CHAPTER 2: LE CORBUSIER’S IDEAS AND PRINCIPLES OF THE INTERNATIONAL STYLE

The objective of this chapter is to understand the various influences (the most important being the CIAM or Congres Internationaux d’Architecture Moderne congresses) that shaped Le Corbusier’s thought processes and led to the formulation of what he called his principles of “Town Planning and Urbanisme”. A study of the key works of various architects in different geographic and climatic regions has also been made as they are representative examples focused on the creation of a modernist vocabulary utilising modern mass produced materials, that led to the development of the international style which spread from Europe to the United States and other parts of the urbanised world. Further, this chapter would seek to establish, how, for the first time in the history of the modern world, a conscious attempt was made at improving the lifestyle (living conditions) of the common man. As a corollary to this pioneering attempt, Chandigarh serves as a key example and the city is evaluated within the framework of Le Corbusier’s principles of modern town planning and urbanism.

Modern Architecture (which has arisen out of the needs of its users) is the architecture of the human instinct whose terms of reference are functionality, simplicity and minimalism followed by aesthetics and beauty as pinned down by the advocates of the international style. The twentieth century represented the beginning of a brave new world, a new culture that discarded ornament from articles of daily use, as well as buildings, spaces for habitation, and brought to light the original beauty within these through their intended use and function. One of the ideas thus was to select, for each task, the style which suited it the best. Henri van de Velde described the situation around 1890 as a

82 Original name Charles Edouard Jeanneret, 1887-1965, Switzerland. Adopted the name Le Corbusier in 1920, derived from the surname of his great grandmother, which means ‘crow’.

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moral problem: “the real forms of things were covered over. In this period the revolt against the falsification of forms and against the past was a moral revolt.” Characteristic examples of the rhetoric architecture of the late nineteenth century include Poelaert’s Palais de Justice. In the rhetorical buildings that resulted, it became impossible to distinguish between primary and secondary parts, every part was given the same emphasis, and the meanings implied counteract each other rather than constituting a single coherent message. As a matter of historical relevance, the nineteenth century saw the change setting in, when the concept of functionalism, minimalism and a search for a new language of architecture was perceived in the new functions of an emerging industrial society.

The multiplicity of new building tasks implied a range of characters that could not be expressed within the limits of one style of the past. Some of the new functions were exhibition halls, galleries, museums, apartments, offices, departmental stores....It is no wonder then that the architects began to experiment with forms taken from several styles. These styles thus came to represent a cultural heritage of possible meanings, a phenomenal change in architecture and indicated a freer use of their expressive potential.

The emergence of Art Nouveau (an artistic movement developed from the end of the nineteenth century to the first quarter of the twentieth century) was a reaction to the search for a new style, discarding the earlier ones. The first references of Art Nouveau are found in England in the works of John Ruskin (1819-1900), influenced by Gothic art, he published an enormous quantity of books on literature, painting, architecture, sculpture, aesthetics, and a myriad of related social themes. His extraordinary taste for any type of art allowed him to value both the primitive Italian painters the English Pre-Raphaelites or


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Turner. He was an art propagandist. His ideas had been influenced by the arts and crafts movement and highlight the return to the nature, beautiful designs, graceful shapes, undulations, with a fascinating charm, in which are represented flora and fauna motifs. The Art Nouveau was also a major development in other countries of Europe, as in Belgium where Victor Horta (1861-1947) built while rejecting historical styles, creating the basis of modern architecture. In the same country, Henry Van de Velde (1863-1957), a painter and architect also developed architecture with a style breaking the traditional tendencies. Hector Guimard and Victor Horta exploited the possibilities of the new building materials utilising modern technology to create a built environment which Bernhard Pankok (b. Cathedrals 1872-1943, sculptor, and architect) defined as “the transformation of dead matter into an organic being”. Thus the period represents a humanisation of modern technology. The contribution of Louis Sullivan, and Frank Lloyd Wright gave new grammar to the Art Nouveau lending a plasticity and spatial articulation to their architectural ideas. For the first time in history, architecture had become a truly three dimensional problem, and for the first time in history the most advanced architectural ideas were used to solve the problem of the dwelling for every human being.

The enlightened man of the post industrial city did not want to accept any a priori axiom or dogma. Thus Voltaire wrote: We must never say: Let us begin by inventing principles according to which we attempt to explain everything. We should rather say: Let us make an exact analysis of things. It was thought, reason should be applied to the phenomena themselves, rather than to the deduction of facts from a priori axioms, making reason the tool for the new empiricism or espirit.

85 Ibid p.176
86 Ibid p.177
systematique. Even earlier Locke had said, ‘whence has it (the mind) all the materials of reason and knowledge? To this I answer in one word, from experience88.’ On this basis natural science was led away from the arbitrary and fanciful assumptions of the past to a new method of observation and analysis, with its chief protagonist, Isaac Newton. [Boulee’s cenotaph for Newton (1784), depicting the latter’s sarcophagus surrounded by a sphere representing the universe]. The idea was not that Newton rejected the philosophy and religion; rather these signified the end of knowledge and not the foundations on which human knowledge may be built.

Another different approach towards the architecture of the nineteenth century and the preceding times was the use of ‘open space’. Open space was purposeful, it was to indicate the image of a limitless and continuous environment where man may act and freely move about—not for the sake of movement as such, but as an expression of a new freedom of choice, that is, the freedom to search and create one’s own place89. This new image then is opposite to the Baroque. Whereas Baroque space represented an integrated system, the open space of the nineteenth century expressed a new ideal of human freedom. Open space was concretised in various ways. In the large halls of iron and glass (exhibition halls90) it appears as a total ‘transparent and luminous milieu’, which has lost the traditional character of ‘interior’91.

90 The Great Expositions in Paris, and England and the construction of the Crystal Palace by Joseph Paxton, led to the realisation of large span structures and overwhelming exhibition spaces, created due to the engineering feats employed by architects through the use of prefabricated and wrought-iron elements, steel and concrete – Ferro concrete, which were the new materials of the industrial era. Built out of and based on a four-foot module, this 1,848-foot-long Ferro-vitreous construction was erected to the designs of Joseph Paxton and Charles Fox, of Fox, Henderson & Co. Its interior volume was organised into galleries which were alternately 24 feet and 48 feet wide. The roof of these galleries stepped up by twenty feet every 72 feet and culminated in a central nave 72 feet wide. The ‘ridge and furrow’ roof glazing system specially devised for the occasion required 49-inch glass sheets capable of spanning between furrows 8 feet apart, with three ridges occurring every 24 feet.” This forerunner of the architecture to come had no precedents so far and was to be the new idiom for determining and yardstick for comparisons with the forms of new functions of an industrialising society.
91 Ibid

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The basic intention behind the new image of space was the desire for liberation from the systems of the past. Amidst the above elaborate account of the social and cultural climate of the late nineteenth and early twentieth century in Europe, the foundation of CIAM (Congres Internationaux d'Architecture Moderne) marks the determination of modernist architects to promote and finesse their theories. For nearly thirty years the great questions of urban living, space, and belonging were discussed by CIAM members. The documents they produced, and the conclusions they drew, had a tremendous influence on the shape of cities and towns the world over. The organisation’s founding declaration was signed by twenty-four architects at La Sarraz, Switzerland, in 1928. None of the signatories was British.

Eric Mumford has published an informative history of CIAM, through his book, The CIAM Discourses on Urbanism-1928-1960. He puts forth an architectural discourse that not only defined a new aesthetic but saw design as the linchpin to a social agenda aimed at changing the very nature of urban life. Eric Mumford describes CIAM as an organisation that was never attached to one set of principles. Rather, it was a fluid organisation whose membership changed over time, whose members often held different views and whose core debates shifted as the social and political climate changed. Even at its inception it was an organisation divided between those who were willing to work to temper corporate capital and those who wanted to serve the socialist revolution. What they all shared, however, was a view that architects should be the vanguard for social change. Even as CIAM, after the Second World War, became both more technocratic and more interested in architecture as art, its members still imagined themselves providing the leadership necessary to create good urbanism.

