

Le Corbusier and Pierre Jeanneret, *Petite Maison, Corseaux, Switzerland, 1924*. The paulownia tree in the *chambre vert*.
© Erling Mandelmann, 1965.

Restoration of the *Petite Maison*, Corseaux, 1924, Le Corbusier and Pierre Jeanneret. Construction Practice as Research

BY FRANZ GRAF AND GIULIA MARINO

The *Petite Maison*, or the villa *Le Lac* was built by Le Corbusier and Pierre Jeanneret at Corseaux, near Vevey, in 1924 for the parents of the former. Various modifications were made from then until 1973. The exteriors, façades, gardens and enclosures of this emblematic work were repaired and restored based on detailed research of the fabric and a well judged program of conservation which concluded in June 2015. This essay reports on some of the specifics of the project, the construction itself, the problems of ageing that the architects had to address, and the most recent conservation works (2013–15).

In restoration and conservation projects we draw on various modes of historical enquiry. Exaggerating the point in order to bring it more clearly into focus, we might argue that there are two kinds of history to consider each with its own particular aims: “historian history”, and “architect history”.

The first belongs to the field of architectural history, exploring social, aesthetic and technical aspects of the object, using critical analysis, studying the timelines of a project, bringing together the use of, and response to, the object with a close examination of those construction techniques and methods that situate it within the material culture of its time. This research provides a reasoned basis — non-subjective — for assessing the heritage value of the architecture, this in turn being an essential prelude to protection but also a means of defining the intervention strategy — chosen from a multiplicity of possible approaches (conservation, restoration, renovation, reconstruction, transformation, etc.).

Using “architect history”, or the material history of construction¹, one can delve further into the accumulated knowledge, integrating the life history of the object with practical actions best suited to conserving it. Detailed analysis of the architecture of building elements and components, in their structure, from fabric-as-built through all the variations to come, shows us the material we have and the possible futures we can expect of it. The scale of this scrutiny is not what counts: what matters is the attitude. Analysis of materials, their uses and construction systems is extended through their biological cycles, their transformations, amputations and overlayings, as well as their behaviors and potentials for change, as support for new fabric or device for example. Material history contains the very objects of its development, that substance discerned through a mutual probing that occurs in the space between the building

and the act of restoration, enabling one to move from a knowledge that “takes note of” to a knowledge that truly “informs” the project.

In restoration, material history is integral to designing a project. But the process of working on the building is more than just execution. It is an extension of the research: a head-to-head with the document in all its uniqueness; a confirmation of the rightness of a hypothesis or decision. It is the careful observation of the degree to which the structure accepts the repairs, treatments or additions but also the inevitably difficult yet endlessly stimulating “discoveries” we make when we embrace the object as a totality, the trials and investigations by definition reduced. Standing in front of the wall, certainties fall away as we, the architects and specialists, put earlier research to the test, expand it, reconfiguring the project. The *Petite Maison* at Corseaux has been undergoing restoration since March 2013², with stages of work alternating with periods of use as a museum. To achieve the best outcome the Fondation Le Corbusier — the project client — with the help of the Federal and Cantonal heritage agencies, brought together experts in the conservation of modern architecture and specialists on issues such as polychromy, art restoration, chemistry, façade engineering in metal and mineral products, as well as landscape design.

The works are really “guided maintenance” (the *nec plus ultra* of preservation) with the first stage focusing on exteriors, façades, garden and enclosures. The house was built in the second part of 1924, the architect searching the Riviera³ until he found the right spot. It was to be a low-cost building for the architect’s parents: he had already created the *Maison Blanche* at Chaux-de-Fonds for them and now sought to move them with the few pieces of furniture they possessed to somewhere warmer. This is how Jean Badovici, chief editor of *L’Architecture Vivante* put it in 1925:

Here the architects had to build a pleasant, comfortable house of 62 m² on a strictly confined plot; it had to blend with the splendid panorama and the mountains in such a way as to take in the widest possible horizon from the windows. (...) It consists of 6 bays 2.75 by 4 meters forming a harmonious whole. The façade has a single window 10.75 m long facing the splendid lake view; from inside the rooms there is a 14 m long perspective. The ingenious layout and clever subdivision of volumes make the interior of this little dwelling seem immense. It is a practical house for two people with no staff but a steady flow of visitors. Construction is admirable in its simplicity; no useless complexity; few doors and windows; a single material, lightness and comfort with minimum expense and maximum solidity⁴.

