

# The Garden on the Roof of the Le Corbusier Apartment

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The relationship that Le Corbusier maintained with the picturesque creed of Uvedale Price and William Gilpin from his youth, thanks to his teacher Charles L'Eplattenier, all the way to his mature work, is revealed in the episode involving the Building at Porte Molitor. Though a small episode, it is highly significant, involving his own studio-apartment. Significant not only because of what was initially proposed and built, but also because of the visual effect wrought by the passage of time; an effect which after a decade intensified Le Corbusier's interest in the phenomena of natural life in architecture, making him radically use it in his mature work.

This small, personal episode of the roof of his own apartment lays bare the profound effect that his picturesque background had on him, introducing in Le Corbusier's work a vector contradicting the passion for machines and Taylorism that was so present in the work of his youth. But it also makes us reflect on the visionary nature of the text included in his *Complete Works*<sup>1</sup>, written after he took photographs of the state of that roof in the wake of his absence in the early 1940s. It was visionary in the sense that it prefigured many of the environmental policies that appear today as 'newfangled'. This is especially true in relation to the reuse of roofs as green corridors in the city, and to the appearance of key texts of contemporary landscape theory, such as, among others, the *Manifeste du Tiers paysage* by Gilles Clément.<sup>2</sup>

Porte Molitor is located in the western part of Paris, in the Boulogne-Billancourt neighborhood, next to the Bois de Boulogne, the great park whose origins date back to the year 777 and which is 2.5 times larger than New York's Central Park and 3.3 that of London's Hyde Park. The Boulogne-Billancourt neighborhood, known as 'the city of modern times', was in the 1920–30s the setting of the most iconic industries of modernity: automobiles, airplanes, domestic equipment, and cinema.

There were the Renault factories, the aircraft hangars where the first models of modern aviation were built, and the 'Point du Jour' studios working on the principles of sound cinema. On the other hand, it was where the intellectuals of Paris settled: writers like Michel Leiris, artists revolving around the young gallery owner Daniel-Henry Kahnweiler, the organizer of 'Surrealism and

Cubism Sundays', and architects, including Le Corbusier, Mallet-Stevens and Tony Garnier, tracing the first lines of modern architecture.

The first project carried out by Le Corbusier at Porte Molitor in 1922 was a 24x48-meter free-standing block, one of his '*immeuble-villa*' projects [Fig. 01]. Finally, in 1931, he got a client for a smaller project, 24x13 meters, between two party walls and facing east-west. To the west the building faces the Bois de Boulogne, with distant views of the hills of St-Cloud, and to the east it faces the sports parks that were created in the old forts, with the city of Paris beyond. The building rose six floors and Le Corbusier placed his own, with his atelier, on the 7th and 8th floors. The essence of the building is very well described in the sculptural piece created by Le Corbusier: '*maison sur la maison*' from his private collection<sup>3</sup>, where we can clearly see the two parts: the 'home base', orthogonal, modular, and repetitive, represented by the brick, on top of which is the 'bull', a special piece with a freer geometry [Fig. 02].

Le Corbusier's 'bull-apartment' project was previously thought out by the architect. We can find it in some early sketches from 1929 entitled '*ma maison*', made aboard *Massilia* enroute to Buenos Aires<sup>4</sup> [Fig. 03]. We clearly see two connected pieces, the house and the studio; a scheme to which he remained faithful in the Porte Molitor apartment building. The final shape of the vaulted roofs has its origins in the regulations of this area, which restricted the volume of the building with a vertical limit, which, above the sixth floor, continued with a tangent arch and finally with a straight at a 45-degree angle<sup>5</sup> [Fig. 04]. The first sketches made for the project already included a terrace with a garden. Both the apartment and the terrace, evolved in parallel throughout the design, independent from the six-storey lower part. The apartment has a very simple layout with two vaulted volumes on the 7th floor; one is the house and the other the study, connected by a flat piece. The architect's first gesture was to put the garden on the flat surface between the two vaults. Then the terrace begins to 'climb' over the vaults. Le Corbusier adds a viewing platform floating above the west vault, with views of the Boulogne, and connects it via several steps to the terrace on the 8th floor. There, on the east side, he puts a windowless volume with the staircase from the apartment on the 7th floor, and, attached to it, the guest room, opening to the east.