The La Sarraz Declaration asserted that architecture could no longer exist in an isolated state separate from governments and politics, but that economic and social conditions would fundamentally affect the buildings of the future. The Declaration also asserted that as society became more industrialised, it was vital that architects and the construction industry rationalise their methods, embrace new technologies and strive for greater efficiency. Le Corbusier, one of the movement’s founders, often liked to compare the standardised efficiency of the motor industry with the inefficiency of the building trade. CIAM’s early attitudes towards town-planning were stark: Urbanisation cannot be conditioned by the claims of a pre-existent aestheticism; its essence is of a functional order... the chaotic division of land, resulting from sales, speculations, inheritances, must be abolished by a collective and methodical land policy. At this early stage the desire to re-shape cities and towns was clear. Out is the "chaotic" jumble of streets, shops, and houses which existed in European cities at the time; in is a zoned city, comprising of standardised dwellings and separate areas for work, home, and recreation.

Through the development of an ideology that focused upon social improvements, the founders of CIAM made efforts to modulate the built environment to fulfill the living, working, circulation and leisure demands of a new society, incorporating new materials through experiments in methods of construction. The modern lifestyle also gave birth to a host of new functions that gave rise to new building typologies, seeking a new way of living—utilising the new functions.

The influence of CIAM: The formation in 1928 of CIAM, the Congres Internationaux d’Architecture Moderne, was the beginning of the international academic dialogue in modern architecture. Founded by the Swiss Madame Helene’d de Mandrot, often called the ‘godmother of CIAMS’, with Le Corbusier, Walter Gropius and Sigfried Gideon, CIAM’s first meeting was held in 1928 at her chateau at La Sarraz, near
Lausanne (Switzerland), and was attended by Walter Gropius, Le Corbusier and others. It comprised a series of forty three meetings and eleven CIAM Congresses held between 1928 and 1959, voicing opinions on every issue related to urbanist theory and practice. Of course these opinions shifted over time reflecting the social and political context as well as generational dynamics. In-between the formal congresses, a series of planning meetings of the CIAM leadership (CIRPAC, Comite International pour la realisation des problemes d’architecture Contemporaine; later called CIAM Council) took place. Together, these architects of the modern movement, voicing diverse opinions, drew up a declaration emphasising that building was once again to be linked to economic and political issues, rather than to historical architectural formulas. To cite some of the pronouncements of CIAM; “The idea of modern architecture includes the link between the phenomenon of architecture and that of the general economic system...The most efficient method of production is that which arises from rationalisation and standardisation...manifested in reduction of certain individual needs to foster the maximum satisfaction of the needs of the greatest number...” The La Sarraz

93 Other founder members of CIAM included Karl Moser (first president), Victor Bourgeois, Pierre Chareau, Josef Frank, Gabriel Guevrekian, Max Ernst Haefeli, Hugo Häring, Arnold Höchel, Huib Hoote, Pierre Jeanneret (cousin of Le Corbusier), André Lurçat, Ernst May, Fernando García Mercadal, Hannes Meyer, Werner Max Moser, Carlo Enrico Rava, Gerrit Rietveld, Alberto Sartoris, Hans Schmidt, Mart Stam, Rudolf Steiger, Henri-Robert Von der Mühll, and Juan de Zavala. The Soviet delegates were to be El Lissitzky, Nikolai Kolli and Moisei Ginzburg; although at the Sarraz conference they were unable to obtain visas. Other later members included Alvar Aalto, Louis Herman De Koninck (1929) and Hendrik Petrus Berlage. In 1931, Harwell Hamilton Harris was chosen as secretary of the American Group of CIAM. Source: http://en.wikipedia.org/wiki/Congr%C3%A8s_Internationale_d'Architecture_Moderne accessed April 21, 2008.

Declaration also took a radical attitude to town planning by calling for “a functional order... [where] the redistribution of land [is] the indispensable preliminary basis for any town planning...” The second congress CIAM 2 was held in Frankfurt am Main, Germany, in 1929, and focused on Exitenzminimum, while CIAM 3 which was held in Brussels, Belgium in 1930, dwelt upon the theme of rational lot development. During these conferences and the intermediate meetings and debates held to discuss the various methods for development of scientific approaches for the evolution of urban form. The latter was to be guided to respond to the four primary functions of the city as a place for living, working and recreation and to provide an efficient means of transportation between these. The focus was on specific

96 This declaration was part of the radical trend then doing the rounds in Europe. During the 1920s and 30s Europe was full of people who were called “renaissance men” : i.e. those who were knowledgeable about a wide variety of subjects and skillful in their expressions and very aggressive in insisting on the primacy of thoughts and ideas over mere pragmatic thinking, as was then the case in the US and UK and India. The Renaissance men were of three categories, a) The Lost Generation, the self-exiled expatriates who lived and wrote in Paris between the wars. These writers, looking for freedom of thought and action, changed the face of modern writing. Realistic and rebellious, they wrote what they wanted and fought censorship for profanity and sexuality. They incorporated Freudian ideas into their characters and styles. This group included Ernest Hemingway, Gertrude Stein, John Dos Passos, Henry Miller, F. Scott Fitzgerald, b) Harlem Renaissance is considered the first important movement of black artists and writers in the US. Centered in Harlem, NY, and other urban areas during the 1920s, black writers published more than ever before. Influential and lasting black authors, artists, and musicians received their first serious critical appraisal. This group included Zora Neale Hurston, W.E.B. DuBois, Langston Hughes, Jean Toomer, and Alain Locke, who was considered the chief interpreter for the Harlem movement. and c) The Algonquin Round Table, also called THE ROUND TABLE, informal group of American literary men and women who met daily for lunch on weekdays at a large round table in the Algonquin Hotel in New York City during the 1920s and ’30s. Many of the best-known writers, journalists, and artists in New York City were in this group. Among them were Dorothy Parker, Alexander Woolcott (author of the quote "All the things I really like are immoral, illegal, or fattening", Heywood Broun, Robert Benchley, Robert Sherwood, George S. Kaufman, Franklin P. Adams, Marc Connelly, Harold Ross, Harpo Marx, and Russell Crouse. Thanks to Henry Ford and mass production, one could buy a ford for $290. The Volstead Act became effective Jan 16, 1920 and made the sale of a drink containing as much as one half-ounce of alcohol unlawful. This one unsuccessful act brought about much of the flavour of the Jazz Age or Roaring Twenties as we know them. This was a period of prohibition and intolerance, speakeasies, flappers, gangsters, and crime. Hooch was supplied by Dutch Schultz and Al Capone. The Nineteenth Amendment had passed the Racial tensions were high and quotas were set for immigrants coming into America. The Klan was very active during this period. The decade was a wonderful one for all of the arts and literature in America. Technology grew - the country shrank - as popularity of automobiles, radios, and movies exploded. Buying on credit or instalments was an outcome of the industrial age. In the fall of 1929, the New York Stock Exchange was more active than it had ever been. Economists predicted a permanent high plateau. By October 24, 1929, Black Thursday, the stock market crashed and panic broke out. Banks closed. The nation stayed in this depression through the end of the twenties and most of the thirties. (Internet source: American History Guide http://kclibrary.nhmccd.edu/decade20.html accessed on 10/2/06).
issues which subsequently concretised into a document that recorded these concerns, through a set of books that continues to form a rich resource about the first half of the twentieth century for students of architecture. The early CIAM meetings were dominated by the Neue Sachlichkeit architects and then by the French with Le Corbusier. The social concerns of architecture, urbanism and housing were core themes of the CIAM Congresses until 1947.

