To this day I am accused of being a revolutionary, however, I must confess that I've only had one teacher, the past, and one discipline, the study of the past.

Le Corbusier

FROM ROME TO NEW YORK: BACKGROUND TO THE URBAN PROPOSALS OF LE CORBUSIER

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Abstract. The paper argues that urban proposals of Le Corbusier arise from the study of the history of architecture. Through a comparison of his journey impressions with his urban projects, this paper demonstrates that the ideas and perceptions that determined Le Corbusier proposals were extracted and interpreted from the study that the young architect carried out of the settlements and cities of Eastern Europe and the Mediterranean in his well-known Voyage d’Orient.

Keywords: Le Corbusier, Jeanneret, Voyage, Orient, Pompeii, Buenos Aires, Domino, Rome, New York, Chandigarh.

Introduction

If you study some of the urban proposals of Le Corbusier, such as La Ville Contemporaine (1922), the Buenos Aires Business City (1929), the studies to urbanize Rio de Janeiro (1929) and New York (1935), or the city of Chandigarh (1950), it could be thought that these proposals – as some detractors of Le Corbusier’s work have pointed out – emerge only as a radical critique of the European cities of the end of the 19th century and the American cities of the beginning of the 20th; that they are city models that do not take into account pre-existing cities acting instead as a sort of tabula rasa superimposed over the terrain without antecedents or any connection to it.

However, if the learning voyages undertaken by Le Corbusier in his youth are considered, it can be deduced that many of the elements, parts, compositional principles, ideas, and perceptions that determined these proposals were extracted and reinterpreted precisely from the study that the young architect carried out of the settlements and cities of Eastern Europe and the Mediterranean in his well-known Voyage d’Orient.

La Ville Contemporaine

In 1922, Le Corbusier planned his first urbanistic project, La Ville Contemporaine, designed for three million inhabitants. It was a theoretical proposal without a defined location (Fig. 1). The layout of the city is determined by two intersecting axes that give rise to a monumental centre.1 The entrances to the city are highlighted by enormous arches on the ends of the north-south axis. It is possible that the idea of marking the entrances out with arches could have come from Le Corbusier’s review of the city of Pompeii.

In fact, in October of 1911, the young Charles-Édouard Jeanneret (Le Corbusier) went over the city for five days and made numerous drawings of the ruins that survived the eruption of Vesuvius. One of those drawings displays a perspective of the Forum’s strada (Fig. 2).

To the left you can see the temple of Fortuna, which, together with the portico of the Macellum, culminate in the arch of Germanicus. Le Corbusier notes on the side that the arch possesses an “extraordinary decorative potency” (Le Corbusier 1987b: 82). It is that decorative potency which the Swiss urbanist wants to reproduce in the north and south entrances to La Ville contemporaine, conscious as he was of the solemnizing importance that the Romans accorded the entrances to their cities.2

1 Xavier Monteys has pointed out that this great centre “is similar to the nave of St Peter’s Basilica, especially in its profile with its bulging apses and the four columns which support the dome, it makes us think of this place as a temple or holy place.” (Monteys 1996: 82).

2 The various drawings, photographs, and postcards of arches that Le Corbusier makes and purchases in his journey to the east. In Rome, he drew the Arch of Constantine.
Additionally, the spatial organization of Pompeii served as a reference point for the guiding layouts which provide the foundation for Le Corbusier’s ideal urban planning proposals. For him, the city on the hillside of Vesuvius has several characteristics that make it representative of the model Roman city: its orientation was determined by the cardinal axes, it has systems of reticulated streets generated by the main roads, and the layout of the housing, facing the streets and the Forum, allowed the public buildings to be grouped together and serve as the strategic centre of the city.3

The Buenos Aires Plan

In 1929 Le Corbusier modelled the Buenos Aires Plan through a radiant vision consisting of five skyscrapers emerging from the horizontal plane and reflected on the waters of the Río de la Plata (Fig. 3). He employed this powerful night-time image to display the buildings of the cité d’affaires solemnly arranged over a horizontal platform.

A precedent for this project can be found in the Smederevo Fortress (Fig. 4). In June of 1911, while navigating the Serbian Danube, Ch-É. Jeanneret took a photograph of the giant fortress of the dictator Juraj Brancovie (1430). On the bank of the river, resting atop the enormous wall of the fortress, a series of massive towers emerge which remained burnt into the memory of the young architect.

