Villa Savoye 1929-31

Case Study - Daniel Morrissey
One of the last of Le Corbusier’s purist villas, and the last of his four compositions, the Villa Savoye (named “Les Heures Claires” by Le Corbusier) is recognized as the most faithful to his five points of architecture: “the columns [pilotis], the roof garden, the free plan, the long window, the free façade.”

Designed and constructed between 1929 and 1931 the Villa Savoye (the Villa) has become an icon of Le Corbusier’s ideals and methodology. This unique building is focused on Le Corbusier’s ideas of how space should be arranged and experienced.

As the last purist villa, the Villa is Le Corbusier’s attempt to reconciliation between the Platonic attributes of nature and man. He deliberately raises the first floor off of the ground so that it (as Le Corbusier put it) will be out of the wetness and damp of the earth, raising its gardens as well to provide healthy and dry garden space. While Le Corbusier seeks to separate nature from his machine for living, in a way liberating the Villa from its environment, he does design the villa to be about the view from the inside to the outside, primarily via the use of the long horizontal windows to re-embrace the nature that is removed from the Villa by the spatial level changes. His planned hanging gardens also demonstrate the need to control how nature interacted within and with the structure. This ordered scripting and selective disconnect from nature ties into the concepts discussed by David Orr in his article *Ecological Design and Human Ecology*. Rather than separate man from nature via technology, Orr proposes that nature and technology can co-exist and we must try to get a deeper connection to nature. Orr further proposes that design that does not integrate nature will ultimately fail. Does Le Corbusier fail in these respects? Le Corbusier is careful to tie the building to the landscape, the horizontal windows emphasis the ground plane, while the rooftop gardens do bring in nature. Perhaps they are scripted, but Le Corbusier
emphasized minimal impact to the site in his design in an effort to preserve the beauty he saw in the nature located on site. The building space is also not completely devoid of its relationship to nature and ecology.

The exterior of the lower level is roughly equal in proportions on all sides, de-emphasizing the front and rear. The building is approached on an old roadway that comes at the villa from the side, hiding the full view until one is upon it. The drive wraps around the lower level through the pilotis, creating a scripted entry path that leads to the entry and Le Corbusier’s architectural promenade that runs through the building interior.

This architectural promenade is in the ramp that extends between the floors from the lower level to the rooftop solarium and also mimicked in the spiral staircase that complements the ramp. This promenade creates a unique series of viewing moments as one rises through the structure. This prescribed routing allows those experiencing the space to experience it in a "series of partitions of infinite space." The infinite space that one is seeing is bounded and defined by the structure and geometry of the building. Le Corbusier allows glimpses outward that allow the interior to flow out toward this infinite space.

Le Corbusier incorporated the ramp because “…one rises imperceptibly by means of a ramp, which is a completely different sensation from going up a flight of stairs. A staircase separates one floor from another; a ramp connects.” This ramp is an important element as it is dynamic
and serves as an important contrast to the house’s inherent horizontality. The ramp also allows a sense of moment through the structure; this is an important relationship to the observer that has become vital to modern architecture.\(^8\)

While the pilotis are present, they do not dominate the interior and instead offer a method of adding interest in the building by “bursting into view, in the form of columns rising awkwardly in the middle of the room, or just clear of the wall.”\(^9\) Le Corbusier has found a way to relegate this structure to being seen but not being intrusive to the spaces of the interior, utilizing it to add walls where he wants according to his dictates.

Le Corbusier pays particular attention to the inside and outside space. He carefully incorporates the terrace and solarium into the structure so that they flow into the inside space and vice versa. The spatial flow of the building, being organized around the ever-climbing promenade orients and directs through the space. These elements, along with Le Corbusier’s balance of dynamic and rectilinear elements brings a character to the building.
that sets it apart from any other. This character helps to establish it as a place. As Norberg-Schulz points out in his *Phenomenon of Place*, character and space come together to create a spirit of place.\(^1\) The character or atmosphere created by Le Corbusier creates an environment that continually surprises and draws one in. With such strong character and clever employment of boundaries.

