

ADDITIONAL INSIGHT INTO CREATIVE CONTRIBUTION OF LE CORBUSIER

UDC 72.036MODERNIZAM

Jasenka Čakarić, Aida Idrizbegović Zgonić

University of Sarajevo, Faculty of Architecture, Bosnia and Herzegovina

Abstract. *Social turbulences and discontinuities of the 20th century, have as always reflected upon scientific and creative achievements, most visible in changes in architectural thought and relation to space. First half of the 20th century was shaped by the modernist movement, represented through technical and technological achievements of building into economy, social context and culture giving an overall sense of units and spirit of urbanism and architecture of the modern era.*

In architecture there is a special place for the architect of the new era Le Corbusier whose narrative shaped and dominated the urban and architectural medium. Through research one can draw an analogy conceived by Le Corbusier between a typical serial housing unit and his functionalist urban and regional planning. He was at the same time praised and despised, but has definitely shaped the urban landscape as we know it today.

Through research into his essence and paradigms and contribution, this paper aims to reflect his urban design process that originated in multiplication and standardization of single units (family or collective) combined with his visions for an expanding cityscape.

Key words: *Le Corbusier, XX century, modernism, architecture, urbanism, urban planning*

1. INTRODUCTION

The entire 20th century was shaped by tumultuous social upheavals characterized by bustling social flows, increased individual comfort and prosperity, as well as numerous crises and turmoil. This is the age of incredible human achievement and development science and technology, but also an era marked by the unseen possibility of destruction [1].

Sizzling social currents of the historical stages of development, including the twentieth century, have been reflected in the most visible area of man's activity, architecture and art. They always reflect on man's cognitive and creative achievements, as answers to

Received May 7, 2019 / Accepted September 30, 2019

Corresponding author: Jasenka Čakarić

Faculty of Architecture, Department of Urbanism and Spatial Planning, Patriotske lige 30, 71000 Sarajevo. Bosnia and Herzegovina

E-mail: cjasenka@af.unsa.ba

discontinuities in civilization. Many architectural orders were mirrored in the field of other arts, literature and often in conjunction, reflected on architectural thought and sense of space.

The architecture of the XX century is characterized by the emergence of numerous movements and in the entire history of civilization it has never been so autonomous. By linking technological opportunities, economics, social context and culture, more than ever before, architects have influenced the formation of the tastes and habits of its investors, but also of the society. Nevertheless, the twentieth century, was marked by a modern movement that, in its more than three decades of its active phase, created a large number of followers. Architects have developed and experienced the movement, building their creative philosophy to support or resist modern doctrine. The orders have been replaced by aesthetic codes, and utopian spatial and urban visions have played a key role in its development. The Spirit of Modernity became the "cement" of the twentieth century [2].

This cement was shaped by life and work of architects, as embodiment of new brave era of architecture heading into a new world. Their visions of space became technological, economic, social and cultural fundamentals to entire nations. Among them, the name of an exponent of the New Age, a composer of complex processes in urbanism and architecture – Le Corbusier, is especially emphasized.

Starting from the thesis that Le Corbusier urban theories were ultimately shaped by his visions of architecture; the goal of the article is to analyze the structural and functional meaning of his work and influence. His architecture appears to provide rational solutions, but is essentially derived from technical calculation and/or a complex sense of spatiality within the process of emergence and development of Le Corbusier's urban and architectural concepts starting from single housing units, repetitive patterns, followed by the collective and its transposition into urban schemes. Since the architect's polyvalent work requires a concise approach and interpretation, sometimes eluding a firm conclusion, it is important to emphasize that the aim of this analysis is not to change the order in the existing division in Le Corbusier's work, but essentially to point out the different perspectives – a critical overview of his urban and architectural paradigms as a contribution to the general theory of the urban architectural design – as Le Corbusier himself has said, "There are no small and large inventions; there are only small or big consequences" [4].

2. METHODOLOGICAL APPROACH

In order to endorse the initial argument of this paper – Le Corbusier's urban theories were based on his architectural premises – one must understand the context, the zeitgeist that shaped his perceptions which is reflected in his urban and architectural opus. It is therefore necessary to reiterate the essential overview of prominent influences and substantial experience of his predecessors, as well as the socio-economic circumstances and cultures with radical new attitudes towards built space. The analysis of structural and functional meanings of this new standardized architecture, considered by Le Corbusier as his ultimate accomplishment can be translated into urban form and scale. Furthermore, the paper will present three urban theoretical models of the era demonstrating Le Corbusier's ability to create urban space variations based on minimal number of elements and using a strict building code in all scales starting from a single house, to a city and then a region. This analytical reflection will incorporate both, positive and negative connotations that

stemmed from his ideas, and that this paper will be one more contribution, an integral perspective on a legacy that still affects architectural and urban practice.

2.1. Methods

The research within this paper derived from the description model methodology that involves the process of simply describing or reading facts, processes, and objects in nature and society, and empirically validating their relationships, but without scientific interpretation and explanation [5; 6; 7]. In the initial phase of the research, the application of the descriptive method allowed us to identify important features of facts and processes in the zeitgeist in which Le Corbusier created, their causal connections and relationships.

In the further course of the research, we applied the inductive and deductive method. Induction is the initial, and deduction is the final process in scientific knowledge. One without the other method is not possible, that is, it is inefficient, as are their results if used separately.