Everything culminates in a grandiose geometry. Bach and Handel achieved the same heights, and so too did the Italians of the 18th century. The hymns have been like great squares arranged like towers. And they’ve been joined together by crenelated walls with arabesque patterns. In the morning of the previous day, on the riverbank, we had seen 26 square towers flanking a great straight wall (Le Corbusier 1987a: 42–43).

3 To go deeper into this topic, refer to: Marta Sequeira (2012).
The urbanization of Rio de Janeiro

In 1929, Le Corbusier crafted a few proposals for the urbanization of Rio de Janeiro. One of them involves the construction of an enormous continuous building, 100 m in height (that simultaneously acts as a highway), to unite the bays; thus overcoming and traversing with tunnels the imposing natural barriers.

Two bird’s eye view drawings reveal the intentions behind his proposal (Figs 5 and 6). The first sums up his impressions from the plane on approach to Rio de Janeiro. The great building can be observed running parallel to the bay, branching off towards the cité d’affaires, in one direction; and towards the well-known Pão de Açúcar in another. The second sketch shows a panoramic view of the enormous building slithering through the entire bay, emphasizing its linear continuity.

At first glance, it could be thought that these proposals originated from the exuberant geography of the bay of Rio de Janeiro, without any preceding vision. However, we know that in June of 1911, while ascending the slopes of the Central Balkans en route to Turkey, Ch-É. Jeanneret discovered a city, “an extraordinary city that no one ever talks about, lost away from the great lines of communication” (Le Corbusier 1987a: 52–53). The young man makes a stop in his journey and atop a cliff contemplates this unexpected finding (Fig. 7).

[…] After climbing up the enormous cliff where the city is perched […] a set of mountains, formed by narrow stone beds sunken in enormous sandbanks, suddenly rose up. A deep almost “canyon-like” fissure crenelated with rocks in horizontal files grants passage to the yellow river […] On the other side, in a semicircle, the Balkans curl and swell up […] the yellow tape of the river hugs the city forming a spirited eight; here, the river broadens and its pooled waters give rise to sand islets; there, the river chokes infuriating its current. (Le Corbusier 1987a: 52–53)

We are talking about the city of Veliko Tarnovo, built in the Bulgarian Balkans next to the Yantra River, one of the tributaries of the Danube (Fig. 8). The impressive city described by the young man is quite literally clinging to the mountainside and it extends sinuously along the mountain range. The city was divided into a Christian area above the hill and a Muslim area embedded in the valley, a division that heightens its dramatic quality (Daza 2015: 69–74).

A present day photograph brings out the extraordinary quality of this city’s magnificent embeddedness in its geography (Fig. 9). It is still possible to make out the rocky formations featuring files and crenelations that Ch-É. Jeanneret described, which emerge from the mountains enhancing the abrupt splendour of this Bulgarian landscape. This singular
vision must have been present in Le Corbusier’s mind when he visualized Guanabara Bay and modelled his risky proposal for Rio de Janeiro.

Even if the foregoing comparison appears to be somewhat exaggerated, a comparison between the Rio proposal and the aqueducts that Le Corbusier observed in Istanbul and Rome is not. For instance the one in Valens (Bozdoğan Kemeri), which he referred to as a Byzantine spectre, modern as a ship, with openings like the eyes of an ox (Fig. 10); a Roman aqueduct 64 metres above sea level and 20 metres from its base spanning a kilometre, from Belgrade Forest and the Sea of Marmara, to supply water to Constantinople.

We can also observe the similarity between the panoramic vistas that La Corbusier composed for Rio (Fig. 11), in a drawing published in *La Ville radieuse* (Fig. 12), and one of the aqueducts that plough through and irrigate the Roman countryside as an extended and continuous flow.

Across the countryside, bringing down cool, pure water from the mountains, they stretched the long lines of their aqueducts […] a vestige of Roman times. Will this aqueduct, on a scale so much larger than that of the houses, destroy the site? Of course not! The aqueduct has created the site (Le Corbusier 1935: 186).

The urbanization of Manhattan

In 1935, Le Corbusier carries out studies for the urbanization of Manhattan and lays out a 400 m x 400 m grid for the island where Cartesian skyscrapers and redent blocks aim to modify the city’s pre-existing weave and replace its building style (Fig. 13).

It was a delirious proposal which, understandably, was not carried out, all the while, no doubt, giving the authorities in New York something to smile about. In his book, *La Ville radieuse*, Le Corbusier compares an aerial photograph of New York with an image from *La Ville contemporaine*, “the two theses face to face: New York is not a city of the machine-age civilization. New York is countered by the Cartesian city, harmonious and lyrical.” (Le Corbusier 1935: 202) (Fig. 14).