The Villa Savoye is truly a space for generating sensory experiences. The textures, materials, colours and methods of emphasis of the horizontality, such as the built in ledges, juxtaposed with the upward climb of the ramp and staircase combine to create an atmosphere that draws the visitor through the space. This sequencing is not unlike that being examined by the Bauhaus during the same time period. The Bauhaus was examining the global space of architecture.\(^1\) They focused on moving around the object in space and tying this to a temporal sequencing to allow for a new consideration and consciousness of space. Now doubt Le Corbusier influenced or was influenced by or simply knew of the research that the Bauhaus was working on and incorporated some of their ideas into the Villa Savoye. Comparisons with Mies van der Rohe’s work of the time can be drawn. Le Corbusier was using the structure to allow for the façade to be reduced and relegated to a screening function, lending to a feeling of the structure being lighter or weightless, a principle heavily looked at by the Bauhaus.\(^2\)

The space created by Le Corbusier in the Villa Savoye is indicative of the feeling that modern architecture strived to accomplish. A space that was global, yet connected on some plane with nature and the site. The approaches taken were fresh and unique and were a culmination of Le Corbusier’s work in this style.
Form

Le Corbusier’s Villa Savoye is an exploration in the use of primary form. It has been described by William Curtis as an industrial extension of Laugier’s first typology, the form of the primitive hut (as discussed by Vidler, this typology is concerned with the rationalization of nature). Myself, I feel that the Villa Savoye tends to fall into the second typology that is concerned with production techniques. I say this because Le Corbusier was concerned with manipulating the pure geometric form and utilizing new mass production techniques to make a final form. While it is true that some of the forms Le Corbusier used required shaping by hand, overall his work, and the Villa Savoye is included in this, falls into the second typology.

Le Corbusier incorporated the structural ideals from the Maison Domino, called the Domino Structure it is characterized by planar slabs connected by a dogleg staircase. In the Villa Savoye, a ramp was added to the mix, allowing for a form with a dual role of being meant to be viewed while simultaneously allowing for viewing Le Corbusier’s architectural promenade as it flows upward travelling inside and outside from the ground floor to the solarium. Colin Rowe saw these structural details of the Villa Savoye and Maison Domino as modern symbols of emancipation carrying
implications of social liberty.\textsuperscript{15}

Le Corbusier started with a cubic volume and eroded elements to create the final form. The Villa Savoye uses rectangles, cylinders, and cubes to fill in the voids created by his erosion of the overall cubic volume (which is actually stretched along one axis making it a rectangular volume). By carving out the volume Le Corbusier creates a form that appears to float above the horizontal plane, one that draws a person into the building. This exterior form accommodates the preferred and intended method of travel into the building, the automobile, by carving out the lower level sides to form a driveway that is contained under the upper level and informs the lower level exterior wall as it wraps around in a semi-circular pattern that is based on the turning radius of the car as it follows its predetermined path from the drive, around the entry and to the garage.

Intentionally leaving voids within the wall spaces and roof meant that he could open the structure up to frame the surrounding environment. The top of the ramp to the roof garden illustrated this point quite well. As one looks up the ramp, they are presented with a void in the wall. This void was intended as a window for Le Corbusier’s original idea to locate the master bedroom on the topmost level, but by leaving it in Le Corbusier uses this void to frame the top of his architectural promenade and allow it to extend outward.
from the physical form into the environment. Rooftop windows form voids in the ceiling that are employed to bring light into the structure in calculated spots to create specific pools of light, such as in the master bath.

Le Corbusier’s treatment of windows on the exterior belays his attention to the detail and treatment of the overall form. While most of his contemporaries were using steel framed windows he chose to instead use wood framed windows to allow for the glass to be pushed nearer the edges and to allow the wall to be seen as a series of parallel planes. As Le Corbusier himself said: “To evoke attention, to occupy space powerfully, a surface of perfect form was necessary first, followed by the exaltation of the flatness of that surface by the addition of a few projections or holes creating a back and forth movement. Then by the opening of windows (the holes made by windows are one of the essential elements of the reading of an architectural work), by the opening of windows an important play of secondary surfaces is begun, releasing rhythms, dimensions, tempos of architecture inside the house and outside.”