Against this rather magnified description one might contrast the elaborate and troublesome — if ultimately successful — business of LC's negotiations with the neighbors⁵. Some architectural solutions, like the open-work wall at the western end, can only be explained as the result of negotiations with the Cornus next door. Design and installation of the wall to the "green room" with its stone wall raised high and pierced by a "square hole"⁶ would be the product of hesitations over the different positions of the habitable parallelepiped and the annexation of the void as "external chamber", with the fortune this idea would enjoy later in the architect's output⁷. The house was constructed in 1924 by builder Albert Colombo. Le Corbusier was not enamored of him: "The man who has built this for me has been an idiot from the start. He has proved it with this very badly made house"⁸. Thereafter would be a long list of complaints and running repairs or remedial measures of one kind or another. The architect asked his cousin, Pierre Jeanneret, to handle this elsewhere but at the *Petite Maison* Le Corbusier himself would be the main one concerned. This is well recorded, notably in correspondence between Le Corbusier and his mother, who was living there and regularly reminded him of the fact. In 1931, the road on the north side of the construction became a cantonal road, and a concrete wall to reduce noise was proposed by the local commune, and built. The architect would respond with the gates and dog-window, following up with a reception-annex — the *fruitière* designed in the early project from 1924 — in timber joinery and roughcast hollow blocks, with gently pitched roof in pressed steel on a metal I-beam. The weatherproofing of the flat roof, in *Toitex*, soon posed problems and had to be repaired several times, notably in 1950 when it was covered with earth and turfed. But the main defect came from a design error, superbly illustrated by the architect in the chapter "Houses can also catch whooping cough" from the book *Une Petite Maison*⁹. Variations in the lake waters produced a crack that literally split the construction in two. To counter the yearly cracking and the infiltration of rainwater on the west and north sides Le Corbusier installed siding of the type favored in the Jura regions, of painted strips of galvanized steel in 1931. In 1950, with "heavy heart" he would also add *Fural* aluminum sheeting to the entire lake facade¹⁰, placed horizontally, i.e. contrary to good building practice but more logical in terms of site and object.

The architect paid attention to the design of the garden and kitchen garden, proposing roses, lawn, vegetables, floral beds, and attractive catalpa and weeping willow as early as 1925. Every bit as integral as the carpets and floor finishes¹¹, these were central to the conservation-restoration project.

The acacia? It took the sun away from the neighbors' lettuces. It was removed. The weeping willow? It wept too much, taking the sun out of the bedroom, dragging its leaves in the lake; all very poetic, yes... Down came the weeping willow! The paulownia stayed, with its hideous great leaves, its enormous trunk covered in blotchy lichens like a meadow covered in dandelions. Its branches are venturing out in all directions, defying the laws of statics (embedding of projecting beams). Every year the old boy's branch is cut back: that is, the one that has become the least tolerable¹².

The tree was too old and had to be replaced, but all the cuttings taken from the parent died except those growing into the stone wall that plunges down into the lake, from which the new paulownia sprang. The garden and vegetable plot were rebuilt, to the obvious advantage of the place. The polychromy of the ensemble has also been subject to unusually close analysis. We all know that modern architecture was very rarely in fact "white architecture"¹³, and *La Petite Maison* is a case in point. In fact the architect was in the midst of his first forays into exterior polychromy— villas *La Roche* and *Jeanneret* and the *Cité Frugès* de Pessac, exact contemporaries of the Little House, have greens, ochers, etc... Here it seems the white had "the faintest tinge of green", even though there are clues pointing to a pale pink version as well¹⁴. The green tint and the original nature of the paint — milk-of-lime and oil on render — may be well documented, but that is not a reason to go back to the original of 1924 given that the architect remodeled the *Petite Maison* several times, especially in 1951 when he added roof insulation and the metal façade on the lake front. Apart from a few colored elements here and there¹⁵, the overall scheme specified is "white", but analysis does not confirm that this was the color when built. On elements of fabric that are closest to their authentic condition the green has been reproduced, with a view to maintaining a consistent "reference date" (i.e. 1965). Later interventions have been less respectful of integrity, and the actors involved felt that keeping them as "historical traces" was an easy option. The *Fural* aluminum siding will not even be cleaned, while the galvanized steel sheet will be repainted with an aluminum paint as it was originally because some areas are already showing signs of corrosion. The conservation/restoration of the *Petite Maison* has been carried out by taking to the limit the idea of preservation of original fabric. On two occasions we have been asked to advise on retaining elements that would ordinarily be changed but that serve here as guarantees of material authenticity. One was the 180 mm steel I-beam supporting the *fruitière*. This was partially rusted and scheduled for replacement, which is normal practice. But from close examination only possible after dismantling, and by turning the beam around the other way, it was possible to have it conserved. The other was a galvanized steel