The inductive method is the systematic application of the inductive method of inference, which, on the basis of an analysis of individual facts, leads to the conclusion of in general, i.e. it is based on the inference procedure from single to general. There are several types of induction, namely: complete, incomplete, predictive, analogous, universal and causal [5; 6; 7]. For a complete analysis of the structural and functional significance of Le Corbusier's theoretical settings of architecture and urbanism, we applied causal, predictive, and analogous induction. Causal induction analyzes the causal relationship between the phenomena that precedes and the phenomena that follows, thus determining the cause and effect relationship. Predicative induction is a thought process that takes place through inference from one class of phenomena to another class, whereby only inference is based on their similarity. Analogical induction is based on inference by analogy, with thinking moving from a single to a general phenomenon [5; 6; 7]. By causal induction, we analyzed the influence of the predecessor on Le Corbusier's attitude to spatiality, while the predictive and analogous inductions were applied in the analysis of Le Corbusier's actions as architect at all scales (house-city-region).

The deductive method is the systematic application of the deductive inference by which specific and individual extrapolations are drawn from the general rules. In science, it is used to explain facts and laws, predict future events, discover new facts and laws, test hypotheses, and make scientific presentations. As in the final stage of research, the deductive method relates to inference based on the results of observations or experiments [5; 6; 7], so in this paper it was applied in the formation of specific results and final conclusions in order to confirm the basic starting point of the research.

In the part of the research that deals with the understanding of Le Corbusier's new standardized architecture and the three theoretical urban settings of a modern-day city, we applied methods of analysis and synthesis. Generally, in science, these methods have a common research object and are mutually assumed.

The breakdown of complex concepts, judgments and conclusions into their simpler constituents, and the study of each part for itself and in relation to other parts, is called the method of analysis. The opposite process of scientific research, through the fusion of parts or elements into a whole, of assembling simpler thought creations into more complex ones, is called the synthesis method. According to the gnoseological function, both methods are divided into: descriptive, when describing the elements of a whole and explicative, when explaining a whole based on its parts [5; 6; 7]. In this part of our research, we applied a

descriptive method of analysis and an explicit method of synthesis in order to achieve logical and consequential, as well as controversial aspects of his ideology.

3. SETTING THE CONTEXT

In order to establish a relation between Le Corbusier's theoretical tenets of architecture and urbanism, it is necessary to determine a contextual framework from which it is possible to obtain a critical and comprehensive review of his work.

3.1. The origin of Le Corbusier's ideas of the city

Scientific achievements, technological and industrial progress, wars, social, economic, and cultural environment of the 20th century proclaimed the dominance of the new technical culture. Industrialization led to a large demographic influx of rural population into cities, allowed the machines to replace handcrafts, caused the transformation of family and, in general, social customs. In the field of construction, revolutionary constructive and technological novelty was made possible by the use of new materials - reinforced concrete, steel and glass. In the „era of machine/mechanical civilization“ [4], these achievements adapted architecture to the world of machine production and included the constructive system of the object among the expressive elements of the architectural vocabulary. The objects themselves become machines that serve and man's needs are shaped according to economic criteria. Requiring bare minimum in terms of accommodation, only free space, they could stand anywhere, in the country side or within a tissue of the city [8]. Multiplication of them in a free space, the city could be created. Thus "the realized architectural revolution offered its means to the urbanization of modern cities" [4]. The era of machine civilization embodied "the most progressive forms of its era, and the mission of architecture, as the driving force of material progress, was to adapt, even to master these forms" [8].

In such an environment, the image of the creator of Le Corbusier is, to a large degree, a product of the time. It was a time when architectural creation was divided into technical processes, as a result of rational thinking in accordance with the mechanical era; and on emotions, as a reflection of an irrational feeling and achieving the spiritual well-being of a man of the new age. The unified, technical and spiritual component, in his entire opus, made the synthesis through which he sought for the universality of spatial values. Being often in a position to defend his ideas, even at the time of their emergence, Le Corbusier said that "architecture is conditioned by the spirit of time, and the spirit of time is the in depths of the past, the knowledge of the present and the perception of the future" [9].

The origin of Le Corbusier's ideas of the city was precisely the spirit of the time in which he lived that determined his beginnings and overall output. *Nothing creates nothing* (lat. *Ex nihilo nihil fit*, Parmenides), that is, the logical process of the evolution of one idea is always preceded by the embryo, i.e. an idea that existed before and which enabled this further development. The design of Le Corbusier's creativity was prepared by the work of the predecessors, by the action of various ideological movements and technical achievements in the field of architecture. The material and spiritual culture of the West has become so fertile for the evolution of its ideas of architecture and urbanism. Accumulating everything: ideas, substance and experiences of the predecessors, as well as

European society, economics, sociology and culture, he shaped the modern movement and formulated it with clear principles.

3.1.1. From August Perret to Dom-ino house

The experience he gained while working with August Perret started Le Corbusier's pathway. At the time they met (1908), Perret was already known as the pioneer of reinforced concrete structures and claimed that the new material and new constructions would produce new architectural forms. By absorbing Perret's ideas and experiences, Le Corbusier has generated his own understanding of architecture, and indirectly urbanism, based on the technical, technological and design possibilities of this new material.

As a result, a design was created with clear signs of preference by Le Corbusier for reinforced concrete, the constructive skeleton of *Dom-ino* (1914). House *Dom-ino*, in terms of architecture, is actually a constructive system based on a special skeleton as a constructive phenomenon, which is completely independent of the functionality of the layout itself [9] (see Fig. 1a). Its embodiment in urban planning was conveyed by matching the required number of houses in the space, as tiles in the game of domino, it contributed to the rapid reconstruction of war-torn homes and, in the short term, provided a cheap accommodation for a large number of rural inhabitants who rushed to cities (see Fig. 1b).