Le Corbusier would often create interplays of light and shadow. He uses light and shadow to bring the forms he uses to life. As in painting, dark lines can be used to frame or outline elemental forms, Le Corbusier also inverted this relationship, using light instead of dark to bring emphasis to the form. Using gaps around the form he refutes the structural characteristics and load bearing capabilities making the presence of the primary form both more intense and more on a human scale.
The Villa Savoye was the culmination of Le Corbusier’s experiments in his five points utilizing pure geometric forms. He was a master at blending these forms together to create a unique spatial experience through his use of form. He emphasized these forms with combinations of parallel planes, light, shadow and void. His work typifies the modern ideals of the pure geometry, and the machine for living, (aside from his nod to the Doric order with his columns, and some other minor details) but is it truly successful? Experientially I believe it is, as it is a very livable layout that exemplifies the use of primary form while being aesthetically pleasing, however, there were problems that arouse from designing with the purity of modern geometry and using mass-production techniques.

The primary forms of the Villa Savoye combine to create a unique sensual form that provides a truly unique experience as one travels through it. These forms work together in the harmony of the massing, light and shadow he creates by eroding and combining the forms. While it is a prime example of the purist approach of modernism (though not so much as his later work, or that of Mies Van Der Rohe), it also shows us that modernism has its faults and drawbacks and was not the end state that it was desired to be. Architectural form is constantly evolving and dynamic and cannot be constrained to one simple style.
Body

The body is our entry into a space. It allows us to project ourselves into that space, gain sensory input from the space and the process the feedback we get from that space into an experience. The way space is designed affects us as human beings. Le Corbusier’s approach to engage the body is by stimulation of the senses. He wrote that it was “possible to ‘hear the visual proportion’ of a building, ‘taste’ a column with his ‘eyes’, and so on. His eyes awaken sensations in his mouth. His hands awaken his eyes.” While the Villa Savoye may not go as far in some of these sensual experiences as some of his later work, there are nonetheless attempts to engage the body within the Villa Savoye. To engage and draw in the body in the Villa Savoye Le Corbusier uses five main approaches: visual, tactile, auditory, rituals and furniture.

Visual

Corbusier frequently uses framing as a way to project the body into the space and also out from the building into the site. He frames openings and passages so that space is projected outward from the individual. This allows the body to feel the multiplicities of the spaces as a whole unified space. The architectural promenade that is made up by the ramp in the Villa Savoye takes this framing to a different
level. It creates visual moments where multiple levels are experienced simultaneously. These junctions of levels create a visual layering of the levels, allowing one to be in multiple planes, while remaining human scaled due to the ramp. Colour is another of Corbusier’s preferred methods of visual interaction. Corbusier uses bright colours to draw the eye’s gaze into the depths of a room. Combined with lighting (natural and reflected), the colours create a richness that is enticing and pleasing to the eye.

Tactile

Corbusier uses surface materials and their texture to create tactile feedback for the user. Using a combination of rough and smooth surfaces, the building comes alive. This
treatment of texture is akin to giving the building a skin, leading to a psychological response that allows the building to “dramatize... the visitor's relationship to and participation in the architectural space by the creation of a sympathetic bond between visitor and sculpture.”

Auditory

Corbusier's use of different materials allowed him to make auditory differences between spaces. This allows for one to not just visually experience the volume of a room but hear the volume as well. The way echoes reverberate off glass or other materials lends a feeling of enclosure or release, leading to a very sensual and personal experience with the building.

Ritual

To further tie the body into the space, Corbusier incorporated ritual. The sink in the entry level is symbolic
of this; it implies the ritual of washing when entering the space, belaying a sacredness of the space that requires one to cleanse themselves before entering. Rituals ties to our habits and customs, they are deeply personal and this incorporation of ritualistic spaces places the body emotively into the space as well as physically.