01 Le Corbusier and Pierre Jeanneret, *Petite Maison*, Corseaux, Switzerland, 1924. View from the lake. © FLC/SPA, Paris, 1924.



02 Le Corbusier and Pierre Jeanneret, *Petite Maison*, Corseaux, Switzerland, 1924. Restored. View from the lake. © Patrick Moser, 2014.



03 Le Corbusier and Pierre Jeanneret, *Petite Maison*, Corseaux, Switzerland, 1924. The south wall during the restoration. © Patrick Moser, 2014.



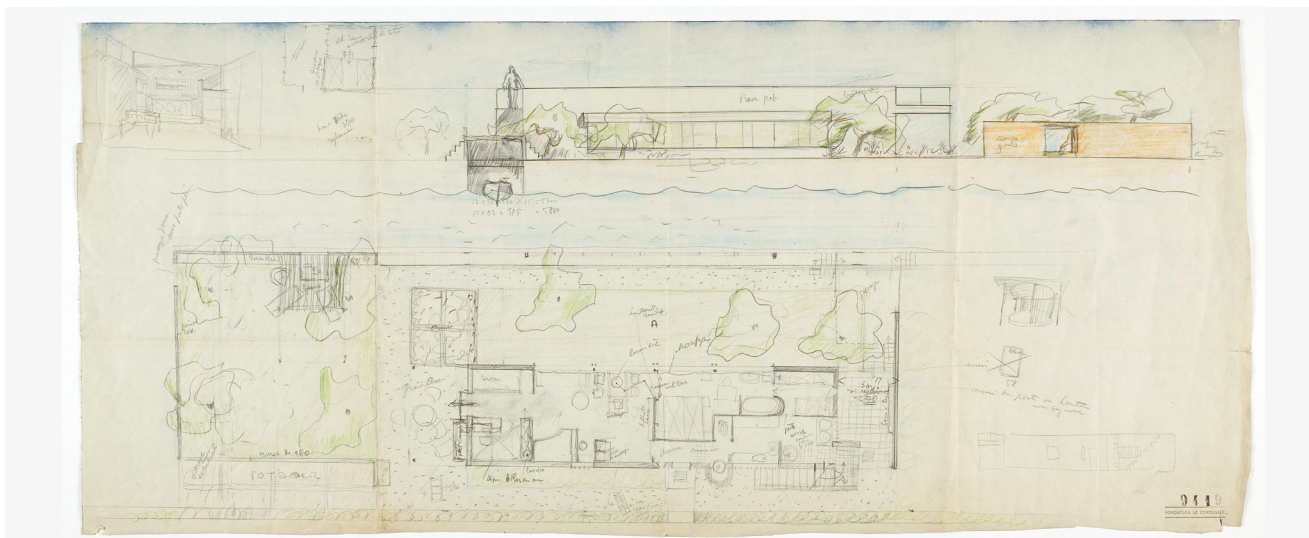
04 Le Corbusier and Pierre Jeanneret, *Petite Maison*, Corseaux, Switzerland, 1924. The wall that closes off the property on the north, a steel I-beam supporting the *fruitière*, 1924. © Le Corbusier, *Une Petite Maison*, Artemis, 1954.



05 Le Corbusier and Pierre Jeanneret, *Petite Maison*, Corseaux, Switzerland, 1924. The original steel I-beam after restoration. © Giulia Marino, 2014.



06 Le Corbusier and Pierre Jeanneret, *Petite Maison*, Corseaux, Switzerland, 1924. The north façade during the restoration. © Patrick Moser, 2014.