Furthermore, during his visit to the city, the architect provocatively remarks that in New York:

The skyscraper is too small and destroys everything […] tumult, horripilation, the first explosive situation of a new middle age […] The American skyscraper is not an urbanistic element but rather a flag in the sky, a rocket with fireworks, an aigrette in the dresser of a man to be featured in a “Who’s Who” of money (Le Corbusier 1999: 67–68).
Thus he proposes to knock down the skyscrapers and replace them with his own:

I’m not afraid. North Americans are strong enough to recognize that the prodigious bloom of the “Great Prosperity” must be knocked down and replaced by equally noble, but efficient, installations.

(Le Corbusier 1999: 88)

Paradoxically – preposterous though it may seem – the cruciform buildings of the era of the machinist civilization may find one of their formal origins in the base for a table or *cartibulum* that Ch-É. Jeanneret drew in 1911 (Fig. 15), in the Hotel del Sole, located in the vicinity of the Pompeii amphitheatre (Le Corbusier 1987b: 97). Notice the similarity between the cross-shaped skyscrapers of *La Ville contemporaine* and the cruciform base of the table. Le Corbusier frequently, as part of his creative process, effected formal transfers or played games with scale in which the small became large or vice versa.

It could be thought, as Rem Koolhaas points out in *Delirious New York*, that Le Corbusier discovered this city too late, however, even in his youth he had a preformed vision of the city of skyscrapers. When he was 23 years old, while on a visit to Constantinople, he wrote, “the Levantine (referring to the Near East) centres around a formidable tower in Pera, a compressed city with New Yorker and diluvial airs that pens in the Turks [...]” (Le Corbusier 1987a: 69).

Ch-É. Jeanneret is referring to Pera, a residential neighbourhood where the Genovese foundation of Galata in the Golden Horn began, located on the eastern side of Istanbul. In one of his drawings he portrays Pera as a cramped neighbourhood with a saw-tooth profile in which only its formidable bellicose tower stands out (Fig. 16). In another sketch (Fig. 17), he shows the crowded edifices of Pera and remarks that:

> The stone houses climb up over each other and overlap hurtling over each other like standing dominoes, providing two white walls peppered with windows, and two red dividing walls like desiccated blood.

(Charles-Edouard Jeanneret (Le Corbusier) 1992: 85)

In this way, he associates the houses of Pera with domino tiles. It is quite possible that Le Corbusier’s first use of the word *domino* comes in his written description of the Journey to the East of 1911. As is well known, between 1914 and 1915, he created this system based on the board game, a system that will play a decisive role as an aggregation procedure in the design of his first residential agglomerations (Fig. 18). In those primary collective organizations, the houses were laid out like horizontal tiles – unlike in the neighbourhood in Pera – thus having the possibility of being connected along the short sides of the tiles.
From a young age, the architect develops a preconceived vision of the American city which he would reaffirm on numerous occasions. New York and Pera are cities of tall and crowded buildings; cities where it is impossible to breathe, where light barely makes it through the cracks, lacking space and vegetation, dangerous cities that could easily be attacked from the air and destroyed: diluvial cities. In short, they are the opposite of what he sees in Istanbul.

On his 1911 visit to Constantinople, Ch-É. Jeanneret stayed in the Müller hostel, in the Aynali passage, behind Pera’s main street. From the window of his room on the fourth floor he observed Istanbul’s profile for seven weeks and made several panoramas of the entire city. One of them is an extended drawing in which the young architect attempts to encompass Istanbul’s whole panorama (Fig. 19).

In the lower part it is possible to observe the Galata Bridge and in the upper, the silhouette of Marmara and Istanbul, on which the Süleymaniye and Fatih Mehmed mosques rest. Ch-É. Jeanneret sketched the Galata Bridge parallel to the line of the Marmara, reinforcing the horizontal character of the drawing and thus shaping the character of the city itself. On the other side of the sketch, drawn from Taxin (Fig. 20), you can observe – on the top margin – the contrast between the way in which the Süleymaniye and Fatih Mehmed mosques emerge, a picture of relaxation in the profile of Istanbul, while the crowded vertical six and seven storey constructions agglomerate in Pera.

During his stay in Constantinople Ch-É. Jeanneret went on countless walks between Istanbul and Pera. The traveller used to go on daily tours between one and the other crossing over the Galata Bridge. These tours allowed him to compare and contrast the Pera area with Istanbul proper, as recorded in his comments and drawings (Fig. 21).

