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CRITICAL DISCUSSIONS ABOUT
THE PRINCIPLES OF MODERN
ARCHITECTURE MOVEMENT, THE
PIONEERING ARCHITECTS AND
ITS INFLUENCES, WITH TWO
RELEVANT BUILDING EXAMPLES.

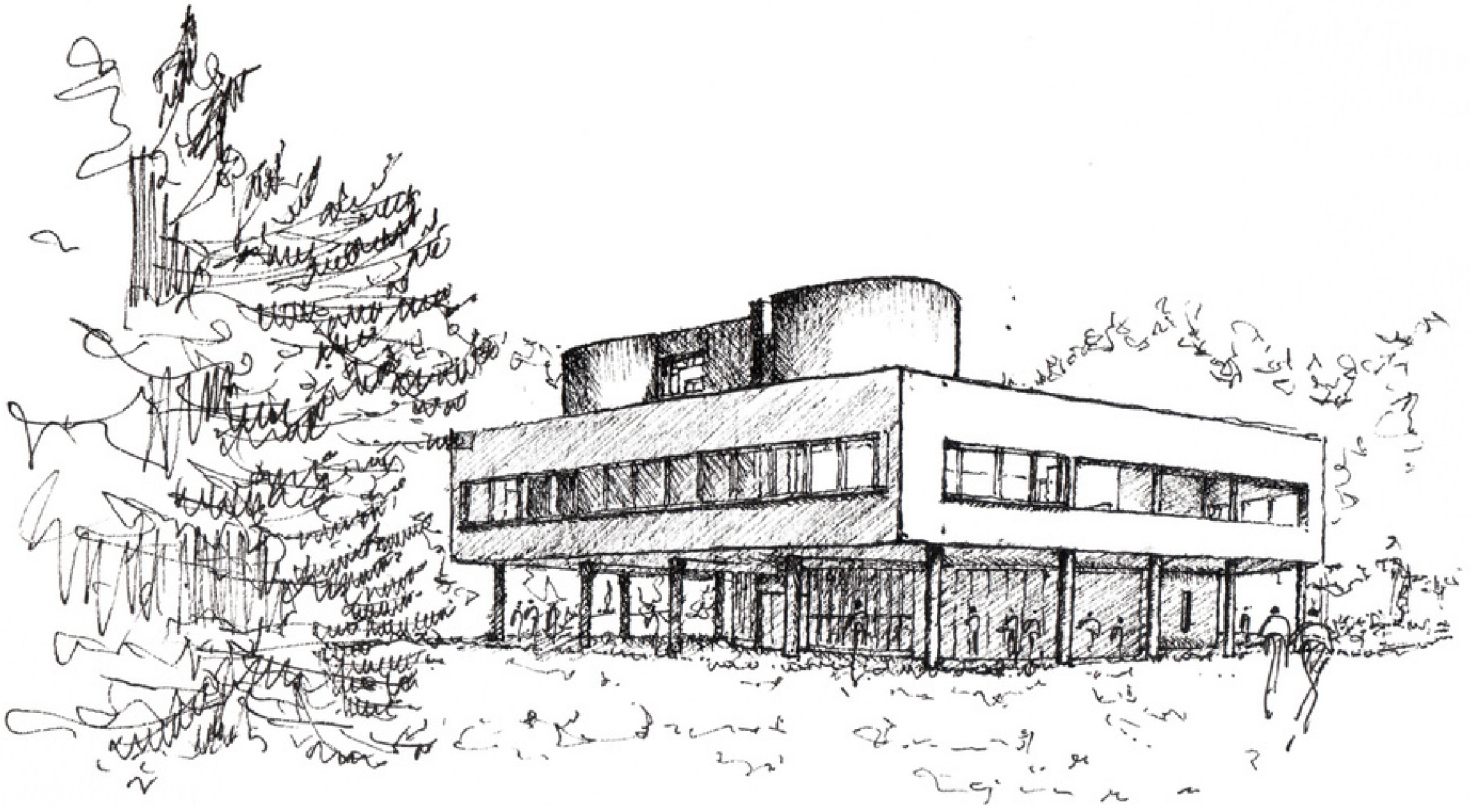
Modernisation of Architecture

DEVELOPMENTS AND LEGACY OF MODERN ARCHITECTURE

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ABSTRACT



VILLA SAVOYE SKETCH Sebastián Bayona Jaramillo, 2016

Sebastián Bayona Jaramillo.

