

Mutable Domestic Space: The Choreography of Modern Dwelling

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INTRODUCTION

In the beginning of the 1951 movie, *An American in Paris*, directed by Vincente Mannelli, the camera pans from a Left Bank street scene, up the facade of a typical Parisian apartment building, through an upper level window, and into a diminutive bedroom where we find Gene Kelly sleeping. Once he awakes, Kelly performs an apparent morning ritual of transforming his modest sleeping quarters into a living and dining space. With the athleticism and grace that is the hallmark of his dancing style, Kelly spins, twists, and shimmies around the room while hoisting the bed up to the ceiling on chains, sliding a table out of a closet and into the center of the room, flipping up a table top, and rotating his bureau back into the closet which is attached to the back of the closet door. His domestic space is choreographed so the architectural program can be completely transformed through the physical interaction of the inhabitant with a system of movable furniture and architectural elements. Body, space and motile objects of domesticity are coordinated to maximize the options of inhabitation. The spirit of modernity is embodied in this efficient, dynamic, and systematized living space.

Mutable space is an unexplored but pivotal current of modern architecture, and it parallels a fascination with motion within Modern art. Artists from the Futurists to Duchamp explored the representation of movement within a two-dimensional surface. A multitude of artists, including Moholy-Nagy and Calder, explored kineticism in three-dimensional art. For architects, domestic space became the typological vehicle for exploring themes of motion and programmatic metamorphosis. This paper will explore the theme of mutability in two seminal works of domestic modern architecture by two separate architects: the Schröder House by Gerrit Rietveld, designed and built in 1924 in Utrecht, Holland; and the Maison de Verre, by Pierre Chareau, designed and built between 1928 and 1932, in Paris, France. Both projects were produced from a close coordination between the clients and their respective architects. Each client established for their domestic space highly specific criteria reflecting their daily cycles within the home. Both Rietveld and Chareau responded architecturally so that their clients could customize their living space to meet their diurnal and life-long needs. This paper will identify the transformable architectural elements in each house, explicate how these elements can produce different architectural programs within a space, and demonstrate how mutable space constructs the patterns of life in the houses.

The physical and spatial configuration of mutable domestic space can be transformed to produce heterogeneous architectural programs. Mutability connotes transformations that go beyond mere appearance, and alter the intrinsic structure of an entity. Mutability of space posits that architecture is not merely a quiescent stage for human action, but rather that architecture can possess a vitality of its own. Mutable space, however, is not infinitely flexible: it has prescribed patterns of change predetermined by motile objects with a limited

range of possible configurations. It is designed to conform to the inhabitants' diurnal patterns of living just as choreography determines the steps of a dance. This choreography of dwelling is not merely a mechanized manipulation of architectural accoutrements, but it is the very representation of dwelling, embodied in the built form.

When LeCorbusier polemically states that the house is a 'machine for living' in his 1923 treatise, *Towards a New Architecture*, he conspicuously reinforces the functional aspects of domestic space over the ontological ones. Here, LeCorbusier equates domestic architecture with the standardized and mechanized objects of mass production: the architectural program of the house is rendered purely instrumental. In his 1931 book, *The Elements of Functional Architecture*, Alberto Sartoris uses the Maison de Verre to exemplify the 'functionalist' doctrine. Clearly, the perception of the Maison de Verre at the time of its production parallels Le Corbusier's machine analogy. In his 1948 book, *Mechanization Takes Command*, Sigfried Giedion exhaustively documents the development of mechanized furniture and appliances for the home. He describes the evolution of domestic objects towards greater comfort and efficiency; his book is an account of functional progress. Giedion's interest in motile domestic objects, like folding chairs or fold-up beds, lies in the ability of these objects to move like machines. He never does, however, analyze the spatial ramifications of movable elements, nor does he describe how the mechanization of the home can also have existential significance. It is Kenneth Frampton, when writing about both the Schröder House and the Maison de Verre, who demonstrates that a functionalist reading of motile architectural elements omits a qualitative assessment of how domestic space can perform ontologically.

'Performance' is an alternative term to 'function' that can address both the instrumental and the ontological value of mutable space. For example, function can denote an architectural program, as in, "this space functions as the living room." Unlike function, however, performance implies that there is a thinking subject, an inhabitant that first understands that the space is a living room and, hence, will inhabit the space as a living room. By displacing 'function' with 'performs' in our sample sentence, as in, "this space performs as the living room," the meaning changes: here, the inhabitant cognitively interprets the space as a living room. Performance recognizes the interaction of the inhabitant and the space he or she occupies. In mutable space, the transformable architectural elements prescribe the diverse yet limited spatial configurations and commensurate architectural programs just as a script determines an actor's performance. Body, program, and space interact to choreograph the pattern of dwelling. I contend that the architecture of the Schröder House and the Maison de Verre denies mere functionalist readings of their mutable domestic space. These two houses are qualitatively unique because of their capacity to prescribe and perform diverse architectural programs that reflect the cycles and rhythms of domestic life.