It has already been stated here that Le Corbusier advocated the idea of multiplying a type of housing unit in order to establish housing estates. That is, the idea of connecting individual architectural structures into a unified functional urban system is visible, but without referring to immediate or wider urban environment – place and context.

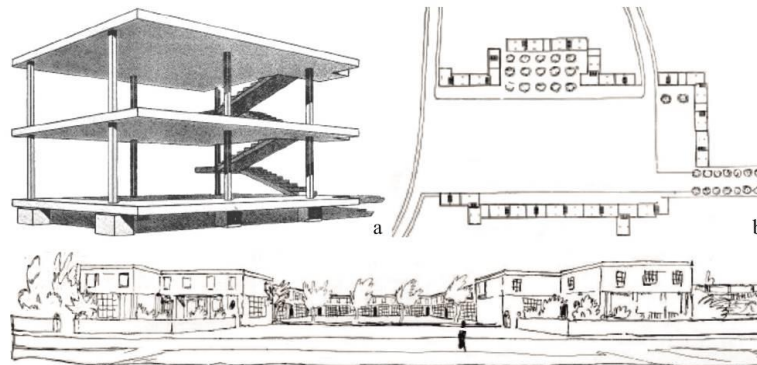


Fig. 1 a) structural system *Domino*; b) stacking of houses *Domino* on a site; Source:[10]

In addition to the constructive direction in architecture, August Perret introduced the idea of building high-rise buildings as a tool in the urban reconstruction of chaotic cities. At that time, he also began to point out that decorating buildings was wrong and he carried it into the work of "direct architectural nudity" [11].

And here Le Corbusier bowed to Perret's attitudes. On these foundations, in the era of new materials, constructions and machines, he developed the tendency to structural and functional rationalisation of urban structures and simplification of lines. In order to overcome

the admiration and mystification of ornamented structures he became an advocate for purism¹, further developing these tendencies.

3.1.2. From Tony Garnier to Athens Charter

Within the same year (1908), Le Corbusier met Tony Garnier when he carefully studied and accepted his ideas about the Industrial City (*Une cite industrielle*). An industrial city was an attempt to adapt urban structures to the needs of society in the era of industrialization and represented a pioneer vision of a rational city. By clearly separating various urban functions, determining the space for future expansion of the city, creating free park surfaces, separating pedestrian traffic from roads and constructing reinforced concrete structures, raised from the ground on pillars, the Industrial City was envisaged to satisfy the material and spiritual needs of the individual (see Figure 2). By looking at these settings, it can be concluded that Garnier's principles of modern city organization are actually the anticipation of Le Corbusier's Athens Charter².

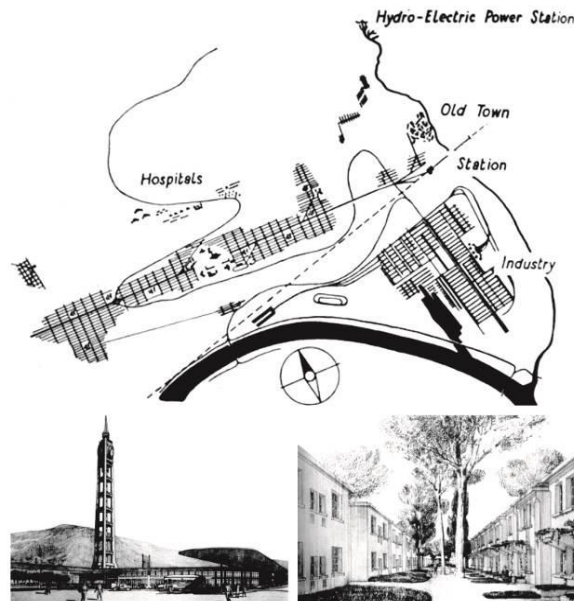


Fig. 2 Tony Garnier, *Une cite industrielle*; Source: [12]

¹ The problem of the conflict of inherited cultural values and modern technology has significantly influenced the emergence and development of a "pure" architectural style – a purger only since the publication of the magazine for architecture and urbanism, *L'esprit nouveau*, published by Le Corbusier and Amédée Ozenfant from 1921 to 1925.

² Athens Charter (*La Charte d' Athènes*, IV kongres CIAM-a, 1933) – except in architecture, the application of the principles of functionalism and urbanism: a clear distinction between urban zones (housing, work, recreation and traffic = the association of a man with housing, leisure time and workplace), denial of tradition (anti-textualism, ie the rejection of national cultural urbo-architectural characteristics), the scale of the human body (urban design standard), the freedom to dispose of urban land (regulation line / private and public property), regional planning [14; 15; 16];

Once again, one can reflect upon the origin of his work – adapting the visionary attitudes of Perret and Garnier, and suggesting that Le Corbusier was skilled in using the ideas and efforts of the predecessors in order to contribute to his own understanding of architecture and urbanism. Immediately after the First World War, he started with the idea that "the new spirit is the spirit of construction" [11], in which he saw a means to change the social state and active force for further development, unlike all forms of restoration. To construct for him meant to think technically, that is, to be deprived of all speculative artistic considerations. On the same track, he saw the apartment as a cell of a city that was waiting for transformation in accordance with the new, material and spiritual, needs of man. Starting from the reform of the dwelling house and from the construction economics, there has been a clear distinction between urban functions on housing, work, recreation and traffic and to the right line as the basic characteristic of modern urbanism, to the principles he later used in his urban plans [13].