“To create architecture is to put in order. Put what in order? Function and objects.”, Those words from Le Corbusier truly encapsulate the creative processes behind the emergence of modern architecture. It has been widely considered that modern architecture was pioneered by Le Corbusier and Ludwig Mies van der Rohe. They have notoriously been regarded as modernist heroes due to their role and impact on the revolution of modern architecture (or in simpler words- modernism). Throughout its years of development, modern architecture has established specific principles which make up its character. Modernism embraces structural innovation, minimalism, and the rejection of ornaments. It changes the focus on design towards building functionality with a rational utilisation of materials by using an analytical approach. The modernist movement shows us that the building’s purpose ought to overlook beauty and should be the focus of a design. Each design element is individually broken down and explored while also coming together to formulate the plan and entirety of the design. As the new movement spread, modern architecture became the paramount influential philosophy for architecture and design of the 20th century. Its importance and legacy still stand to this day in the 21st century. Villa Savoye (1931) and the Barcelona Pavillion (1929) are modernist manifestos, which are both remarkable precedents of the five new points of architecture as well as its architectural influences. This essay will culminate with discussions of the manifestations and developments of modern architecture through its principles, pioneering architects, influences, and case studies.

INTRODUCTION

Modern architecture has been regarded to have emerged in the early 20th century and is a post-industrial revolution movement. This period has been associated with the introduction of mass production and new materials (concrete, steel, and glass), which triggered a prevalent aversion towards classicism. In turn, interests grew in functional and analytical planning surfaces, in addition to the application of new modern building materials. The modern architecture movement, or simply stated- modernism, is renowned for its architectural contribution because it paved the way for new design strategies detached from classicism. On account of new technologies, designs following the rise of modernism would experience progressive urban, aesthetic, and construction changes (Amiri, 2016). Modernist designs could be distinguished by their simple rectangular geometry, plain walls, undecorated facades, mute colors, and elementary use of forms as the base of designs.

MODERNISM IN ESSENCE

Modern architecture is about the extraction of basic forms and geometry and a rejection of the traditional code or language of architecture. Elementary shapes and lines dominate designs with the purpose to generate clean, simple, and unornamented rectilinear structures (Salvo, 2015). It's linked with functionalist rationalism, ignorance of ornaments, and analytical approaches. Modern architectural principles revolve around the precept of form follows function, truth to materials, and fitness for purpose (Frampton, 1992). These ideas are inevitably embedded into modernism as designs started to focus on the functionality of spaces.

PIONEERS AND PRINCIPLES OF MODERN ARCHITECTURE

Modernism finds its roots in Germany, where it is strongly associated with the Bauhaus. The Bauhaus was an institute founded by Walter Gropius and was arguably the most influential modernist art school of the time. Ludwig Mies Van der Rohe was then appointed to become the third and final Bauhaus director. His career kickstarted while he was working alongside Walter Gropius and Le Corbusier in Peter Behrens' studio. During which he worked on refining an architectural style that synthesise functionalism and the minimalist aesthetic.

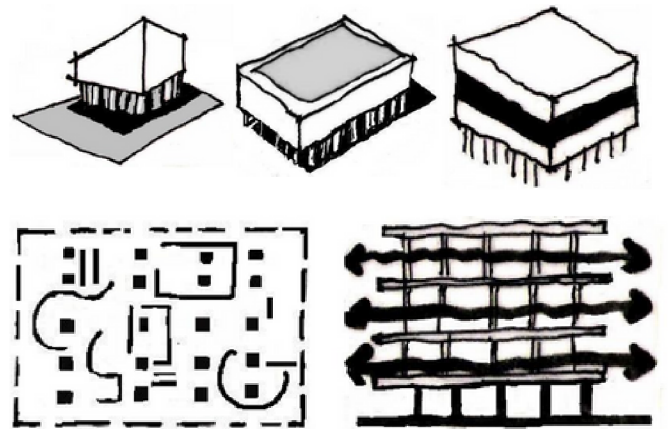
Mies started to develop this design style in the 1920s. He provides essential contributions to the evolution of modern architecture by introducing the concept: less is more. His approach provided a significant impact on the progression of modern design process as well as the interaction between designers and users. This simultaneously trained the following generation to accept a new teaching of rejecting classicism. Mies started making designs that react to simplicity. Through his exhibited work in MoMa's 1932 modern architecture exhibition ("The International Style" curated by Philip Johnson and Henry-Russell Hitchcock), Mies brought modernism to an international stage and widened its audience.