The second Congress in Frankfurt was convened in 1929 and centred upon the question of the minimum habitation and living standards, while the third Congress held in 1930, in Brussels, evaluated middle- and high-rise environments. It also set up a Dutch group to develop a set of international standards governing the graphic techniques employed by town planners - a task only fully completed in 1949. CIAM 4 initiated in 1933, was originally to be held in Moscow, was held aboard the ship S.S. Patris sailing between Marseilles and Athens, and dwelt upon the theme "The Functional City,"97. The Athens Charter got its name from the ship's final destination and made famous the CIAM 4, was finalised during this journey. The Athens Charter criticised the contemporary society for not satisfying the biological or psychological needs of city inhabitants, and for the "proliferation" of private interests and called for collective action98 and the reorganisation of planning on a "human scale", regarding the dwelling unit as the basic element. It also stressed the need to use the "resources of modern technological

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16 This congress produced ultimately the most misapplied document to come out of CIAM: the Athens Charter.

98 Around the 1920s, a new world view took shape. It was during this period that philosophers, sociologists, psychologists, physicists and biologists made revolutionary insights into human nature and behaviour and the physical world of nature. At the same time, artists—poets, dramatists, novelists, painters, sculptors, dancers, composers, photographers and film makers—opened up new possibilities of artistic expression. In general, the developments in philosophy, science, the social sciences, literature and art produced a profound shift in European consciousness- MODERNISM was born. Lastly, the period 1880-1920 witness an artistic and cultural cataclysm which distorted and then destroyed 500 years of artistic style and principle. The Renaissance was cast aside. So too were its rules of artistic endeavour. What replaced it was accurately called modernism. It was people such as Sigmund Freud, Newton, Einstein, Max Planck, Nietzsche and others that shook the very foundation of western thought to choose between a) re-affirm of the life-giving force of Human Reason and Progress or 2) to embrace the will to power, after all, to create, you must first destroy. Source http://www.historyguide.org/europe/lecture1.html accessed 10/2/06.
progress”. As Reyner Banham noted thirty years later, the Charter’s insistence upon rigid functional zoning, green belts and a single type of high density urban housing was actually just the statement of an aesthetic and intellectual preference. Such was the weight carried by its conclusions; however, that the Charter had the negative effect of paralysing research into other forms of housing. At the same time, it established urban planning on a simple, concise and arguably - ill conceived formula. CIAM 5, held in Paris in 1937, focused on housing and recreation. After the Fifth Congress, the Second World War interrupted the succession of CIAM meetings until 1947, when there were perceptible changes in the concerns and attitudes of its membership.99 During this period the move to “transplant” CIAM in the late thirties via local organisations in England, The United States, and other nations took roots. The interruption caused by World War II led to the formation of a New York chapter of the CIAM. Regionalism and local influences carved out the French CIAM group ASCORAL100 under Le Corbusier, and the new empiricists group in England led with JM Richards.

CIAM 6 was held in 1947 at Bridgewater, England as the first postwar conference, and CIAM 7 was held two years later in 1949 in Bergamo, Italy. The meeting at Bridgewater was a turning point in the discourse of earlier CIAMS as it included for the first time a new generation of architects, and British students. This younger lot being radical in thought and of a free mindset posed debates over the positions of Jose Louis Sert, Le Corbusier and JM Richards, as an evidence of challenges

100 ASCORAL (Assemblee de constructeurs pour une renovation architecturale). The official CIAM grid was developed in 1947 by the French group ASCORAL, under the supervision of Le Corbusier. At CIAM VII in Bergamo in 1949, the grid was presented as an analytical method for comparing the various subjects and designs discussed at CIAM congresses.
Attempts of the CIAM leadership and prominent members to resolve the conflicts and reach a consensus about its future direction were made in the 1950s. CIAM 8 was conducted at Hoddesdon, England, in 1951, with its theme ‘heart of the city’. It marked a shift from the earlier functionalist city of CIAM 3, and its emphasis on social housing, bringing to debate the role of urban public space in the city. New members of CIAM differed in defining urbanism and habitat from the older members. As a result, CIAM 9 held at Aix-en Provence, France, in 1953, witnessed a growing split between Team X and the counter group led by Alison and Peter Smithson. Further critiques and counter – critiques of CIAM and its purpose, filtering into even smaller meetings were the surface cracks which led to deeper fissures in the constitution of the CIAM. CIAM 10 held in Dubrovnik, Croatia in 1956 and CIAM 11 at Otterlo, were effectively the last congresses of CIAM as a formal organisation.

In his book Eric Mumford also brings to the fore the multiple and contentious voices within CIAM which were not just ‘Corbusier dominated’, though his influence was perceived significantly in most of the congresses. Further, these voices shifted over time to reflect the social and political context. CIAM may be seen not as a single unitary force that can be held responsible for the good and bad, for architecture, urban design, and planning of the twentieth century. It was one of the influences that shaped the European world in the interwar and post war period, besides the many social and cultural transformations that an industrialising society went through.

What follows is a critical review of Le Corbusier’s ideas as expressed in his written books, essays and lectures, so as to appreciate his contribution to the development of the modernist style in particular and to the modern movement in general. Le Corbusier’s publications

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101 Although a seven point resolution was issued at the end of the Bergamo congress, some delegates charged that CIAM was losing its working character, which was a reflection of the increasing conflicts.

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and theoretical works had a provocative and standard-setting impact on the discourse of modernist architecture. He wanted to ‘open the eyes that do not see’—one of his famous quotes to the beauty of modernist engineering technology. His theoretical explanations were an ‘appeal to architects’, which would aid towards recognising the road to a style of architecture for the modern times, which would be rational as it would be poetic: a conscious exact and splendid game of buildings assembled under the sun. “Our eyes are made to see forms in light; light and shade reveal these forms; cubes, cones, spheres, cylinders or pyramids... Egyptian, Greek or Roman architecture is architecture of prisms, cubes and cylinders, pyramids or spheres”\(^{102}\). Le Corbusier believed that architecture could be accomplished through a reliance on the "universal order," based on elemental geometry that was used since the beginning of architecture. Indeed, he stated that "there is no such thing as primitive man, only primitive resources. The idea is constant, in full swing from the beginning\(^{103}\).

1923, marked his first bound work on architectural theory, Vers Une Architecture, translated in English as Towards a New Architecture, and although new does not appear in the French title, turning its author through its appellative text into an international celebrity for its gesture and content on modern architectural propaganda. Le Corbusier uses examples in it from the ancient world as models which set a standard of rational logic that, according to him, has yet to find its due equivalent in the modern industrial age. Le Corbusier compliments the engineer who, unencumbered by an academic tradition is able to develop the precise solution to mechanical problems.

\(^{103}\) Ibid (p. 65).
Le Corbusier draws parallels between mechanised transport modes such as the Citroen car\(^{104}\) and even an ocean liner and architecture proclaiming the former “a pure, clean, bright, correct and healthy architecture”. Le Corbusier rehabilitates architecture as an art form, assigning to the architect the duty to rise above simple utilitarian expedience and to work creatively. In 1925 he wrote –“Urbanisme’, translated “The City of Tomorrow” which relates to city building and the problems of towns. Le Corbusier’s book retains the aesthetic approach to questions about the face of the modern city. The fact that comes to light is that attention to the external appearance of the city fabric and the urban image have begun to gain precedence over the earlier embellishment which was limited to the individual building. The collective picture of the city and its urban scale has replaced the claim to singular building activity. The change in the way the city began to be comprehended was something radical and thus created the need for a new language of architecture. The City of Three Million written by Le Corbusier in 1922 illustrates the consequences of fundamental city planning considerations. Plan Voisin, also by Le Corbusier, was developed in 1922 and refined till 1929 for rebuilding the historic centre of Paris. In this proposal a few historic monuments were to be retained, and the entire existing urban structure was to be replaced by a new radical solution.