3.2. Le Corbusier-urban theory

The demographic expansion, conditioned by the consequences of the war and sudden urbanization, required the consideration of the economic and social aspect of architecture. Relocation the rural population towards the peripheries of the capital cities, looking for permanent earnings and cheap accommodation, for architects meant finding a method of construction that would "adapt new homes to new optics and a new social life" [17]. Conceiving new types of housing to solve housing problems at low cost, it was the architects who were supposed to remove the class divisions between existing and new urban units. In order to achieve this, it was necessary to enable users to understand the new architectural design, and in this respect, understanding their own needs.

On the basis of its earlier experiences and adopted attitudes, and in the light of the described social circumstances, Le Corbusier developed the idea of a serial-produced housing unit. Without sacrificing the series his belief that architecture is a means of establishing a social equilibrium, a tool with which it is possible to build a harmonious, more just and humane world, he claimed that the standard is created "on a secure basis (...), a logic that relies on analysis and experiment" [17] (see Figure 3). This theory, Le Corbusier, transformed into the innovations of housing typology, which he based on the concept of *Dom-ino* (1914).³ These innovative residential typologies provided the comfort of living space with a terrace-garden, and their free internal organization meant a break with the previous cultural setup of life indoors – separate rooms of the apartment. He claimed that "the houses as machines" [17] can be reduced to a measure of social needs, and which allows him to lead a more organized and better life. For Le Corbusier, the house-machine (*machine à habiter*) meant "the source of a new ethics of life on the verge of utopia" [9].

³ This is how the idea for the *Citrohen* house (1920), a model of a cheap single-family house with a garden-garden, a simple and rational design, was adapted to mass production. Almost simultaneously (1922), he designed the multi-story multi-residential building *Immeubles-villas*, with 120 apartments-villas, combining the comfort of individual housing (apartment = house with terrace-garden) with the advantages of common services in the building and later applied in plan for the Contemporary City (*Ville contemporaine*).

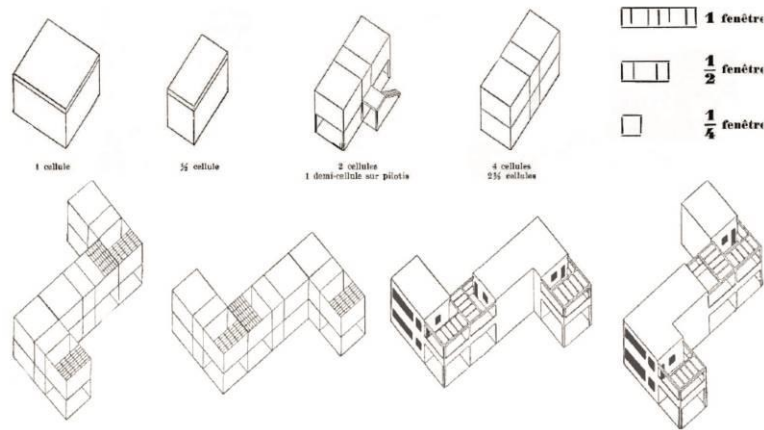


Fig. 3 Standardization of a housing unit; Source: [10]

Ideas on the new order of the material and spiritual life of an individual within the collective system, Le Corbusier improved over time and confirmed in formal and adopted principles. The program ideas of the innovated housing units were finally formulated in Five Points (1923)⁴, which defined the principles of modern architecture and gave a complete picture of the new balance of reinforced concrete structure, the purpose of the building, the economics of construction, the freedom in the formation of foundations and façade panels, and the associated aesthetic experience of the inner and external object design. For him, this was a feat because the prospects of the new standardized architecture could be transferred to urbanism and thus to solving the problems of modern cities. Thus, the ways of involving separate units into urban life and the distribution of the common spaces of the city within the limits of acceptable economic parameters, prompted Le Corbusier to reflect on theoretical urban settings.

3.2.1. *Contemporary city for three million inhabitants* (*Ville contemporaine de trois millions d'habitants*)

Critical analysis of the relationship between old town centres and new peripheries and the need to address the problems of their aggregation into a complete urban system led Le Corbusier to make suggestions, visions, based on functional principles and derived from social, economic and cultural context. He believed that the time had come to accomplish great works that will undo the remains of the dead and promote the era of a new collective spirit and civic pride.

This idea was presented for the first time in the design for the *Ville contemporaine de trois millions d'habitants* (1922) and saw it as a model for designing all cities for modern society. The plan represented the release of the constraints that emerged as a result of decentralization and uncontrolled expansion of urban structures. It was a theoretical attempt

⁴ Five points of new architecture: 1. Pillars - free ground floor, garden is located beneath the house and above the house, i.e. on roof, 2. Roofs-terraces-gardens - usable flat roofs, replacement for the space taken from the ground, 3. Free formation of the base - with fixed pillars, partition walls are installed as needed, 4. Lateral window - horizontally continuous, maximum façade and 5. Free façade design - vary according to need, in accordance with the free base plan [17; 11];

to form a city organized on the parameters of the central core ripple, the rapid circulation of traffic along its entire linear plane. The increase of the density of population in high buildings, in conjunction with the increase of green areas sublimated all Le Corbusier's ethical, aesthetic, technical and sociological theses.

The basic cell of the *Ville contemporaine* was a standardized residential unit with a terrace-garden. In opposition to the scattering of the urban phenomenon, Le Corbusier placed vertically individual units on the periphery and concentrated them in the complex of high-rise buildings called *Immeubles-villas*. It was a vision of a vertical garden town that allowed the undisturbed spread of park/green surfaces beneath the skyscraper and all around them in large open spaces. In the central city zone, administrative and cultural facilities lay around the administrative core that was characterized by skyscrapers. With skyscrapers and tall buildings, he wanted to bring the city to the smallest possible area⁵. The hierarchical distributive norm regulated at various levels the city's auto-routes, which were entwined below the spacious surface for aerotaxis, and the fast roads diagonally crossing the linear base of the city [4; 9; 11; 3] (see Fig. 4).