Meanwhile, a similar sentiment also occurred in other parts of Europe. The nature of modernism's development is also brought to life by Charles-Édouard Jeanneret, better known as Le Corbusier. His design approach, the house is a machine for living, showed that functionality and rationalism have become the base of modern architecture (Yatmo & Atmodiwirjo, 2015). Corbusier showed the importance of the machine aesthetic being simple, consisting of regular shapes, and having smooth surfaces to be perceived as beautiful. Standardisation also follows to be a common practice, as standardised samples are produced for further constructions which boosted modernism's spread.

Corbusier emphasised that standardisation is the solution for architecture to achieve its functions. Using this idea, Le Corbusier leads us to the introduction of logic, rationalisation, and reasoning as the basis of architectural designs. He further developed the concept of designing spaces that organise the relationship between man and the living space. The key modern principle was function, and this is where the machine metaphor is so important.

Modern architecture would be fragmentary without Corbusier's manifesto. Written in 1927, Le Corbusier's *Cinq Points de l'Architecture Moderne*, or The Five Points of a New Architecture has been regarded as the quintessential backbone of Corbusier's design career and other modernist architects' designs.

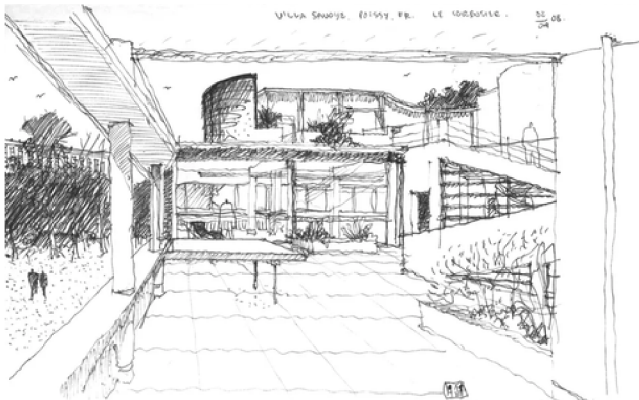
The five points of new architecture (Le Corbusier, 1927) are as follows: (1) The Pilotis, in which reinforced concrete columns are introduced as the load-bearing structure at the base of a modernist design; (2) The Roof Garden, which is the use of flat roof structures that could supply domestic functionality and the essential protection for the concrete roof; (3) The Free Plan, where the absence of supporting walls allows the ground plans to be raised on free-standing columns making the internal use of the space unrestrained; (4) The Free Façade, in which the design separates a building's exterior with its structural function thus allowing the façade to be set free from conventional structural limitations; (5) The ribbon window, where horizontal windows were cut across entire façades to increase the sense of space and lighting of the interior spaces equally. (Frampton, 1992)



FIVE POINTS OF NEW ARCHITECTURE
Kenneth Frampton, 1992

MODERN BUILDING EXAMPLES

Two buildings exemplify modern architecture. Villa Savoye and Barcelona Pavilion have become the paragon instances of the movement and eminent precedents of modernist principles.



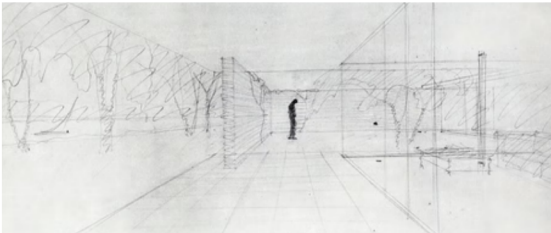
VILLA SAVOYE SKETCH Le Corbusier, 1929

Completed in 1929, Villa Savoye is a modern French house. Located in Poissy, France, the house quickly became one of the important cases of modernism. It is primarily made of concrete due to its flexibility, strength, and dynamics. Concrete's potential is adjusted into the pilotis which allows the design to resist wide walls from collapsing. Through its basic design, clean line, and lack of ornamentation, Villa Savoye becomes modernism's exemplar. It is the physical and tangible validation of Corbusier's five points of new architecture.

Corbusier believes in designing simple forms with open interiors, with seamless transitions between spaces of the open floor plans. This would create connectivity between indoor and outdoor spaces by utilising glass walls. Villa Savoye’s pilotis allowed it to be elevated and seem weightless. The building essentially is a concrete structure with a plain façade showing the rejection of ornaments or plastering. This became in trend with the modernism movement of showing minimalist and raw materials as it is. Horizontal windows provide exposure and lighting to the interior’s fluidity. Additionally, this dispensed contrast to the white façade and is achievable due to the structural strength of masonry units and reinforced concrete (Tournikiotis, 2007).