In 1943, ten years after CIAM 4, Charte d’ Athenes appeared – as one of the most successful books on modern city planning. It was based on the statements that Le Corbusier made on a cruise in 1933 on way from Marseilles to Athens during the 4\(^{th}\) CIAM. Published in 1941, its centrepiece is the precise differentiation of urban functions and how their methodical separation forms the basis of rational city planning. The imperative tone of the charter makes it come across as a precise

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104 Maison Citroen was to highlight that the efficiency of the car should be adapted to the house as a machine to live in ‘the machine the habiter’.  

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analysis and instrument that can and must be used to solve problems in urban planning at any time. It seems altogether dirigiste when the author insists that the charter must first establish its legitimacy with the administrative organs. It thus remains architecture’s duty to create or improve a city and it also has the responsibility to choose among and distribute different elements, whose correct proportions will provide the basis for a harmonious and durable work. The architect holds the key to all this in his hands. There is no question, that it was predominantly Le Corbusier, who called for an architecture for the industrial age. Apart from the historical aspects of his platform, it is artistic quality by which the realisation of his vision of urban planning must be measured.

The period of the 1920s is also valid as it brought in changes that amounted to the greatest innovations in an extremely short time span. The discourse on modern architecture was gaining momentum with Le Corbusier and his colleagues, who were responsible for its spread across Europe and the Americas. These efforts were brought together under the umbrella of the International Style. The term "International Style" was the wave of experiment in architecture which gained momentum in the 1920s. It was given prominence by an exhibition of advanced tendencies held at the Museum of Modern Art in New York City in 1932. In his book ‘Modern Architecture through Case Studies’, Peter Blundell Jones¹⁰⁵ argues that modernism’s tabula rasa was the cause of our cultural impoverishment, and thus we need to reconnect with our past and surely we need to reconnect where the break occurred, in the 1920s which demands a careful study of this period¹⁰⁶.

Communication between architects had been re-established after World War I and stylistic diffusion had become so widespread that it

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105 Ibid

106 Ibid

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became difficult to speak of national styles. The term international style came from the title of a book by Henry-Russell Hitchcock and Philip Johnson, written in 1932\textsuperscript{107}. In that same year, the International Exhibition of Modern Architecture at the Museum of Modern Art\textsuperscript{108} in New York City spread the ideals of the style, making it one of the dominant architectural movements of the mid-twentieth Century. In 1919, the economy in Germany was collapsing after a crushing war. Architect Walter Gropius was appointed to head a new institution which would help rebuild the country and create a new social order. Professing functionalist concerns, Walter Gropius was keenly interested in the so called machine aesthetic and in repeatable forms derived from the production process\textsuperscript{109}. Called the Bauhaus which is a German expression meaning "house for building", the institution called for a new "rational" social housing for the workers. Bauhaus architects rejected "bourgeois" details such as cornices, eaves and decorative motifs. They wanted to use principles of classical architecture in their most pure form: without ornamentation of any kind\textsuperscript{110}. The term

\begin{footnotesize}
\begin{enumerate}
\item When the Museum of Modern Art was established by a few enthusiastic philanthropists on the 12th floor of the Heckscher building at 730 Fifth Avenue, New York City, the idea that the new could be as exciting as the old was itself radical. In 1929, most museum directors believed that the past - a place filled with gilded echoes of long-dead Mediterranean civilisations - was more important and beautiful than the present. Modernity itself was in its infancy. Van Alen's Chrysler building, that hypodermic shot into the future, was begun the previous year; the Empire State building was still just a dream; neon was tracing out the New York skyline for the first time. That the museum's founders gave it the name the Museum of Modern Art, when it so easily could have been named after any of its major benefactors - the Rockefellers, for example - was a measure of their ambitions. Alfred Barr, Museum of Modern Art first director, was aware of the Herculean task he faced: to create a museum that was populist in spirit, in which a single story could be told of the development of art from 1880 (the approximate date at which it was agreed that modern art first manifested itself) to the present, and on into the future. Perhaps the cleverest move was a decision to collect by medium - painting, drawing, photography, film, design objects - rather than by date. Instead of creating any one "department of contemporary art," this allowed curators of each area to focus on adding to its collections as they saw fit.
\item Jones, Peter Blundell. 2002. \textit{Modern Architecture through Case Studies.} New York; Architectural Press p.6
\item Bauhaus buildings have flat roofs, smooth façades and cubic shapes. Colours are white, grey, beige or black. Floor plans are open and furniture is functional. The Bauhaus school disbanded when the Nazis rose to power. Walter Gropius, Mies van der Rohe and other Bauhaus leaders migrated to the United States. While Bauhaus architecture had been concerned with the social aspects of design, America's International Style became a symbolism of Capitalism: It is the favoured architecture for office buildings, and is also found in upscale homes built for the rich. One of the most famous examples of the style is the glass and bronze Seagram Building in New York, designed by Mies van der Rohe with Philip Johnson.
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International Style was applied to the American form of Bauhaus architecture. While Bauhaus architecture had been concerned with the social aspects of design, America's International Style became a symbolism of Capitalism: it is the favoured architecture for office buildings, and is also found in upscale homes built for the rich. Midtown Manhattan, looking north from the Empire State Building, New York City (officially named the City of New York) is the most populous city in the state of New York and the entire United States. Architects who worked in the international style wanted to break away from architectural tradition and design simple, unornamented buildings. The most commonly used materials were glass for the facade, steel for exterior support, and concrete for the floors and interior supports; floor plans were functional and logical. One of the most famous examples of the style is the glass and bronze Seagram Building in New York, designed by Mies van der Rohe with Philip Johnson and the United Nations headquarters, in the same city.

In the late nineteenth century, architects such as Henry H. Richardson (1838-86, US), Louis Sullivan (1856-1924, US) among many others pioneered the construction of large public buildings by using a steel "cage" frame to support the walls and roof rather than wood or stone. The steel frame made it possible to build taller buildings with thinner walls and more windows, because the exterior walls did not have to support the weight of the roof and floors. This new kind of architecture was further developed by the Bauhaus architects during the period between 1918 and 1933. They eliminated weight-bearing walls in steel and Ferro-concrete architecture. The outside wall became a "skin" of glass with metal or masonry as enclosure rather than support. Walter Gropius (1883-1969, GER), director of the Bauhaus, revolutionised architecture in his 1911 design for the Fagus Shoe Factory by sheathing the entire building, including the corners, in glass. Such a form of enclosure, known as a "curtain wall", became an integral part
of twentieth century architecture, and was here to stay. Ludwig Mies van der Rohe (1886-1969, Dutch-US), who had been part of the Bauhaus, moved to the US in 1933. He, like other Bauhaus architects, believed that the function of a building was of fundamental stylistic importance.

Philip Johnson (b.1906, US) and Henry. Russell Hitchcock (US) wrote the catalogue for the exhibition at the Museum of Modern Art which established definitions of characteristics of the style\textsuperscript{111}. The authors emphasised the following: 1) the use of structural steel or Ferro concrete, properties of which led to novel forms, and thus the first new structural system since Romanesque and Gothic; 2) elimination of weight-bearing walls—the outside wall became a skin of glass, metal or masonry constituting enclosure rather than support; and 3) avoidance of applied decoration, creating a style defined by proportioning and distributing solid and void. The third principle indicates that the International Style resulted in new concepts of spatial organisation, especially that of free-flowing interiors due to the elimination of weight-bearing interior walls. The International Style lent itself well to urban planning, low-cost mass housing, any form of large-scale building involving inexpensive, standardised units of construction. The style took off in the United States after World War II, and versions of the International Style can be seen in buildings up to the present day. The style has sometimes been nicknamed "glass box" or "t-square" architecture due in large part to designs of Mies van der Rohe.