This is the design that came with the building project. But the 'bull', already independent, continued to evolve later, as did the terrace [Fig. 05]. First, the staircase was no longer opaque and curved, becoming a straight, glazed volume. Then the platform disappeared and the garden no longer rose over the vault as an aggregated element. For a while it stayed horizontal, and finally it invaded the vaulted part again, but with a much simpler and more natural solution. Le Corbusier placed the earth directly on the vault, following its shape, folding the garden in the manner of a green slope. This was the final version, exactly as the terrace of his apartment was built in the Porte Molitor building.

Let's take a look at this final version [Fig. 06]. The terrace is located on the 8<sup>th</sup> floor, on the flat roof between the two vaults, which contain the apartment and the studio (7<sup>th</sup> floor). The terrace can be accessed through a spiral staircase, which on three sides appears above as a glass box, and on the fourth leads to the guest room. The box is surrounded from the north and west sides by the paved area with a 20x20-centimeter square slab, the same one used inside. The plan follows the shape of the building. It is between 3.2 and 4 meters wide (set back 1 meter from the southern limit and 0.5 m from the north) and between 7 and 7.3 meters long. The stairwell roof continues with the same width of 2.40 meters, creating a 3.1- meters-long porch. Aligned with this roof and the pavement is a bench, which at the same time is a skylight on the lower floor [Fig. 07]. Its length of 1.7 m is chosen from the width of the elevator shaft and facilities (to which it is attached), so that the two elements create a sculptural set, which is part of the composition of the terrace. And finally, we have the garden that surrounds the paved part.

Le Corbusier simply places a 20x8-centimeter piece of curb placed vertically, determining the area of the soil. This limit is set in the same way in the flat zone as in the vaulted one. The earth fills in the meeting point of the two slabs, forming a gentle undulation. In this way its section varies from 20 to 70 cm in height, which automatically defines the organization of the plantations, from the lowest plants to large bushes or even small trees in the deepest section areas.

Whoever reads Volume 4 of the *Complete Works*, published in 1946, will be surprised to find – almost by chance, interrupting the chronological order of the book – a text and some photos showing the state of disrepair of the roof of a work built and already presented in Volume 3. Whereas in the earlier publication it is photographed to flaunt its built quality, in the next volume this quality has completely disappeared, as if the photographer (possibly Le Corbusier himself) – it is not clear whether delighted or angry – were now collecting evidence, as would someone commissioned to make a technical report. Only the written text reveals to us his infatuation with this evolution from his initial ideas that chance, nature and meteorology had wrought on his initial work.

In 1940, right in the midst of war, the architect decided to move for a time to the southwest of France, and the garden of his apartment was abandoned. Before the trip, a worried Le Corbusier spoke with the head gardener of the Paris conservatory, who told him:

'Don't worry, let it be, nature will take care of it. There will be drought or too much humidity, wherever you put the earth on your terrace, the wind, birds and insects will bring countless seeds. And those that find favorable conditions there will flourish. Nature has everything, something for everyone...'<sup>6</sup>

From 1940 to 1942 the garden was left to the elements: cold, rain, snow... but it did not die. Some species disappeared, others

grew enormously and became wild, and new species also appeared out of nowhere [Fig. 08]. Le Corbusier did not try to change anything, he did not want to interfere with the work of nature. He stood passive, watching, marveling at how nature imposes its laws. He says:

"Instead of 'digging in my own garden', I let it grow. The roses have gone wild and have become magnificent rose hips. Bunches of lavender become large bushes. The lawn turns into tall grass; white, pink and yellow clovers appear, depending on the season. A sycamore seed arrives on a stormy day: I presume that it will possibly grow into a giant. A bird brings a cytissus seed, and in the spring the dense yellow flowers push the nearby lilacs. Ten years ago I planted a branch of lilies-of-the-valley, now hundreds of lilies open on May 1st. [...] The ivy, shrubs and flowers have grown on the whim of nature. I underline: on the whim of nature."<sup>7</sup>