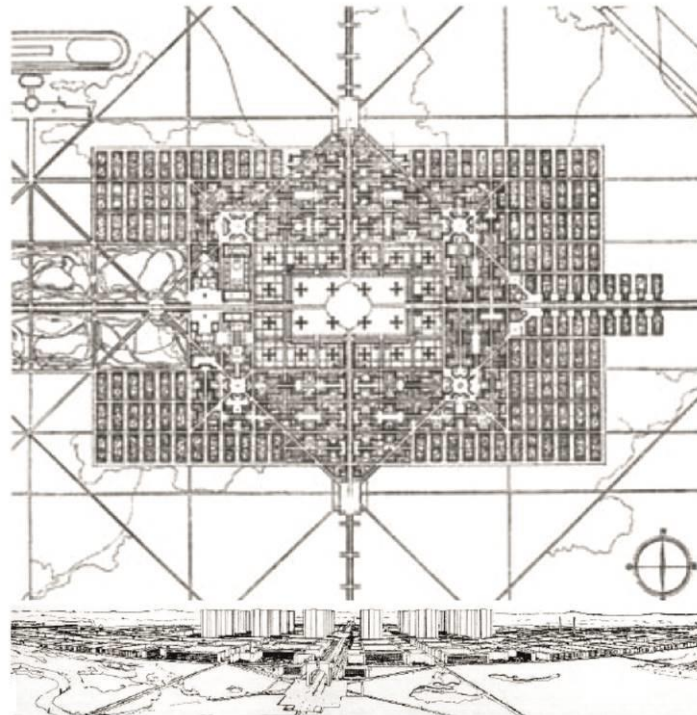


Fig. 4 *Ville contemporaine de trois millions d'habitants*, 1922; Source: [10]

⁵ In a vertical garden town, with a population density of about 1000 inhabitants/ha, 3 000 000 inhabitants could have lived. Green and park surfaces occupy an area of about 1.5 km². The administrative center is planned with a density of 3200 inhabitants/ha and each of the 24 skyscrapers could accommodate from 10 000 to 50 000 employees [10].

In the *Ville contemporaine*, Le Corbusier created urban space based on free-standing objects as basic units of measure in the dimensioning of urban space, he expressed principles of a new urbanism, i.e. the principles of a clear differentiation of the primary city functions connected by the network of fast communications. With this logic, he established a connection between the central and peripheral parts of the city and linked them into a coherent system. The plan clearly reflects his architectural ideology, which is to think radically technically means to be in close relation to the interests of capital and to adapt to social order and social conditions. For this reason, Le Corbusier argued that "the great city – the metropolis, as a phenomenon and design symbol of spatial articulation will remain in all social systems as a justified phenomenon" [11].

3.2.2. Radiant city (*Ville radieuse*)

Ville radieuse (1930) was a perfect plan of the *Ville contemporaine*. The main difference was that Le Corbusier moved the business centre of the city outside of its geometric centre, and kept the idea of concentrating high buildings and skyscrapers in order to minimize the city's area as much as possible⁶. Everything in the *Ville radieuse* was symmetrical and standardized, differentiated functional zones connected by underground traffic, and walking communications, positioned at different levels above the terrain, in lush greenery [18]. The main characteristic of the *Ville radieuse* was the possibility of infinite expansion, making Le Corbusier overcome the closeness of the *Ville contemporaine*. The isolation of the business centre and the organization of city functions around the central axis made the city's central model seem more like a linear one (see Figure 5).

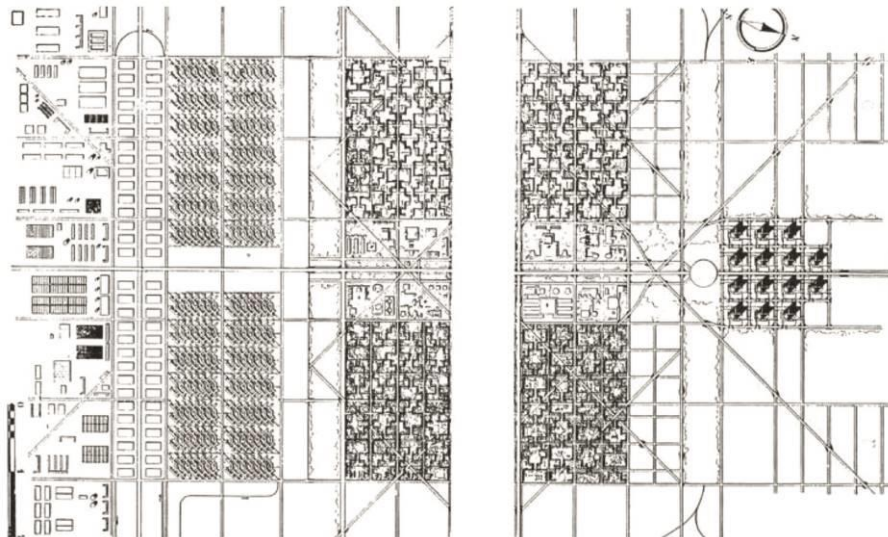


Fig. 5 *Ville radieuse*, 1930; Source: [18]

⁶ And in *Ville Radieuse*, freestanding objects are units of measure in the dimensioning of urban space. Their number is indicative, for which there is no data to come from calculating the need for housing or work space.