The new functions that inspired the creation of a new architectural vocabulary to serve as the basis for the International Style found physical manifestations in the works of numerous architects, who may have practised in different geographic locations and climates. Nevertheless the efforts of these creative minds constituted a common

strain and mode of thought: that the new needs and functions of an industrialised world must be met through new endeavours in built form articulating in a spatial composition where the experiential qualities of the space mass relationship could be appreciated. All this was to be achieved through the ‘aesthetic of the machine’ and the use of industrially produced construction materials. Some examples include the Zonnestraal Sanatorium, Hilversum (1926) by Jan Duiker, epitomising the conjunction of a white and airy architecture exhibiting qualities of health and hygiene, while simultaneously signifying a key work of expressed engineering in concrete exploiting a skin and bones framework made visible through the use of glass and concrete\textsuperscript{112}. The work of Bruno Taut, another successful modernist in Berlin made a significant contribution by devising economical housing schemes, ‘easily repeatable house-types’, enhanced by startling colour schemes to cheer up plain built forms. Eric Mendelson’s, office buildings essentially the Schocken departmental store in Stuttgart (1927) shows the dynamism of the modern city as well as the fine siting of the building in its urban context. Similarly, the Finnish Architect Alvar Alto, through several gestations in the design of the Viipuri Library design, provides a fascinating glimpse of his struggle to overcome the constraints of tradition and bring in the modernist vocabulary into built forms, showcasing the predicaments that architects were caught in during this period of modernism.

The International style is also known to be the initiator of the modern movement (it was primarily an American offshoot of Bauhaus architecture that was exported to various parts of the world as has been stated earlier). The International style was a major architectural trend in the 1920s and 1930s and is considered the most minimal form of modernism. The style was influenced by German and Dutch

movements of Bauhaus, de Stijl and the Deutscher Werkbund. In 1927, one of the first and most defining manifestations of the international style was the Weissenhof Estate in Stuttgart as a component of the exhibition "Die Wohnung," organised by the Deutscher Werkbund, Mies van der Rohe, Walter Gropius, Le Corbusier, and Hans Scharoun. Many of its ideas and ideals were formalised by the Congres Internationaux d'Architecture Moderne. Some of its most important architects (including Ludwig Mies van der Rohe) fled the upcoming Nazi regime in Germany in the 1930s and moved to the United States, taking the International style with them much beyond national boundaries.

Between the World Wars the architectural scene was dominated by the International Style. The term is appropriate as it indicates that the variety and apparent confusion of the nineteenth century had given way to a uniform and easily recognisable approach to design. The 'modern' buildings of the period are easily distinguished by a few characteristic properties: they are usually derived from simple stereometric shapes; they appear in unitary volumes wrapped up in a thin, weightless skin of glass and plaster; and they show a puritan lack of material texture and articulating detail\textsuperscript{113}. In general the period between the wars was characterised by a search for a secure common basis that is for principles. The word ‘Functionalism’ is indicative of its attitudes and aims; in architecture it is a rationalisation of the general approach introduced by Louis Sullivan and Frank Lloyd Wright. The principles evolved under the beliefs that the new architecture was "the inevitable logical product of the intellectual and technical conditions of our age\textsuperscript{114}" and those who shared this belief considered themselves as proponents of the modern movement. The new scientific outlook was closely related to a new idea of freedom. The enlightenment


\textsuperscript{114} Ibid

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philosophy opposed to the power of convention, tradition and authority, and the centralised and the hierarchical systems of the Baroque age gave way to the multitude of interacting, equal elements. The slogan *liberte, egalite, fraternite* defines the new idea well. A profound psychological change resulted, while the baroque signified 'persuasion', the man of the enlightenment age concentrated on sensation. The manifestation of liberte, egalite, fraternite was primarily connected with the architecture of work and the dwelling: The exhibition was understood as an expression of a new kind of brotherhood, and Wright wanted to create architecture of democracy'.

The formation of the CIAM in 1928 (and its indefatigable general Secretary, Sigfried Gideon), the search for principles was coordinated and directed towards dealing with practical tasks, such as the social dwelling and the urban environment. The modern movement sought to address new issues based upon a foundation of scientific belief for the definition of standards to secure a polite and well ordered society. The protagonists also included the purpose and value of Art as Le Corbusier said "Suddenly you touch my heart, you do me good, I am happy and I say, this is beautiful, that is Architecture. Art enters it", and also 'When a thing responds to a need, it is beautiful.' Functionalism was the primordial quest of the modern movement and the concern for man's environment and the design of the settlement the centre stage of its manifestation. Functionalism can be seen amidst the works of Le Corbusier's utopia of the 'green city' as against the inhuman conditions of the industrial cities of the nineteenth century. His idea was the 'vertical city' which restored 'the essential joys': Sun Space and Verdure. The Unite d' habitation was an example of this concept. The Unite was conceived as a type, a typology that varied according to

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115 The Unite De Habitation although does not do full justice to Le Corbusier's concept of the biological phenomena of towns, yet it was a realisation of the modern precepts the chief protagonist of the Modern Movement and an example of urban planning.

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the local conditions, and combined the Corbusian concept of 'a general and the particular' in a promising way.

To summarise the above: What were the consequences of the International Style? Predominantly, it was a perfect example of the nineteenth century notion of the link between adaptive evolution and inevitable progress. Advanced improved functionality is a consequence of advanced technology; similarly the International Style was the beginning of a 'good modern architecture.' While the style defined its inclusionary agenda, variants of the style explain the elasticity of the style too. Its definition included a relook at architecture of the 'volume' rather than mass and form, the expression of volume being weightless and immaterial. Space was to be delineated geometrically, the 'skin' of the building predominant as a smooth, unbroken, stretched, transparent, seamless façade. Again axially of the classical times was used for the structural ordering of a building. Even though the fear of monotonity existed, yet how sensitively the regularity was handled determined the degree of monotonity or variety. Sculpture and forms of art were subservient and meant to complement the building without degenerating it into mere ornament. Articulation of structure (a building's support system or framework) was to aid articulation of function as well as truthfulness in the use of building materials. Through this, the International style delegated the architect with a serious responsibility; that of the avant garde for the creation of a good society based on inclusionary socialism.

An important but lesser publicised ideal of the International Style is its cultural component. However much, it may be said that the International Style is neither place nor people bound, yet its


117 The Barcelona Pavilion was designed by Mies Van der Rohe, and the Maison de Mandrot together by Le Corbusier and Pierre Jeanneret.

manifestations are influenced and affected by locale and place and this has been proved over again. As did the builders in primitive civilisations, modern architects too inevitably express their own particular culture. Certainly the modern world cannot be seen as the simple product of the Industrial Revolution; the Europe of architects such as Le Corbusier and Adolf Loos is the product of thousands of years of civilisation. The earliest architects and builders developed a cultural expression in construction using geometrical forms such as cubes and cylinders\textsuperscript{119}, like wise their modern descendants drew inspiration from their contemporary inventions and technological advancements prevailing around them.