To the left of the Golden Horn, the Pera neighbourhood; to the right, Istanbul. The Genovese Pera, bristling with tall, crowded, vertical houses; the checkerboard windows confer the entire mass a solid cohesion. The sea composed by the red roofs of Istanbul allow the sculptural whiteness of the mosques to rise into the serenity of the landscape (Le Corbusier 1925: 70).

In the same way, the Russian scientist and philosopher Nikolay Strakhov noticed, during his 1881 visit to Constantinople, the enormous contrast between the two cities.

Pera is not a part of Istanbul or even one of its neighbourhoods as is commonly said; they have nothing in common. They are physically separated by the Golden Horn and morally by their origin, language, religion, and lifestyle; in other words, they have all the differences in the world (de Vogüé, Strakhov 2007: 109).

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4 Constantinople was officially renamed Istanbul in 1930.
5 In many of his sketches of the Journey to the East, Le Corbusier doesn’t use proper drawing technique to faithfully represent what he is looking at. It is common for him to reinterpret reality, fitting what he sees to his desired image. In this case, he makes the Galata Bridge look parallel to the profile line of the Sea of Marmara, a vista which is practically impossible. The drawing emerges from a preconceived vision, which is later copied using a technique known as Ink wash on blue paper. See preliminary drawing FLC 1794.
Thus, the Pera area and the city of New York are vertical and crowded while Istanbul is a city where isolated buildings float freely over a surface populated by trees: “Istanbul. Trees grow everywhere around the houses: a pleasant cohabitation of the human and the natural” (Le Corbusier 1925: 72). And while staying in New York he remarks, full of surprise: “Not a single tree in the city! That’s the way it is!” (Le Corbusier 1999: 104).}

It is precisely from this youthful vision of Istanbul that the Swiss urbanist will begin to define a city model that gives pride of place to isolated buildings floating over green horizontal surfaces.

In fact, years later, Le Corbusier laid out a proposal for the Headquarters of the United Nations in New York (Fig. 22). His plan was to insert pure prisms into the precipitous New York skyline. On top of that, one of his sketches for the Headquarters of the United Nations (without the backdrop of New York) was published in *Le Modulor* in 1947 (Fig. 23), and to round it all off, he placed it on a page adjacent to another sketch where he compares the Palace of the Soviets with a silhouette of the buildings of Pisa (Fig. 24). In this way, Le Corbusier establishes a bridge between all these buildings. He suggests that the Palace of the Soviets and the Headquarters of the United Nations have a common precursor in the impressions of Pisa he produced in 1907, 1911, and 1934, while visiting the city situated on the river Arno.

Baptistery, Duomo, and Campanile constitute pure prisms erected independently (Fig. 25), that flex and balance each other over a horizontal base of grass; they are laid out in loose fashion, free of pressure from the city around them, bound again only by the Pisan hills. The discovery and reinterpretation that Le Corbusier fashioned of Pisa served to confirm the observations and intuitions obtained in Istanbul. His discovery: *sun, space, and green*.

**The urban planning project for Chandigarh**

In 1950, Le Corbusier plans out an urban planning project for Chandigarh and the buildings which will constitute the governmental complex around the Capitol in the new capital of the state of Punjab in India. In a panorama of the proposal, you can see three buildings, with diverse configurations, arranged over a horizontal base and brought together by the Sivalik Hills, buttress to the Himalayas (Fig. 26).

This depiction of Chandigarh is similar to that of Pisa, but it is also analogous to a panorama that Ch.-É. Jeanneret made in Rome in October of 1911 (Fig. 27). It’s a drawing sketched out from one of the ends of the Forum, in it can be seen the Torre delle Milizie and the Temple of Antoninus and Faustina. The vertical
elements, tower and temple, are joined together by horizontal elements. The young man notes that there is a beginning and a head, and writes over the drawing: *un paysage urbain à composer* (Le Corbusier 1987b: 140).

In Rome, Ch-É. Jeanneret doesn’t just focus on the isolated building, in addition, he establishes relationships between elements or parts of the city, frees the monuments or landmarks from the urban magma that enshrouds them and binds them together by means of horizontal lines or surfaces.

Thus, the panorama of Chandigarh can be interpreted like a Roman landscape, found to the left like the Torre delle Milizie; the assembly in the centre, in the manner of the Basilica of Constantine; the Governor’s Palace to the right, playing the role of the Temple of Antoninus and Faustina. Three elements of different sizes and volumes are linked by a horizontal element, a base plane, a sort of podium or stylobate. The parts have changed but the general organization of the composition has not been modified. In Rome and in Chandigarh prevail the same organizational principles.