This way of working with nature, like the language used to describe the garden, was visionary at the time, although it had been formulated previously through the vision of naturalists like Uvedale Price (1747-1829) or Frederick Law Olmsted (1822 –1903), among others. Today it is present in the work of the leading emerging landscapers.<sup>8</sup>

We are surprised by Le Corbusier's reaction when he found his garden gone wild, completely different from the project he had carried out ten years before. The logical reaction would have been to work on it until it returned to the original vision. But Le Corbusier did not try to superimpose his order, he left the decisions to nature, as if he understood that this part belonged to it, as if it was his accomplice. He built the house and put the soil, and his work ended there. The rest was left for nature to decide at will. He just watched. Contemplation of the garden on the terrace of his apartment had an important bearing on the evolution of his artistic personality.

In the idea of a 'natural' garden, planting nothing and needing no maintenance, Le Corbusier saw new possibilities, describing them in a report on the roof-garden:

"...Experience has taught us that the best protection for concrete roofs is a garden planted on top. Neutralizes the expansion and contraction of reinforced concrete. (...) It could be thought that (...) flat roofs or lowered vaults would be covered with earth (20 or 30cm). The winds will do what is necessary, the birds, the insects; Nature will always take advantage of it, it has what is necessary for every circumstance."<sup>9</sup>

These ideas are applied by Corbusier in his projects. The 20-30 cm thick layer of earth becomes for him a building material. They are an inseparable part of the concrete roof as a constructive system independent of whether or not vegetation is planted, or whether they are accessible or not. The Catalan vaults already used by Le Corbusier in 1916 (Villa E-1027 Maison au bord de la mer), 1920 (Maisons Monol), and the 1930s were no longer 'naked' after the construction of his

apartment at Porte Molitor and were completed with a layer of soil, as in the Maison de week-end on the outskirts of Paris (1935) for example, or La Sainte-Baume (die "Trouinade" 1948), or "Roq" et "Rob" in Cap Martin (1949), where for the first time he investigated the folded aluminum sheet roof with vaulted ceiling covered with concrete, soil and succulent plants. Other later examples are the Maison of Prof. Fueter (1950), the Maison Jaoul à Neuilly-sur-Seine (1952), and the Maison d'Habitation of Mrs. Manorama Sarabhai (1955).

Le Corbusier also talks about this garden roof system in his book *A Little House (Une petite maison)*, published in 1954, where he describes the roof of his mother's house. He says:

"We went up to the roof. Pleasure that some civilizations had at certain times. The reinforced concrete reaches the roof-terrace and, with a layer of fifteen or twenty centimeters of soil, the 'roof-garden'. We arrived. In August, in full heat; the grass is toasted! Who cares?! Each portion of shade and compressed roots forms a thick insulating filter. Cold insulation and heat insulation. In other words, a free isothermal product, which does not require any maintenance. (...) The roof garden has a life of its own, at the mercy of the sun, the rains, the winds and the seed-bearing birds. (Late April 1954: the ceiling is completely blue from myosotis. Does anyone know how they got here?)"<sup>10</sup>

In the book we also find descriptions of different elements of the house, in which Le Corbusier uses exactly the same language. In the same way, he speaks of nature and architecture: "Here the rainwater drainage pit, the gutter that runs through the house, in the heart of the house (where there are also the taps for the sinks, the bathtub, the sink, etc ...)"<sup>11</sup> The house for him is like a living organism, with its systems (facilities) that run through it and supply it, and it also ages like a living being: "Thirty years later (almost), the façade shows some scars: filled with tar. They are wrinkles, appendicitis, rheumatism at home"<sup>12</sup>. As we see, Le Corbusier does not find the deterioration of the house problematic. On the contrary, he sees it as a natural effect of the passage of time. 'Natural' is the word with which one could describe his way of looking at and working with architecture.

This episode, along with the small model of the bull and the brick, not only clearly reveals many of the references, even contradictory wishes, that are in the mind of the creator Le Corbusier, but also lucidly anticipates many sensibilities that from different fronts of contemporary architecture are being incorporated into the methodological and operational corpus of design: a holistic vision of the relationship between nature and architecture and the passage of time that, with various accents and experiences, has been integrated into current city debates and proposals.