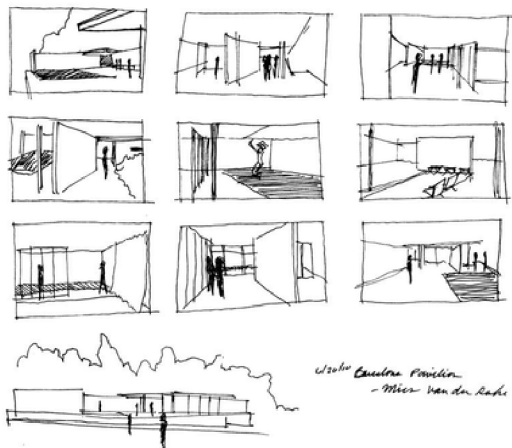
The structure is recessed back from the façade, thus canceling constraints from structural limitations. Instead, the supporting columns of the building are set back, making the display focus primarily on the simplicity and uniqueness of the design rather than its structural function. The lack of ornamentation and the purity of its configuration become more apparent as it carries an impact on the evolution of modern architecture. With its streamlined figure and huge glass windows, Villa Savoye managed to be considered the symbol of modernism

The Barcelona Pavilion by Mies van der Rohe is another embodiment of modern architecture’s essence. Opened in 1929, it was first designed to display modernism to the world. Its existence emulates how modern architecture progressively steers away from classicism. Through its elegance and sleekness, the pavilion radiates the new design values of modernism.



BARCELONA PAVILION PERSPECTIVE
Mies Van Der Rohe, 1928

Located in Barcelona, every aspect of the pavilion has modern architectural importance. The low-profile roof is one of the most important elements of the pavilion, giving an illusion of being afloat. This creates a sense of weightlessness between the body of the building and its canopy. This roof structure is achievable due to the introduction of slender cruciform columns as the structure, hence allowing the realisation of an open floor plan. Mies’ modernist design for the pavilion completes the strong link between spaces by blurring spatial boundaries between the interior and exterior.



BARCELONA PAVILION SKETCH
ADAM WELKER, 2010

Mies portrays three core design elements in the Barcelona Pavillion which are derived from the modernism movement—simplicity, negative space, and natural light. Spaces are left open with little decor, furniture, and embellishments which drives the focus on the pavilion’s architecture and design. Negative spaces are also implemented to aim viewers’ perspectives toward distinct modernist parts of the design. Mies’ design also initiates the use of floor-to-ceiling glass panels in construction. Hence, innumerable natural lighting is present within the space, resulting in riveting shadows being cast and the deletion of limits between the interior and exterior. (Kroll, 2011)

VILLA SAVOYE VS BARCELONA PAVILION

The intention behind both designs is to draw emotions, where one would evoke them with lavishness and the other with severity. The most substantial similarity between both buildings is their use of column structures based on the Dom-Ino House structure. This statement is also a testament to the distinct developments of this basis. Corbusier lifted Villa Savoye by including pilotis. Mies dropped the Barcelona Pavilion instead, making it into an explosion of nakedness by showing spaces that are isolated from a sense of enclosure. Corbusier's aim with the Villa Savoye was to define and enhance the form, while Mies' focus was to fabricate an exquisite ambiance of the space. The use of distinct materials supports this. Villa Savoye showcases glass and concrete while Barcelona Pavilion used lavish stones. Corbusier stood beside the values of purism while Mies van der Rohe, in contrast, reacted more to the impulse of renewal (Padovan, 1981)

MODERNISM TO THIS DAY

Having been a product of post-war technological advancement, modernism has served as an instrument to strengthen bonds across arts and fields of design while also triggering urban renewal. Modernism's impacts form connections between spaces and users, allowing places to represent a sense of community. In today's urban plans, developments were derived from the principle of the modernist era. This indicates that the idea of functionality matures into design concepts that are applicable in this age of sustainability and climate change.

CONCLUSION

In closing, as an architectural design movement, modernism influenced the architecture subject by employing the promotion of sleek and clean lines along with the elimination of decorative elements or embellishments. Generally, modern architecture creates a turn into a new era that rejects classical standards and would take its cue from technology, practicality, machine, and function. Such notions are extensively applied by modernist pioneers and design case studies. Modernism would create a link between architecture and function where designs are made with the purpose of being for society, for the people, and for mass production as its legacy still stands strong to this day. Presuming that the word and time limits were to be added, analyses and arguments regarding further developments of modernism in urban spaces and green designs would be included.

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