This is corroborated by another drawing sketched from the top of the Mausoleum of Hadrian in which you can make out the Vatican (Fig. 28). On the left hand side of the drawing you can see the dome of St. Peter’s Basilica; in the centre, a tower belonging to the Vatican Library, and to the right, the apse of Pirro Ligorio. Ch-É. Jeanneret notes in the margins: “I wish to show the long horizontal, with its central part fortuitously highlighted, which results in a grand geometric form, both simple and at the same time rich and aristocratic” (Le Corbusier 1987b: 134).

This drawing is reminiscent of that of the Smederevo Fortress, the young man understood even then that the wall of the fortress bound its powerful towers together; however, in this drawing of the Vatican, the horizontal, the long wall closing off the Belvedere Courtyard, links three elements of dissimilar sizes and configurations: the dome, the tower, and the apse. In fact, the drawing also resembles the panorama sketched out from Pera, which highlighted the mosques as they emerged from the profile of Istanbul. So, perched atop the Mausoleum of Hadrian, Ch-É. Jeanneret gazes towards the Vatican and by mere happenstance notices a horizontal line that allows him to join together three distinct elements and compose his first *paysage urbain*.

These two drawings will end up being published in *Urbanisme* (Fig. 29) with the following caption: “Against a background of houses, elements of the same nature, Rome chooses its palaces and its temples. They are “exposed”. Architecture rids itself of the urban magma” (Le Corbusier 1925: 66).
This will be a recurring procedure in the observations made by Le Corbusier with regard to the diverse cities that he explored and visited throughout his life; the architect carried out a selection process, where he picked out and isolated those characteristics that appeared meaningful to his gaze and eliminated all traces of agglomeration, bottlenecks, squalor, or congestion.

Finally, observe a drawing made in the villa of Emperor Hadrian, in October of 1911 (Fig. 30). In this drawing, Ch.-É. Jeanneret sums up "Roman art": “it always makes use of the surface in order to give shape to the volume and its forms are perfectly clear”. The drawing features outlines of the praetorium arch, of a section of the Thermae, of a section of the Pantheon, and, lastly, of an Arcade of the praetorium. Additionally, he highlights the role that light and shadow play in some representative Roman forms: the apse, the exedra, the semi-dome, and the cylinder. In La Ville Radieuse, Le Corbusier has availed himself of these outlines to expand his interpretation of the Roman world, of the Rome that moves him:

A simple, elementary, essential, unshaded idea: Rome is geometrical! Here are the fundamental Roman forms (Fig. 31). They are so intimately the outcome of a dominating, organizing type of thought that they will always continue to haunt all human creations (Le Corbusier 1935: 185).

He publishes the same drawing in his book, Urbanisme (1925) (Fig. 32), but in this instance it can be found next to the profile of other cities: Pera is, “the saw-tooth, the city of merchants, of pirates, of gold-seekers”, Istanbul is, “the fervour of the minarets, the calm of flattened domes. Of a watchful but orientally everlasting Allah”, Rome, “the geometry, the relentless order, war, civilization, organization” and Siena, “the anguished tumult of the Middle Ages, Hell and Paradise".
In fact, he could have added to this series of drawings one of the profiles he sketched upon abandoning the American city: “Until we meet again New York! […] In the country of the timid. Freedom” (Fig. 33). Pera, Siena, and New York are tight vertical cities; ancient Rome, on the other hand, pure prisms liberated from the urban magma; Istanbul, a city simultaneously vertical and horizontal composed of pure prisms and surrounded by green.

Conclusions
Where can you find an ideal city, a radiant city, a contemporary city? According to the Swiss urbanist, in the cities,

[…] where the forms are arranged and organized around a centre along an axis. Horizontal lines, magnificent prisms, pyramids, spheres, cylinders. Our eyes perceive them as pure and our awed spirit calculates the precision of their design. Happiness and serenity. In the north, the jagged needles of the cathedrals are only bodily afflictions, piercing drama in the soul, hell and purgatory. Fir forests under a dim light in the midst of cold fog. Our body clamours for the sun. There are forms that cast shadows (Le Corbusier 1925: 56).

So, neither the gothic cities of northern Germany, nor Siena, nor Pera, nor New York; but rather, Istanbul, Pisa, liberated Rome and its outskirts, namely, Hadrian’s Villa and Pompeii, are to be the ideal models that Le Corbusier reinterprets and embodies in his own urban proposals (Fig. 34).

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