07 Le Corbusier and Pierre Jeanneret, *Petite Maison*, Corseaux, Switzerland, 1924. Plan and south facade. © Fondation Le Corbusier, Paris.

window support otherwise destined for the skip, which was reinstated with no constructional problems and is perfectly serviceable. Works to the exterior of the *Petite Maison* will be finished in June 2015, the anniversary of Le Corbusier's death. A campaign to conserve the interiors will follow, and the inevitable question of use will have to be tackled: what should this iconic place be? What it has always been, a little house to visit, "the purest possible manifestation of that cell which is man's shelter, the snail shell on human scale"¹⁶, or an empty shell for hosting temporary exhibitions?

For all the high profile modern buildings like *La Petite Maison* that are identified and restored, others are doomed to disappear. The interior of the *Moulin d'Epesses* transformed by Alberto Sartoris into the *Cercle de l'Ermitage* in 1933 is only a short distance from *La Petite Maison*. From beneath the plastic decor of an old Vaud farmstead the architect is rescuing from oblivion the greater part of this stunning ensemble and intends to conserve it and fill in the missing parts: research and construction as a single act. There are sure to be other buried or tarted up masterpieces out there waiting to be researched!

With any construction project affecting an "iconic" object there will be lectures and visits forming new milestones that give rise to new research and practice.

Using the construction phase for research is no easy matter, because if time, trials and reflections might be seen as enriching processes for those doing the work, clients and contractors tend to see them as holding the job up. To conclude, if there is one thing that ought to form a solid basis for further research — though it often fails to pass muster — it is the role of site documentation as a priceless body of knowledge of tremendous importance for the material history of any object undergoing conservation. ■

Notes

Text translated by David Mason.

- 1 Franz Graf, *Histoire Matérielle du Bâti et Projet de Sauvegarde. Devenir de l'Architecture Moderne et Contemporaine*, Lausanne, PPUR, 2014.
- 2 Client: Fondation Le Corbusier, Michel Richard, Director; Bénédicte

Gandini, architect; Franz Graf, conservation expert; Bernard Zumthor, federal expert; Glatz&Delachaux SA, architects.

- 3 "I've been running around the country side which is covered in snow and rain, freezing and grim, looking for good plots. It's no joke, but my parents are so happy with the future house that I can endure it with pleasure", Elise Koering, *Villa Le Lac. Le Corbusier et Pierre Jeanneret, 1924, Corseaux. Etude Historique*, 2011. Students who took the exciting courses run by Jacques Gubler in the 1980s remember the long researches undertaken by LC to identify the right place to build the house.
- 4 Jean Badovici, "Entretiens sur l'Architecture Vivante. Maison au bord du lac Léman, 1924, par Le Corbusier et Pierre Jeanneret", *L'Architecture Vivante*, Autumn–Winter 1925, p. 30–32.
- 5 Elise Koering, *op. cit.*
- 6 *Idem.*
- 7 On the design influence of these constraints, problems and shortcomings on Le Corbusier's later work, see our interventions in *La Conservation de l'Œuvre reconstruit de Le Corbusier, L'Œuvre à l'Épreuve de Sarestauration*, XIX^e Rencontres de la Fondation Le Corbusier, 16–18, 2015.
- 8 Elise Koering, *op. cit.*
- 9 Le Corbusier, *Une Petite Maison*, Artemis, 1954.
- 10 Furalis an aluminum sheet cladding product patented by architect Joseph Furrer (1910–1976), *Fural* being an acronym of *Furrer* and *aluminum*. See Quaderno 01, *Deposito Avegno, 1953–1955*, *Architetto Rino Tami*, Franz Graf and Britta Buzzi, Mendrisio Academy Press, 2013.
- 11 See Plan 9419, dossier *Petite Maison*, Fondation Le Corbusier, Paris.
- 12 Le Corbusier, *op. cit.*
- 13 See Villa La Roche where renovation of the exterior has clarified the spatial perception internally.
- 14 See Plan 9419, *op. cit.*
- 15 The highest window in natural dark umber, loggia ceiling in brown, shutters in rather strong grey...
- 16 Le Corbusier, quoted in Elise Koering, *op. cit.*

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