and music theorist. Xenakis pioneered the use of mathematical models in music and was also a significant influence on the development

of electronic music. He integrated music with architecture and made concrete his music compositions with architectural spaces. (Table 4-20)

Le Corbusier knew that in classical architecture music was a part of architectural design. Roman architect Vitruvius whose writings on architecture and mechanics in *De Architectura* were deeply influenced by musical theories. In the first book of *De Architectura*, he mentioned that: "the architect should know music [musicien] in order to have a grasp of canonical and mathematical relations." He added that "architects will be most easily capable of using the principles of Nature to design theaters that enhance the voice for the pleasure of the audience."¹¹⁴

Table 4.20. **Parabolic**

		
<p>Iannis Xenakis: Metastaseis</p>	<p>Le Corbusier, Iannis Xenakis: Philips Pavillion</p>	<p>Kenzo Tange: St. Mary Cathedral</p>
<p>1953-54.</p>	<p>Brussels, Belgium, 1958.</p>	<p>Tokyo, Japan, 1964.</p>
<p>http://www.pinterest.com/</p>	<p>http://www.archdaily.com/</p>	<p>http://www.archdaily.com/</p>

¹¹⁴ Vitruvius, *Ten Books on Architecture*, Cambridge, University Press, 1999.

4.7. Indian Influences

Le Corbusier's Indian works include the master plan of Chandigarh, its capitol complex, Millowners Association Building, Sanskar Kendra City Museum, Sarabhai House, and Shodhan House designed between 1952-1955.

Le Corbusier developed designs which were compatible with subcontinent's unique climatic, geographical and cultural context. He always gave a special place to India's historical context and was fascinated by its culture.¹¹⁵ In one of his notebooks, he spoke of the influence of India as:

"India the humane and profound civilization. To construct a Capital:
Urbanism is the activity of a society. A capital is the spirit of nation. A
set of tools. It is a Conjunction..."¹¹⁶

The first step in his designs was the analysis of sun and wind. Ahmedabad and Chandigarh has a hot dry monsoon climate. He had to cope with scorching sun, rain, high humidity and hot wind. He observed the traditional huts of Gujarat and Punjab to solve the harmful effects of the sun.¹¹⁷ Thick walls to store heat, sun breakers were traditional strategies which were explored by him. Brise Soleil was one of these local factors that keep the inside from direct effects of sun. Although in some of his previous projects this element was used, in his India projects its depth and formal coherency was much more dominant and clear than in the previous ones. Then, this became an effective tool for his design repertoire which had various types. (Table 4-21)

He also visited traditional cities of Ahmedabad and surveyed the buildings in terms of indoor and outdoor environment. He recognized that the rooms should take daylight in a controlled manner because of the heat. He used perforated shading screens in the

¹¹⁵ZainabFaruqui Ali, *Indian Influences: Interpretations in Le Corbusier's Architecture for the Tropical Environment*, BRAC University Journal, Vol. III, No. 2, 2006, p. 1-7.

¹¹⁶ "W. Boesiger, O. Stonorow, *Le Corbusier: Complete Works*, London: Thomas and Hudson, 1970.

¹¹⁷ *ibid.*

buildings at Chandigarh which also provided natural ventilation to the interior.(Table 4-22)He used reflection pools around the buildings to enable cooling which was common in Mughal tradition. Roof gardens and ponds also helped to keep the inside cool with eliminating direct heat. The semi open character of Le Corbusier's designs in India reflected the environmental strategies of traditional Mughal buildings.

Table 4.21.**Brise Soleil**




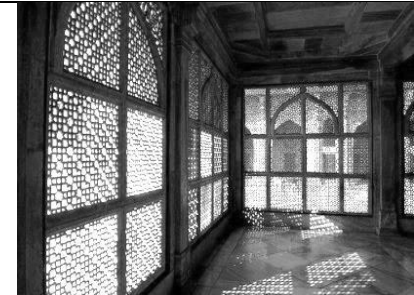


		
Fatehpur Sikri Palace Complex	Le Corbusier: Assembly Building	Foster+Partners: Masdar Institute
Uttar Pradesh, India, late 1500s.	Chandigarh, India, 1961.	Abu Dhabi, UAE, 2010.
https://www.flickr.com/	http://tr.pinterest.com/	http://www.dezeen.com/