At this juncture in this thesis the contributions of Le Corbusier to the International Style and the modern movement need to be highlighted to ascertain the role that he played in the making of twentieth century heritage. The exhibition at the Museum Of Modern Art also highlighted aspects of modern architecture that represented a new direction and attitude as defined by Le Corbusier. His five points of architecture were having an impact on the American town planning and urbanism scene. In 1926, Le Corbusier and Pierre Jeanneret published a manifesto entitled "Five points towards a new Architecture," that was to be realised in the design of the Villa Savoye, at Poissy, France, two years later. This is a short manifesto that "in no way relates[s] to aesthetic fantasies or a striving for fashionable effects, but concerns itself with architectural facts that imply an entirely new kind of building." Perhaps due to its brevity, the manifesto does not explain why these five points are important, or what relevance they have to works of architecture. The five points can be summarised as 1) Supports; 2) Roof gardens; 3) Free design of the ground plan; 4) Horizontal windows; and 5) The

free design of the façade. Perhaps not surprisingly, the Villa Savoye is a clear example of a building incorporating these five points.

By supports, Le Corbusier states that the ground level of buildings should be raised three to six metres above existing grade, so that "the rooms are thereby removed from the dampness of the soil; [and] they have light and air." 120 The main floor of Villa Savoye is set one level above grade. With the exception of bedrooms for the servants (who apparently are not covered by this manifesto), there are no primary rooms at grade level. What this does is too literally and figuratively separate the house from the ground. It is an interesting contrast to other design philosophies that seek to merge the dwelling with the earth, and to incorporate the experience of a tactile terra firma in a design as in the case of Frank Lloyd Wright’s Kauffman House ‘Fallingwater’. However, dissociating the house with the ground was to allow the perception and experience of the house to be more cerebral . . . i.e., to allow one to fully appreciate the absolute harmonies121 to which the composition is attuned.

It is also interesting to consider in this context, Le Corbusier’s ideas of urban planning, particularly the Voisin project122. In this are a series of free-standing towers set amongst landscaped fields. It is this same mental approach that is found in the siting of the Villa Savoye, although on a very much reduced scale. The roof garden is obviously provided in Villa Savoye. Similar to the argument above, a roof garden, as opposed to a garden planted at grade, is mentally

120 Richards, JM 1940. *An Introduction to Modern Architecture*. Pelican / Penguin Books; Great Britain
122 At the Paris Art Deco Exposition in Paris in 1925, Le Corbusier had presented his modernist ideas amidst stiff opposition and criticism. Placed strategically in the other part of his exhibit, his Plan Voisin de Paris, he proposed the demolition of vast sections of Paris – especially the second, third, ninth and tenth arrondissements (circular streets) – and replaced these historic sections with high-rise complexes on a grand scale. Each of the projected facilities would hold three thousand people, and free them spatially from the dead hand of the past. Ironically the entry was awarded the first prize by the international jury, even though the organisers had ordered twenty foot high fencing around the entire Esprit Nouveau pavilion, with the hope of hiding the shameful spectacle from curious visitors.

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disassociated with the surrounding landscape. One can appreciate the verdant roof terrace, but the feel is distinctly different than a grade level garden.

The use of roofs for other purposes was not new to modern architecture. Le Corbusier cites the famous example of the race track on the roof of the Fiat factory in Turin\textsuperscript{123}. This is a striking image of the ‘new’ and ‘modern’ which was critically important to the modern movement. One suspects that it was not the object per se that was important, but rather the idea of breaking from a very structured nineteenth century past and its social conventions. There is an element of this thinking in both this manifesto point, and in its realisation in the Villa Savoye. The free design of the ground plan involves several ideas. First, there is the idea of an independent structural system that carries the floors separate from the walls. This was previously espoused by Le Corbusier in his Domino project\textsuperscript{124}. This allows walls and partitions to be merely screens, and to be positioned wherever desired. Secondly, there is the idea of bringing the landscape under the outline of the building.

Villa Savoye uses the independent structural system, but as previously noted, with the exception of certain visible public zones, the columns are placed to suit residential space planning requirements. The idea is still there, but the purity of concept has been compromised. The idea of screen walls is also emphasised in Villa Savoye. The ground level has a non-load bearing screen wall. This further mentally

\textsuperscript{123} The 355 160m\textsuperscript{2} steel and concrete Fiat factory, at Lingotto, Turin, built in 1927, has been an outstanding example of early reinforced concrete industrial architecture, famous for its rooftop car test track, 2.4km long x 24.4m wide at 21.3m above ground. The factory was planned so that executives could drive around the building and view all the production processes without stepping out of their cars, taking the “drive-in” principle further than ever before or since. But as with many famous old buildings, the Fiat factory depended for survival on its adaptability to a new function. It has been restored, refurbished and converted into a multi-purpose facility with trade exhibition hall, conference centre, hotel, shops, offices and education facilities by Renzo Piano between 1989 and 1994.

\textsuperscript{124} The Domino frame system represents the early work of Le Corbusier (1914-1915) for producing houses using a reinforced concrete system.
separates the house from the physical landscape. The landscaping also extends under the outline of the house, albeit in gravel. This gives the impression that the connection between the house and the landscape is to be tightly and rigorously controlled. The randomness of nature is 'controlled' in its interaction with the house.

The use of horizontal windows at Villa Savoye does several things. First, it highlights that the wall is non-structural, and that the building is upheld by a separate framing structure. Secondly, it offers an image of 'new' and 'modern' that further emphasizes the shift, away from a previous epoch. Finally, and perhaps most importantly, it offers a direct connection and association with the horizon, and as such becomes an element that mediates one's perception of nature, the natural surroundings and horizon are perceived and framed by the man-made structure. The free design of the façade is a point that seems somewhat gratuitous. The idea of the non-structural aspects of the horizontal window is repeated. The free design of the façade in theory allows an easier application of regulating lines and so forth, but history abounds with many geometrically ordered buildings constructed of load-bearing masonry.

However Le Corbusier believed that architecture had become encumbered by vernacular constraints and local tastes in ornamentation that hid, or even distorted the actual and essential form of the building. However, he questions the criticism of the work of his contemporaries, saying: "Is it not true that most architects today have forgotten that great architecture is rooted in the very beginnings of humanity and that it is a direct function of human instinct?"125

Adolf Loos, for example, felt that architects at the turn of the century in Vienna, were creating architecture of period styles, rather than

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responding to what the modern condition demands\textsuperscript{126}. Ornament for him, is designed in a Baroque, Renaissance, or Louis XIV, fashion and could change styles from project to project. As the historian Carl Schorske mentions in his book on the turn of the century about the city of Vienna, Adolf Loos in his article "Ver Sacrum" in 1898 has condemned the new Ringstrasse's historical facades which hide the modern commercial, industrial and residential buildings behind\textsuperscript{127}. In fact, Loos expresses, "the greatness of our age lies in its inability to produce new forms of decoration.\textsuperscript{128}" He believes that "use determines the forms of civilised life, the shape of objects\textsuperscript{129} and consequently, use should determine the forms of buildings. As society progresses, new building types are demanded and the uses of already invented types may change. The architect's goal then becomes that of creating a building that best satisfies its intended use. Indeed, Loos maintains that objects already invented can still be used in the same form, however, "the new phenomena of our culture... must be reconciled without any conscious echoes of a formal style that has already been superceded.\textsuperscript{130} "The evolution of culture marches with the elimination of ornament from useful objects", Loos proclaimed, thus linking the optimistic sense of the linear and upward progress of cultures with the contemporary vogue for applying evolution to cultural contexts.

\textsuperscript{126} In his essay entitled "Interiors, a Prelude", Adolf Loos decries the loss of the craftsman who created objects that were "effectively simple because of their comfort, their solid material, and their precise workmanship," instead of requiring furniture simply to be comfortable or the modern customer, designers were demanding that the craftsman "make all kinds of chests and chairs. \ldots" In the Greek, Roman, Gothic (etc. style)." Adolf Loos, \textit{Spoken Into the Void: Collected Essays 1897-1900} (MIT: Cambridge, Massachusetts), 1987. pp. 19-20. His opinion, although here not applied directly to architectural form, as well applies to the design of the built structure.