Furniture

Corbusier’s primary means of engaging the body was through his furniture design. He designed the furniture to accept the body and place it into a state of rest and relaxation. His original furnishings were designed to complement the building and enhance the integration of the visitor and the building. One built in element of this is also to be found in the master bath. Here Corbusier created a place for the body to relax after bathing, the shape conforming to the body and holding it, allowing maximum engagement and experience.

These five areas, while not exhaustive, demonstrate that Le Corbusier incorporated somatic details that would envelope and draw in the body. While he continued to perfect his techniques later on, the Villa Savoye does show the signs that even in his villas he was concerned with how the body would interact with the building in a meaningful way.

Opposite Top: Diagram of body/built in integration
Opposite Bottom Left: Entry Sink, place of ritual cleansing
Opposite Bottom Right: Furniture in-situ, also bold colour of wall used to ground room
Bottom: diagram of key view lines through window/door/corridor
Early Sketch by Le Corbusier, showing completeness of concept for Villa Savoye from the beginning, indicative of his method of conceiving the building as a whole.
The Villa Savoye was the culmination of ten years of Le Corbusier’s research into the “reconciliation between the Platonic absolutes, nature and man.” It was the last of his villas to follow his purist ideals. His paradigm revolved around the ability to justify every element as if they were part of a single solution. He felt every element had to be justified in terms of urban and individual terms, they all had to fit and have purpose. His use of the standardized unit, the domino, and pure geometric forms, underpinned his villa designs. After the Villa Savoye, he started to experiment with more freeform design, indicating a shift in his methodology and approach to architecture. This means that the Villa Savoye can indeed be seen as the culmination of his work in the 1920's toward standardization and the definition of the “certainties of machine age architecture.” As Le Corbusier himself said: “The architectural idea is a peremptorily individual phenomenon, inalienable. It is good to push an idea to a state of purity.”

Le Corbusier had been developing his methodology that was used in the Villa Savoye during the previous ten years, it can be seen to incorporate his tenements for purist architecture, the pilotis, the long horizontal windows, the roof garden and the clean pure free façade and the architectural promenade. Unlike his previous villas, there were no constraints to his exploration at the site in Poissy, as it was an idyllic setting, this allowed Corbusier to put the fullness of his methodology into action, resulting in the Villa Savoye and hence, why it is also the culmination of his purist inquiries.

Le Corbusier was interested in the incorporation of the automobile into the pedestrian circulation of the building, as such he explored how to incorporate this idea into the Villa Savoye and was quite successful, designing the lower level to accommodate the automobile and deposit the pedestrian into the structure. He also ensured that the main habitation was off of this ground level entry, demonstrating his ideal of the habitation occurring above the ground leaving opportunity to contemplate nature as you look down into it. Therefore, his approach of raising the ground level allowed him to further push by moving the automobile around the structure, whilst being covered by the structure, allowing the automobile to become an important part of the building experience, a novel idea at the time. Moving to the roof level, the garden serves as a viewing platform, linked between urban man and nature at his feet by the ramp (which also plays on the movement of the automobile). Le Corbusier envisioned all these elements coming together to form one cohesive whole.

Le Corbusier meant for his architecture to be experienced on foot, hence why he utilized the ramp, as it allows for a developing articulation of architecture. This viewpoint is central to another of his methodologies at play in the Villa Savoye, the architectural promenade. The promenade flows through all the levels of the building, winding inside and outside beginning with the drive and ending at the rooftop garden (although there is a framed view at the top of the ramp that allows the body to be projected back into the nature of the site, far beyond the building itself).

Corbusier combined these elements of his research as described to create a building that is greater than the sum of its parts. He carefully considered the building as a whole and made sure that it was justifiable and clear in intent (more or less). Setting out to create a unified whole that would capture the imagination and facilitate the body living in the modern world, Corbusier pushed his purist ideas to their fulfillment (or at least as far as he saw necessary to produce the full intent of his methods) and created what still today is seen as one of his best masterpieces - The Villa Savoye.
9 ibid.
12 ibid.
19 ibid. pp. 44
20 ibid. pp. 42
22 ibid. pp. 184