And in this plan, Le Corbusier resolutely stood on the point of view of urbanization. In his view, the (necessary) evil of big cities should have turned into the good of the majority, and the industry and technology that caused such a state of affairs brought about the possibility of implementing the social transformation of modern society. His position that primary geometry, both in architecture and urbanism, is suitable for machine production, and therefore possess the qualities of purity, economy, modernity and sociological imagination, has been declared by opponents as a technological-ideological dialectic. On the other hand, many critics pointed out that Le Corbusier in *Ville radieuse* has reached the greatest extent of the idea in the theory of the construction of cities, the concept he is most famous for.

3.2.3. Linear industrial city (*La cité linéaire industrielle*)

After the Second World War, Le Corbusier once again faced the challenges of industrial and economic reconstruction of cities, which enabled him to influence the essence of modern society and once again anticipate post-war reconstruction problems. In that period, without departing from his theoretical urban planning, based on the differentiation of primary urban functions connected with network of fast communications, the organization of an entire country, on the enhancement of industry and agriculture, was also affected. In the aspiration to establish a synergy, as well as harmony between man and nature, exchange, agricultural exploitation, position and justification of industrial and radial-concentric cities, he developed the idea of linking a linear industrial city and a cooperative rural unit.

In *La cité linéaire industrielle* (1945), Le Corbusier conceived the dual zone as horizontal and vertical gardens, composed of typical residential units, dimensioned according to the needs of one family and with the possibility of multiplying in space. This concept provided a zone of common services connected with network of fast communications. The protective shade of greenery, in which the city's highway was located, separated the apartment from the zone of industrial plants. In the wider region of the region, the village, as a unit of agricultural exploitation, connected the radial-concentric network of roads with the existing city as a place of trade, administration which was further accented with a linear industrial city as a place of production. There is a green industry, an example linear city, replaced the black industry from the first period of the mechanical era, introduced the work into the environment of natural conditions and restored dignity and joy to human life. Based on the real conditions of nature, Le Corbusier argued that this concept of regional organization of life and labour could be further consolidated into an organic and balanced structure of the continental and intercontinental systems [19; 17] (see Fig. 6).

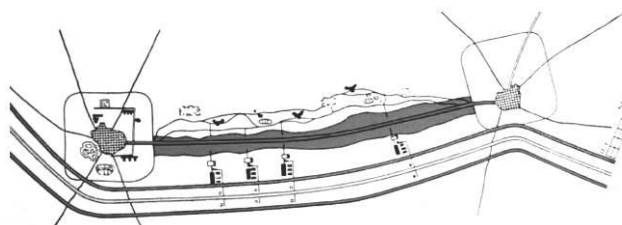


Fig. 6 *La cité linéaire industrielle*, 1945; Source: [19]

3.3. Accepting and challenging Le Corbusier's ideas

In addition to numerous theoretical reflections on space transformations in all scales, Le Corbusier left behind numerous works that promoted the "internationalization of architectural practice around the world"⁷ [20]. He was fully confident and expressive about his ideas and achievements, and therefore acquired the entire army of followers. Many theorists of modern architecture claim that it had a beneficial effect – referring to open principles of construction, rather than on the ready solutions. His associates, as well as the architects with whom he gained professional contacts, did not take over, but further developed the ideas of modern architectural language⁸. It can be said that the uniformity of ideas and deeds is actually the key to understanding Le Corbusier's successful acquisition of the sympathies of architects of all generations and in all the climates, because he did not put them before the dualism of contradictory claims and the intractable inconsistencies.

However, in parallel with the acceptance, Le Corbusier's ideas have been exposed to fierce denunciations. Although he always accompanied functionalist explanations and claimed for himself that he was a rationalist and a scientist, his critics saw his architectural and urban solutions as partially rational, mostly dogmatic and uncritical [21]. Considering the reformer of the society, the rational urbanist and the prophet of the mechanical era, he saw the building as an instrument of social action, the conduct of politics, the seduction of morals and the development of the economy. The paradoxes in the space that originated from it were estimated as the result of simplified interpretations of these ideals. Still, without giving up on his principles, he once said: "It takes thirty years to be accepted, fifty years to come into practice. With daily fighting, terrible stubbornness, unwavering confidence and complete self-determination, you will achieve victory. But others will benefit from it and that's good" [3].

4. RESULTS AND DISCUSSION

In tangible world of matter and energy, result is a reflection, an interaction of individual components, one can presume that in the immaterial world there are spiritual forces which, by the purposefulness of their movement towards a certain goal, become a symbol of meaningful realization of ideological engagement. In this paper, we dealt with the observation of the material and metaphysical forces directed towards the formation of the morphology of

⁷ This is also supported by the fact that UNESCO listed 17 architectural objects on the World Heritage List in 2016, written by Le Corbusier, in seven countries and on three continents [20].

In addition, with its urban studies, Le Corbusier has made a decisive influence on urban planning for the second half of the 20th century. By developing the basic theoretical urban setting from the *Ville contemporaine de trois millions d'habitants*, the principles of the new urbanism have been incorporated into numerous plans for the cities: Paris, Geneva, Rio de Janeiro, Sao Paulo, Montevideo, Buenos Aires, Algeria, Moscow, Antwerp, Barcelona and Stockholm. Only one plan has been implemented - a plan for Chandigarh, a city of 500,000 inhabitants (1950-1960) [3].