\textsuperscript{130} Ibid. \textit{Oriental and Crime} is an essay written in 1908 by the influential and self-consciously "modern" Austrian architect Adolf Loos under the German title Ornament und Verbrechen. It was under this challenging title, that in 1913 the essay was translated into English.
In the essay, Loos's passion for smooth and precious surfaces informs his expressed philosophy that ornamentation can have the effect of causing objects to go out of style and thus become obsolete. It struck him that it was a crime to waste the effort needed to add ornamentation, when the ornamentation itself would cause the object to soon go out of style. Loos introduced a sense of the "immorality" of ornament, describing it as "degenerate", its suppression as necessary for regulating modern society. He took as one of his examples the tattooing of the "Papuan" and the intense surface decorations of the objects about him—Loos considered the Papuan not to have evolved to the moral and civilized circumstances of modern man, who, should he tattoo himself, would either be considered a criminal or a degenerate\(^\text{131}\).

The essay was written when Art Nouveau, which Loos had execrated even at its height in 1900, was about to show a new way of modern art. The essay is important in articulating some moralising views, inherited from the Arts and Crafts movement, which would be fundamental to the Bauhaus design studio and would help define the ideology of modernism in architecture.

Just as culture itself had evolved over centuries, a new architecture could not simply be invented. Instead, abstraction meant the stripping

\(^{131}\) Tattooing has been a tribal custom of the coastal peoples of Papua New Guinea. Women were heavily tattooed from head to toe, while men displayed chest markings related to their exploits in the headhunt. The tattoo motifs were abstract or borrowed from nature, the typical tattooing kits fairly simple and the technique employed to apply the tattoos was a form of hand-tapping. Traditionally, tattoo artists were almost always female and different women were employed for tattooing specific parts of the body. The facial tattoo artists seem to have been paid more, as this work was the most painful and dangerous. Around 1900, a typical payment for facial work included two strings (pairs) of arm shells, quantities of cockatoo and parrot feathers and a string bag, whereas other parts of the body may have only brought small payments of cooked food. Many of the tattoo motifs were passed down through the family – from mother to daughter, and sometimes from father to son. Unfortunately, ethnographic information on most tattoo motifs has been lost – modernity and missionisation are largely to blame. For example, tattoos related to the headhunt have been largely forgotten, since killing was outlawed in 1888 when Great Britain annexed Papua. Tattoos associated with the trading voyages (lakatoi) are no longer seen; motorboats have replaced the traditional sailing vessels and these once formidable expeditions are no longer dangerous. Moreover, missionaries began discouraging initiation ceremonies in the early 20th century, and today tattoos are no longer needed for marriage. Thus, the meaning of Papuan tattoos is fading and gradually being forgotten.
away of ornament to the essential form, in order to understand the original solutions to the problems of design; solutions which could be translated into a language of form that could be used freely with the materials and experiences of the modern era. Architects saw this language as particularly expressive in primitive architecture and especially in the work of antiquity. Le Corbusier is a proponent of this new attitude in architecture.

The idea of relating form to function as well as to construction was very important to the work of the early twentieth century architects. New possibilities in the frontier of mass production and the availability of steel and other man made materials changed the qualities of architecture as well as the qualities of life. Like Peter Behrens, architects began to move away from excess adornment and local vernacular convention towards a more abstract expression. As architectural critic Alan Colquhoun notes, "modern architecture took fragments of every day life and fragments found in history... broke down the meaning systems into the smallest units that could carry meaning and recombine them."

Architectural design was understood as a series of laws that made up a universal order that could be traced through history. Colin Rowe demonstrates Le Corbusier’s reliance on these laws in the use of proportion in Maison Garches, where on the elevation, drawings of the ratio of the golden section was indicated.

Just as Loos feels that change in use could alter modern architectural form, Le Corbusier opines that "... our external world has been enormously transformed... by reason of the machine we have gained a new perspective and a new social life, but we have not yet adopted the

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house thereto. Instead, it is the engineers who "make use of the primary elements and, by coordinating them in accordance with the rules, provoke in us, architectural emotions and thus make the work of man ring in unison with universal order." Le Corbusier believes the architect should be as rational as the engineer through the creation of functional designs. At the same time he should elevate the work to the level of architecture through the artistry of form and rhythm.

Selection of such forms for Le Corbusier then means "rejection, pruning, cleansing; the clear and naked emergence of the Essential." The pairing down of classical forms is the essence of the Purist abstraction. In Purism, functional objects are refined to a degree that they achieve a machine—like quality as well as a geometrical clarity. In the 'Manual of the Dwelling', Le Corbusier asserts that users of spaces and occupants of buildings must demand: "... a bathroom looking south, one of the largest rooms in the house or flat, the old drawing-room for instance. One wall to be entirely glazed, opening if possible on to a balcony for sun baths "the most up-to-date fittings with a shower-bath and gymnastic appliances. An adjoining room to be a dressing-room in which you can dress and undress. In this room demand fitments for your linen and clothing, not more than seven feet in height, with drawers, hangers, etc. Demand one really large living room instead of a number of small ones. Demand bare walls in your bedroom, your living room and your dining-room. Built-in fittings to take the place of much of the furniture, which is expensive to buy, takes up too much room and needs looking after. If you can, put the kitchen at the top of the house to avoid smells. Demand...

135 Le Corbusier, p.21
136 Ibid, p.33
137 Ibid, p. 128
138 Ibid, p 128

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concealed or diffused lighting. Demand a vacuum cleaner. Buy only practical furniture and never buy decorative pieces." If you want to see bad taste, go into the houses of the rich. Put only a few pictures on your walls and none but good ones. Keep your odds and ends in drawers or cabinets. The gramophone or the Piano or wireless will give you exact interpretations of first-rate music, and you will avoid catching cold in the concert ball, and the frenzy of the virtuoso. Demand ventilating panes to the windows in every room. Teach your children that a house is only habitable when it is full of light and air, and when the floors and walls are clear. To keep your floors in order eliminate heavy furniture and thick carpets. Demand a separate garage to your dwelling. Demand that the maid's room should not be an attic. Do not park your servants under the roof. Take a flat which is one size smaller than what your parents accustomed you to. Bear in mind; economy in your actions, and household management in your thoughts\textsuperscript{140}.

Such observations convey the manner by which Le Corbusier translated all his own works as part of his creativity and obduracy as a creator with an absolute certainty of the chief protagonist of the modern movement. He advocated a radical departure in the way men must think and a greater radical thought in the way that the modern men and women must live. It was not only a new way of using modern materials and methods of buildings but also the new building types which would suit newer lifestyles.

Le Corbusier's concern with the machine introduces a distinction between Loos and Le Corbusier. Le Corbusier states 'what else is a house other than a machine to live in'. ("Machine a habiter")! This new aesthetic was the result of a clear analysis of functions and therefore moved forward the debate on architectural aesthetics, which had been


underway since the latter half of the nineteenth century. For Le Corbusier, nothing seemed more meaningful than the successful and efficient fulfillment of a function, be it a machine and that's the analogy he designates to a house which must be as efficient as a machine, thereby liberating mankind to pay attention to higher pursuits. Le Corbusier writes that "architecture is the masterly, correct, and magnificent play of masses brought together in light."\textsuperscript{141} This play of masses are determined by two factors; mathematics, "the principles which govern our universe" and function, the "living organism" of the building.\textsuperscript{142} Though, like Le Corbusier, Loos is concerned with the expression of function, he is less concerned with the creation of a machined image. Rather, the importance of abstraction lies in the removal of decoration from the functional form. He states that "cultural evolution is equivalent to the removal of ornament from articles of daily use,"\textsuperscript{143} - since ornament is no longer an expression of our culture."\textsuperscript{144} It is the use of geometrical forms, rhythms and proportions discovered through the study of antiquity that serve as the language for the Villa Savoye. The villa resembles the Parthenon. The piloti are analogous to the columns. The second floor, with its strip windows and voids then becomes the frieze. Most importantly, like the Greek Temple, the Villa Savoye is an object in the round, to be observed at all sides, all angles. However, the building is not a complete reiteration of the classical temple. With its forms and elements drawn from antiquity, the building incorporatesthe aesthetic of the modern machine, such as streamliners and airplanes, to achieve a modern expression.