The complexity of this small work<sup>13</sup> and the way Le Corbusier returns to it and speculates on the creative action of organic processes left to their own biological laws contains a large number of lines that the modern project will have to explore, just as the mature work

of Le Corbusier and his own creed, with the passage of time less mechanistic and more imbued with organicism than in the “Poem of the right angle” or in the symbology displayed in Chandigarh, rises to a near-theosophical pantheism<sup>14</sup>.

Le Corbusier appears in this short episode as a precedent of the evolution of design techniques, concepts and lexicon that is being incorporated into the discipline of architecture. The use of new materials, in this case natural materials, forces us to think about the architectural object not only in a static, but also in a dynamic way. Climate conditions – wind, rain, heat or cold – change on the course of the year, and architecture is exposed to them. Nature, an active factor in architectural design, marks new lines of research that lead to thermodynamic processes.

To conclude this research, it is important to highlight this episode as a turning point in Le Corbusier’s career. The manner in which he included this small text – accompanied by some photographs in Volume 4 of the *Complete Works*, giving it the same importance as a new project – shows that he wanted and needed to somehow mark it, describe it and date it very carefully, giving it a space that in theory it did not merit. He intuitively knew that something had happened in this episode which changed the way he saw and understood his role as an architect. A change which was going to manifest itself, little by little, in his later works, showing a different Le Corbusier: a paradigmatic change draws the line between the young Corbu and the mature Corbu.

1. Le Corbusier. *Œuvrecomplète: volumen 4*, 1938-46 (Birkhäuser Publishers: Basel-Boston-Berlin, 1999), 140-141.

2. Not only did it prefigure, it also gathered and took from from at least some ideas of landscapers of the time, especially those of Leberecht Migge, which are reflected, for example, in the Frankfurt *Siedlungen*.

3. René Burri, Arthur Rüegg and Le Corbusier. *Le Corbusier: Moments in the Life of a Great Architect* (Basel: Birkhäuser, 1999), 150.

4. Le Corbusier. *Œuvrecomplète: volumen 3*, 1934-1938 (Birkhäuser Publishers, Basel-Boston-Berlin, 1999), 131

5. Jacques Sbriglio. *Immeuble 24 N.C. et appartement Le Corbusier* (Coédition Fondation Le Corbusier et Birkhäuser Publishers: Basel-Boston-Berlin, 1996), 80

6. Le Corbusier. *Œuvrecomplète: volumen 4*, 1938-46 (Birkhäuser Publishers: Basel-Boston-Berlin, 1999), 140-141.

7. Le Corbusier. *Œuvrecomplète: volumen 4*, 1938-46 (Birkhäuser Publishers: Basel-Boston-Berlin, 1999), 140-141.

8. The language that Le Corbusier uses to describe his garden is very similar, for example, to that used by the contemporary French landscaper, Gilles Clément. Clément, Gilles. *Manifeste du Tiers paysage*. Montreuil: Editions Sujet / Objet, 2003.

9. Le Corbusier. *Œuvre complète: volumen 4*, 140-141.

10. Le Corbusier. *Une Petit maison*. Zürich: Editions Girsberger, 1954, 44-51

11. Ibidem, 51

12. Ibidem, 51

13. Today Le Corbusier's apartment at Porte Molitor, Rue Nungesser et Coli, belongs to the Le Corbusier Foundation, founded in 1968. You can visit the house and the terrace.

14. Of course the tropical modernism of Oscar Niemeyer, Roberto Burle-Marx and so many other Latin American architects and landscape painters represents an understanding of modernity whose echo in these Corbusian visions would undoubtedly be interesting to scrutinize (as it would be to analyze the extent to which Le Corbusier's Latin American travels, which he reflected on in his book *Precisions*, are but a trigger that gave rise to Le Corbusier new forms of accepting nature as a model and reference of architecture).

Garden

Deck-garden

Le Corbusier

Nature

Time

Natural processes