⁸ Between the two world wars, the influences of modern architectural trends in Sarajevo were among the first to be brought by the Prague student Helen Baldasar who applied them to public buildings and residential multi-story houses. Muhamed and Reuf Kadić, also Prague students, advocated the idea of functionalism in the housing culture. Juraj Neidhart, an associate at Le Corbusier's studio until 1939, with the architect theoretician Dušan Grabrijan, worked on the synthesis of traditional and modern architecture in B&H. Grabrijan is also the author of the book: *Architecture of Bosnia and Herzegovina and the Way to Modern* (1951), for which the preface was written by Le Corbusier. In the field of urban planning, the General Urban Plan of Sarajevo (1965-1986) is based on the principles of modern urbanism, a strict functional division of urban zones.

modern architectural thought. This provided us with Le Corbusier's architectural and urban phenomenon that was not the case of spontaneous emergence, but it is precisely the result of circumstances of diverse and turbulent events of the 20th century, which became a platform for his entire creative output. This is not about ideas that emerged in the field that were officially recognized in architecture and urbanism, but in the realm of Le Corbusier's dynamic spiritual habitus. This fact explains how one mind can at the same time conquer the peaks of architecture and become the embodiment of a modern architectural movement, and on the other hand be severely condemned for ideas that are often rated as devastating.

One can realize that the material and spiritual culture of the western civilization of the 20th century and the knowledge gathered from the experiences of the predecessors determined Le Corbusier's understanding of architecture and urbanism. He collected the most important active and thoughtful settings of the architects with whom he worked, formulated them in, strict language, principles, and thereby shaped the architectural movement. However, it is important here to point out that Le Corbusier was going to determine the actual results of the work of the predecessors, who then showed a great value of their contribution, not to take over and adopt their expression, nor to select architectural and urban elements for possible imitation.

Creating his architectural expression, Le Corbusier did not transform this knowledge into formal allusions, but for him meant a preparatory experience in designing, that is, the adoption of the attitude that inspired the revalorization of general life opportunities. In this creative moment, watching the house as a living machine, the classic temple of comfort, reliability and satisfaction joined the dialectic of resources and goals related to economic criteria, he saw architecture as a unit of serial production. Barred from all forms of decoration, it became an equivalent of mass-produced objects and subject to the laws of standardization and economics, and as such, he believed, had beneficial effects on its users.

Studying the typologies of family-built residential units, Le Corbusier elevated them to an urban dimension. In his view, the city had to provide individual freedom and benefit from a joint action on a spiritual and material basis. In order to achieve this goal, the unit of measure of everything that is being built inside the urban space had to be a standardized housing unit – the basic cell of the city. The city has thus become an enlarged architecture, which Le Corbusier has left as a reference spatial system, a monotonous repetition of a number of models and types of residential buildings. He trimmed and subdued the city to the houses.

From overview of the most significant characteristics of Le Corbusier were aspirations to unite man and nature into a unique system and to formulate norms that will enhance the city in spiritual and material terms for happiness and individual freedom, to create a space variability with few basic elements. Continuity and consistency in the cyclic repetition of these elements during the years of creation, both in architecture and in urbanism, have assumed the character of "revived beliefs" [9]. Le Corbusier remained faithful to the very end by the strict rules of construction, from home across the city to the region, ideas transmitted to forms and forms that the welfare of man had as the basic unit of measure of all interventions in space.

When it comes to the strict differentiation of the primary city functions, it is clear that the life of a city is much more diversified and fuller than the reduction to a unique formula: housing – work – recreation – traffic. In fact, this is our negative critique of the principles of the Athens Charter and the guidelines of functionalist urbanism, as well as the negative criticism of the standardized, bureaucratic environment of Le Corbusier's city.

5. TOWARDS A CONCLUSION (*VERS UNE CONCLUSION*)

From this point, it can be concluded that the analogy Le Corbusier established between architecture and serial production emphasizes the production process. When this is added to the economic category of construction, we come to a fundamental defect, that is, mass production which makes them temporary in use value and quickly obsolete. That should not be valid for the built space. Because, when these two systems are equal, primacy is taken up by production techniques, cost-effectiveness and speed of construction, and spatial and social components of life in settlements are neglected. In addition, we can say that Le Corbusier, along with a strictly defined and standardized model of housing and the concept of a community, fell into a mind-set of industrialization of society, whose aim was first demographic growth and production, and then social life. In this context, his approach, regardless of the declarative humanist views, can nevertheless be assessed as autocratic.

In solving complex urban problems with methods based on schemes verified in the context of smaller dimensions, we see the weak point of Le Corbusier's theoretical development. We conclude his internalized and rationalized views on architecture are simply not applicable in the interpretation of a complex urban phenomenon. On the other hand, the city's vision, based on the principle of multiplying free-standing objects as a unit of measure in the dimensioning of space, opened the possibility of free spatial arrangement of buildings and their construction on reinforced concrete pillars. This was appropriate only for the abolition of private land ownership, and such a radical concept was the ideal starting point for the avant-garde vision of a city separated from the ground. Although radical, we must admit that it is Le Corbusier who made a turning point in his perceptions of the planning of cities and established a clear boundary between classical and modern urbanism.

We concluded that the specialization, segregation and isolation of urban functions made the city a kind of machinery in which the free-standing objects in greenery were repeated dogmatically and persistently, and the urban space became a common place. We also saw that Le Corbusier's disdainful attitude towards place and context produced the same urban morphology, sterile cities and universal spaces. This is legible in all the benchmarks it has dealt with, from home across the city to the region and further to continental and intercontinental urban systems.