The early modern movement does not deny history or memory; rather it aims to reexamine essential elements of design that have always

\textsuperscript{142} Ibid
\textsuperscript{143} Loos, Adolf. 1913 Ornament and Crime (originally in German Ornament und Verbrechen) Essay by Adolf Loos.
existed. Working in the spirit of investigation, individual architects arrived at abstract design solutions by way of different paths. Loos sees the undecorated form as the expression of modernity and Le Corbusier sees the geometrical forms as the essence of the building. As Gropius states, one must "create within the limitation of laws." By accepting the rationale of the forms of antiquity, a paradigm was created in which architects could express their convictions about the modern era\textsuperscript{145}.

This brings us to the story of Chandigarh. The city, a brainchild of Le Corbusier and Pandit Jawaharlal Nehru, has been hailed ‘to signify the arrival of modern in India’ by many an author commanding knowledge on Indian History. Though Bombay is an earlier forerunner for this event in many ways, Chandigarh on the contrary was a clean canvas upon which Le Corbusier charted its future course and concretised the principles of city planning that he had been formulating through CIAM and similar writings. The question before us is -- Is Chandigarh modern? And if so, then how? In the following chapters there is an effort to understand the modern nature of this new town that served as a forerunner to future developments throughout the country. An affirmative yes to the first question will invite justifications to the second one. In order to understand that Chandigarh is a modern city, we should do well to trace its genealogy to prove that it is not a traditional, Indian city which has grown out of the process of accretion, addition and layering.

So, let us begin by trying to justify the first part. By the meaning of the word modern, which has been said to be a loosely constructed idea (for the purposes of this research as stated in Chapter 1), the realisation of Chandigarh is linked to the following statements: i) it

\textsuperscript{144} Ibid

brought in a new role model for city planning in India which had no precedence or even near precedence\textsuperscript{146}, ii) it set forth standards and norms of the modern way of life, iii) it engineered a mass housing programme which gave a distinct image to the city and was emulated in the ‘Chandigarh Style’, that derived its vocabulary from the prevailing conditions of climate, stringent budget, and application of indigenous technology (materials and methods), iv) it fulfilled a Socialist Manifesto—to provide the basic amenities of life even to the poorest of the poor—to be the maison des homes\textsuperscript{f}\textsuperscript{home}

Nowhere else, in India, at that point of time was any such project conceived, v) it was Utopia realised --a new city set out at the foothills of the Shivaliks\textsuperscript{147}, a garden city, unfettered by the traditions of the past\textsuperscript{148}, a symbol of India’s new found freedom, in the wake of Lahore being awarded to Pakistan, vi) an opportunity for the people to lead modern lifestyles\textsuperscript{149} vii)is the year 1950 (onwards) , which is historically the modern times in India.

To justify the case of Chandigarh as a modern city the following factors are being put forth:
The Social factor – The displaced population with Lahore being awarded to Pakistan, had to be resettled and their confidence regained. What could have been a better option than to build a completely new city that was to be the new home for the refugees and the land where their hopes and unfulfilled dreams could be nurtured?

\textsuperscript{146} The Government of India had undertaken the construction of 14 new towns between 1947 and 1951 , to accommodate 470,000 refugees from east and west Pakistan, but these towns did not have any pretensions of grandness or style.(Source Joshi, Kiran.1999. Documenting Chandigarh- The Indian Architecture of Pierre Jeanneret , Maxwell Fry and Jane Beverly Drew. Chandigarh, INDIA. Mapin Ahmedabad and Chandigarh College of Architecture; p.36.

\textsuperscript{147} The Shivalik mountain range formed the northern backdrop to the new Capital city and the city was to grow southwards, with the eastern and western boundaries defined by the seasonal rivulets, Sukhna Choe and Patiali Ki Rao respectively.

\textsuperscript{148} Pandit Jawaharlal Nehru, Hindustan Times, New Delhi, July 8, 1950

\textsuperscript{149} Chandigarh was the first Indian town to have a fully water-borne sewage system. Source Joshi, Kiran 1999. Documenting Chandigarh- The Indian Architecture of Pierre Jeanneret , Maxwell Fry and Jane Beverly Drew. Vol.1. Mapin, Ahmedabad and Chandigarh College of Architecture. Chandigarh, INDIA
The Cultural factor – The post independence development in India had to address newly defined functional imperatives and cater to a changed social reality. Both these parameters were to be addressed in a new town with new content. The spirit of the new conception was such as to create comfortable and invigorating urban living conditions and also introduce man to the importance of nature\textsuperscript{150}. It also made people love appreciate and respect their environments without prejudicing their living habits\textsuperscript{151}. Chandigarh’s conception, defined a moment meant to celebrate a new found freedom, and aimed to be the most beautiful city of the world. Chandigarh was conceived at a time when it was as much necessary to break away from the shackles of the past—as it was to look into the future. The future which would have no lurking shadows of the yesteryears but be bright and inspiring, ushering in a new tomorrow.

The Political factor – Pt. Nehru was looking at a role model for development in newly independent India and in the realisation of Chandigarh, this objective was achieved. The East West dialogue as it may be called is the story of the new capital of the state of Panjab, i.e. Chandigarh. It is a history of encounters between the western modes of thought that were indigenised by their eastern counterparts i.e. prevailing geomorphic conditions, climate, economy, technology and social patterns. Out of this east west dialogue arose the new capital’s moments of modernity. All these thoughts were of a visionary mindset that provided room to accommodate change and was not willing to compromise to the existing frames of reference. Had it not been for the mindset of Nehru, P L Varma and P N Thapar\textsuperscript{152}, neither would have Le Corbusier set foot on the Chandigarh terrain nor would the city have seen the light of day. How many Indian or for that matter world

\textsuperscript{150} Sharma MN. \textit{Oeuvre Complete, Le Corbusier} p.49
\textsuperscript{151} Ibid. p.49

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cities have been built with the ideology that Chandigarh has? Its unique creation as the first realisation to Le Corbusier’s urban precepts and the site of his most elaborate architectural schema sets the city (a class) apart from its contemporaneous colleagues. Chandigarh as a welcome harbinger of change was to serve as a role model for new towns in India as a Sustainable city, the city of Sun, Space and Verdure as envisioned by Le Corbusier.

The making of Chandigarh has played a significant role in the development of a modernist vocabulary in post independent India, as well being the first experiment in modern city planning emulating the International Style. It is also a landmark event in the history of Indian modernity and thus appears a valid case for international recognition. Set against the process of an emerging and modernising nation, which has been under colonial domination for over three hundred years, Chandigarh is a modern city that has grown within political, social economic and technological overtones and constraints. These need to be understood by tracing the path of the country’s modernisation process, so that its contribution as an exemplar of modernity can be highlighted. In the following chapter, the scenario out of which India’s modernisation took place is sought to be understood so as to arrive at the denominators which led to the realisation of a completely new way of city planning as seen in the design of Chandigarh. This would be based on the guidelines laid down by the UNESCO World Heritage Committee on Modern Heritage. The justification of the city would be based upon a critical evaluation of the realised plan vis-a-vis the forces

152 PL Varma and PN Thapar were deputed by the Indian government for the selection of a suitable architect for the design of the new capital city.


of change (as well as the aspirations of the increasing population) that a living city of Modern Heritage Value has to contend with.