Table 4.22.**Jaali/Lattice**

		
Fatehpur Sikri Palace	Le Corbusier: College of Architecture	Jean Nouvel: Institut du Monde Arabe
Agra, India, 16th century.	Chandigarh, India, 1959.	Paris, France, 1987.
http://tr.pinterest.com/	http://www.archdaily.com/	http://tr.pinterest.com/

In domestic life, he discovered the importance of privacy. High walls surrounding the houses, inward communal districts were some cases to preserve privacy of life. Those people had also the habit of sleeping outside especially in the hot days. He mentioned in the notes and drafts as: "*The verandah is the condition of the accommodation [.....] from April to October, the nights are slept in the roof top, except during July and August= rain/ sleeping in the verandahs.*"¹¹⁸ From the first moment, Le Corbusier discovered the value of the verandah for the Indian climate. But he also recognized its architectural value as transitional space and volumetric element.

Being aware of all these contextual factors, he was making visits to each site, and he was inevitably influenced by the surroundings. Multicolored texture of clothing, painting, and cuisine of India were also making this land very unique and exotic for those coming from the European culture. For this reason, Indian culture had a great effect on him. His later projects carried the effects of that unique culture. In one of his speeches Balkrishna Doshi mentioned the impact of India in Le Corbusier's work as:

"Well, mainly that he was looking at things in a different way than he had in the West. What do you do in a country where there is no technology but lots of skilled people, people with ideas; a country far behind in time but also very vital-full of energy! He began to think of using natural materials in a different way. When he came to Ahmedabad in 1951 and he saw the concrete column in Konuinde's ATIRA building, I know that he took pictures, back to Paris and said: "why not use concrete like this?"¹¹⁹

Although Le Corbusier had already used concrete, he learned in India how to bring up its potential in texture and plasticity.¹²⁰ Before he came to India, nature for him was only

¹¹⁸ Punjab Simla, Chandigarh, May, 1951, p.17, on the Foundation Le Corbusier files.

¹¹⁹ Balkrishna Doshi, *Le Corbusier and Louis Kahn*, in the *Le Corbusier: the acrobat of architecture*, Vastu-Shilpa Foundation, Ahmedabad.

¹²⁰ *Ibid.*

a chaotic and negative thing to cope with. But upon reaching India, he learned how to reconcile with nature. Balkrishna Doshi added that:

"He saw many things for the first time, the bright blue sky, the relentless sun, the hot winds, the cool moon, the beauty of tropical nights, the fury of the monsoon, and he said to me once that while his work so far had been a counterpoint to nature, he now realized that he had to have a pact with nature."¹²¹

¹²¹ Ibid.

CHAPTER 5

CONCLUSION

Table 5.1. List of Architects Sampled in the Study







ARCHITECTS	WRIGHT	MIES	LE CORBIUSIER	OFFICES	TOTAL
BIG Architects	1	-	-	Denmark, USA, China	1
David Chipperfield	1	-	1	England, Germany, Italy, China	2
Eero Saarinen	1	-	1	USA	2
Herzog de Meuron	1	-	2	Switzerland	3
Jakob Schilling	-	-	1	Switzerland	1
Jean Nouvel	-	-	2	France	2
Kazuhiko Namba	-	1	-	Japan	1
Kenzo Tange	-	-	1	Japan	1
Louis Kahn	1	2	-	USA	3
Mario Botta	2	-	-	Switzerland	2
Michael Graves	1	-	1	USA	2
MVRDV	1	-	2	Netherlands, China	3
Norman Foster	1	-	2	USA, UAE, Sweden, England, Spain, China	3
OMA	-	2	2	Netherlands, China, USA, UAE	4
Philips Johnson	-	1	-	USA	1
Richard Rogers	-	-	1	France	1
Richard Meier	1	-	1	USA	2
Robert Stern	1	-	-	USA	1
SANAA Architects	-	2	1	Japan	3
SB&V Architects	-	1	-	USA	1