Ignorance of places and contexts, layered messages of history and tradition, as well as of social components of life, has generally proved to be an essential weakness of functionalist urbanism. Therefore, since the 1980s, the integration of functions has become a new and basic urban concept, that is, multi-functional and connected urban spaces have pushed the zoning. Contextualism led to the return of the city and strong urban identity. Otherwise, 20th century will be remembered as an era of reaction to modern architecture and urbanism, especially on the concept created by Le Corbusier, which resulted in the construction of large, unimaginable and unrecognizable urban spaces.

In this paper, we tried to present Le Corbusier's aspiration for reaching the new reality of the city, which he created and confirmed with economic, political and social connections within a well-defined urban environment. Topic of Le Corbusier's work is omnipresent and part of our cityscapes, this paper provided a contribution in clear connection and understanding of the structural and functional significance of urban visions, based on his theoretical propositions on architecture. This was the main intent of our critical overview, as yet another layer and insight into the creative opus of this influential and controversial architect and the general urban and architectural theory.

REFERENCES

1. C. O. Carbonell, Veliki datumi XX. stoljeća, Kulturno-informativni centar, Naklada Jesenski i Turk, Zagreb, 2007.
2. M. Bobić (2001): „Arhitektura XX veka. Nasleđe moderne“, Available at: https://www.vreme.com/arhiva_html/523/34.html [27th Jan. 2019].
3. N. Dobrović, Savremena arhitektura 3. Sledbenici, Građevinska knjiga, Beograd, 1963.
4. Le Corbusier, Način razmišljanja o urbanizmu, Građevinska knjiga, Beograd, 1974.
5. R. Zelenika, Metodologija i tehnologija izrade znanstvenog i stručnog djela, Ekonomski fakultet Sveučilišta u Rijeci, Rijeka, 1998.
6. M. Vujević, Uvođenje u znanstveni rad u području društvenih znanosti, Informator, Zagreb, 1983.
7. G. Zaječaranović, Osnovi metodologije nauke, Naučna knjiga, Beograd, 1977.
8. M. R. Perović, Antologija. Teorija arhitekture XX veka, Građevinska knjiga, Beograd, 2009.
9. C. Cresti, Le Corbusier, Naprijed, Zagreb, Državna založba Slovenije, Ljubljana, 1970.
10. W. Boesiger and O. Stonorov (ed.), Le Corbusier et Pierre Jeanneret – Oeuvre complète, 1910-1929, Vol. 1, Éditions d'architecture, Toulouse, 1990.
11. N. Dobrović, Savremena arhitektura 2. Pobornici, Građevinska knjiga, Beograd, 1963.
12. <https://senacatal.wordpress.com/2016/03/06/tony-garnier-from-an-industrial-city/> [5th Feb. 2019].
13. Le Corbusier, The city of tomorrow, The M.I.T. Press, Cambridge, 1971.
14. N. Dobrović, Savremena arhitektura 1. Postanak i poreklo, Građevinska knjiga, Beograd, 1965.
15. R. Radović, Savremena arhitektura. Između stalnosti i promena ideja i oblika, Stylos, Novi Sad, 2001.
16. B. Krstić (ed.), Atinska povelja i misao arhitekata i urbanista FNRJ 1950-ih, Beograd, 2014.
17. Le Corbusier, Ka pravoj arhitekturi, Građevinska knjiga, Beograd, 1977.
18. J. L. Cohen and T. Benton, Le Corbusier le grand, Phaidon Press, London, 2008.
19. W. Boesiger and O. Stonorov (ed.), Le Corbusier et Pierre Jeanneret – Oeuvre complète, 1938-1946, Vol. 4, Éditions d'architecture, Toulouse, 1990.
20. <https://www.dezeen.com/2016/07/19/unesco-adds-17-le-corbusier-projects-world-heritage-list/> [7th Jan. 2019].
21. C. Jencks, Moderni pokreti u arhitekturi, Građevinska knjiga, Beograd, 1988.

O STVARALAŠTVU LE CORBUSIER-A: JOŠ JEDAN PRILOG PROMIŠLJANJU

Burni društveni tokovi turbulentnog XX vijeka i diskontinualnosti koje su ga obilježile, kako to uvijek biva, reflektovali su se na polju čovjekovih spoznajnih i stvaralačkih dostignuća i uticali su na oblikovanje nove arhitektonske misli i stava prema prostornosti. Prva polovina vijeka posebno je obilježena modernističkim pokretom, čiji su predstavnici, povezujući tehnička i tehnološka dostignuća u građenju, ekonomiju, socijalni kontekst i kulturu u jedinstvenu cjelinu, utjelovili duh i označili domet arhitekture i urbanizma moderne.

Među njima se posebno izdvaja ime izrazitog predstavnika novog doba, arhitekta Le Corbusier-a, o čijim teorijskim postavkama urbanizma i odnosu prema arhitekturi i gradu ovaj rad i govori. Istražujući analogiju koju je formirao između serijski proizvedene stambene jedinice i funkcionalističke urbanističke dimenzije, kao i model regionalnog planiranja, uvidjeli smo da je Le Corbusier izvršio preokret u dotadašnjim shvatanjima o planiranju gradova. Istovremeno hvaljen i osporavan, postavio je jasnu granicu između klasičnog i modernog urbanizma.

Razmatranja o ishodištima i evoluciji Le Corbusier-ovih ideja ovdje nisu imala za cilj uspostavljanje nove periodizacije u opusu, već predstavljaju još jedan prilog brojnim promišljanjima o njegovom stvaralaštvu, za koji vjerujemo da daje doprinos opštoj teoriji urbo-arhitektonskog dizajna.

Ključne reči: *Le Corbusier, XX vijek, modernizam, arhitektura, urbanizam, urbano planiranje*