Tablo 5.1 (Continued)					
Shigeru Ban	1	1	-	Japan	2
SOM	1	-	-	USA, England, China, UAE	1
Tadao Ando	1	1	1	Japan	3
Toyo Ito	2	-	-	Japan	2
total	17	11	19		47

Although a statistical analysis is not intended at the end of the study, this table still reveals an interesting result. It provides a list of architects whose works belong to a similar genealogy of forms with Wright, Mies and Le Corbusier. The numbers in the table represent buildings displaying similar features with these Modernist Masters'. What makes the study interesting is that it shows the countries where the offices of these architects are located. Looking at the distribution of their offices around the world, it might be claimed that USA, China and Japan are the countries where modernist references are realized at most. European countries and UAE follow them, respectively. Although Modernist view has spread from USA and Europe to the globe since the beginning of the 20th century, it is extending to China and Japan as well. The globalization of architectural practice has begun with the modern movement, and continued by their descendants. Their descendants have been designing and building projects for many different cultures at the same time. In addition, the size and scale of the projects have changed in time when it is compared to the first half of the 20th century. The construction system and materials which are used by their descendants are more advanced: much longer spans, lighter, thinner and less beams and columns, smooth and frameless surfaces, and parametric methods. However, the common features of these projects in the study are their ways of interpreting history. Without copying and imitating, they have achieved a meaningful relation with the past. Form-volume relations, proportions, scales, structural systems, spatial organizations are the expressions of these similarities.

Looking at their first and last works, it can be claimed that the masters have evolved in time. Their first projects illustrated the influence of their employers, but materials, construction systems, forms used in their last buildings were very different from these early examples. (Table 5-2)

Table 5.2. First and Latest Buildings of Master Architects

	Frank Lloyd Wright	Le Corbusier	Mies van der Rohe
First project	 <p>Unity Chapel, 1886</p>	 <p>Villa Fallet, 1906</p>	 <p>Riehl House, 1907</p>
Latest project	 <p>Scottsdale Spire, 1957</p>	 <p>Church of Saint Pierre, 1960</p>	 <p>IBM Plaza, 1973</p>

The question concerning how these three master architects used history can be explored on the basis of inspirations of their precedents. In Wright's architecture, domestic life was the basic and divine concept.¹²² Modernism changed the appearance of the cities, working conditions, cultural values. The chaotic nature of new life made people to take shelter in their homes. Thus, he looked into the factors which constitute the essence of home. To reach an ideal domestic life, he utilized many different sources from Japanese

¹²²FilizSonmez, *Organic Architecture and Frank Lloyd Wright in Turkey within the Framework of House Design*. Ankara: METU, Master Thesis, 2006, p. 10.

traditional houses to local cultures in America. He noted on Japanese art and architecture as: “Their art was nearer to the earth and a more indigenous product of the natural condition of life and work”¹²³

Whereas historical references provided certain principles to reach an ideal domestic life in Wright`s architecture, for Mies it is used to express structural perfection. With his well-known quote `less is more`, Mies often emphasized the significance of simplicity in structural expression. Mies has been influenced by different cultures and periods, and what keeps them together was their structural perfection. His buildings show a desire to reach a pick point in terms of structural expression.¹²⁴

For Le Corbusier, historical references represented an ideal order. He noted in the book titled *Toward an Architecture* as: “To create architecture is to put in order.” He thought that modernism was liberation from the dust of the past. It was a cleansing operation. Classical buildings of the past had produced a dark, suffocating and unhealthy environment. New materials and techniques provided opportunity to create more spacious and well-lit spaces. Instead of repeating traditional building styles, he believed that new meanings should be derived from traditional methods. To create a new construction, the essence of existing values must be understood genuinely. His trips to Orient, Italy, Greece and India left a deep impression on him. After these trips, he utilized historical building`s proportions, modularity, scales, forms to reach an ideal order.

¹²³ Wright, *An Autobiography*, Frank Lloyd Wright Foundation, Arizona, 1943,125.

¹²⁴ Richard Padovan, *Towards Universality Le Corbusier, Mies, De Stijl*, Routledge, London, 2002, p. 10.

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