THE SCHRÖDER HOUSE

The design of the Schröder House is the result of an intimate collaboration between the client, Truus Schröder, and the architect. (Overy, Paul, *The Rietveld Schröder House: Introduction*, Houten: De Haan/Unieboek B.V., 1988, p. 17-22). In 1923, Ms. Schröder's husband died, leaving her to raise her three children by herself. She commissioned Rietveld to design a more modest home for her family so she could extend her limited financial resources. The site chosen for the house on Prins Hendriklaan was located at the end of a lane of three-story brick rowhouses at the very edge of town. At the time, the land beyond the end of the street was an unbuildable countryside of meadows, polders, and canals. Truus Schröder conceived of the new house as a two-story building totaling less than 1200 square feet. It could be exposed on three sides while the fourth side abuts the party wall of the last rowhouse on the street.

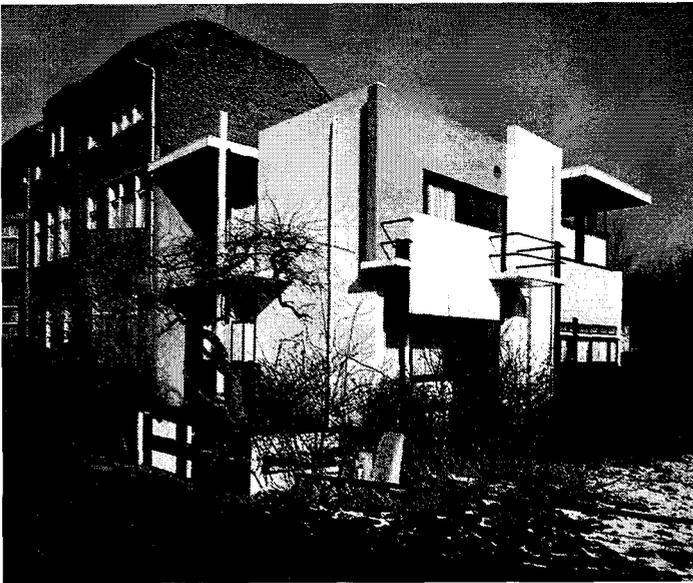


Fig. 1. Schröder House, exterior

As designed, the lower level of the house contains a series of fixed rooms clustered around a central stair core. These rooms include the entry hall, the kitchen, a work space, a darkroom, and a garage that was later transformed into a studio space. The stair core then extends up through to the upper level. Ms. Schröder insisted that the primary living space and the bedrooms for the house be on the upper level to get above the damp ground and to take full advantage of the views over the countryside. (Büller Lenneke, *The Rietveld Schröder House: Interview with Truus Schröder*, Houten: De Haan/Unieboek B.V., 1988, p. 56). She also wanted the main living space to be completely open from exterior wall to exterior wall. The upper level, therefore, had to accommodate both the primary living space and the bedrooms for Ms. Schröder and her three children in a space of less than 600 square feet. Given these restrictions, this space had to alternate from day to night between these two programmatic requirements.

Rietveld responded to Ms. Schröder's conflicting programmatic desires for the upper level of the house by conceiving of this domestic space as transformable rather than as a more conventional plan of fixed and separate rooms. He designed a system of movable partitions that would either slide out from the walls to create separate spaces, or they would retract to produce an open, continuous space with windows on all three sides. The possible positions for the sliding partitions are prescribed by tracks set within the floor and attached to the otherwise flat, white ceiling. The only unalterable spaces on the upper level are the stair core and a bathroom.

At night, the family members could slide the movable partitions into the space, creating three separate sleeping areas and a small sitting area. Ms. Schröder insisted that each separate bedroom would have access to its own exterior balcony, that it would have its own wash basin, and that it would have access to a common bathroom without traveling through another sleeping area. (Overy, Paul, *The Rietveld Schröder House: Introduction*, Houten: De Haan/Unieboek B.V., 1988, p. 23). Once the partitions are pulled into position, a central hall is created at their intersection with access to the common bathroom and the stairway. Each partition has an integral swinging door that opens onto this common hall so that the upper floor thus performs like a traditional arrangement of private sleeping spaces during the nighttime. The end of the diurnal cycle is, therefore, enunciated in the communal act of sliding the partitions into the position that creates the private sleeping quarters. This daily performance is different from a ritual in that it marks a quotidian and domestic event, not a sanctified ceremony in the public realm. The architecture does, however, elevate the significance of the daily cycle by prescribing the pattern of domestic life in this participatory act.

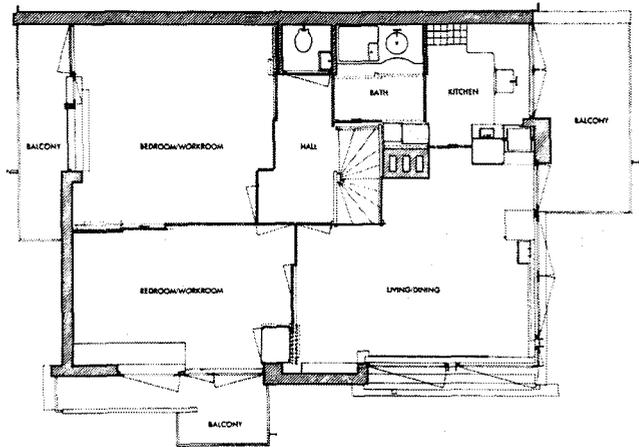


Fig. 2. Schröder House, plan at nighttime

Each morning, the family would then retract the sliding partitions and store them at the periphery of the open space. This creates a communal living space that spans the entire width of the house. In contrast to the evening, the morning's event produces a radical architecture of spatial and programmatic continuity. In the open configuration, natural light could stream uninterrupted throughout the upper level. The beds and bureaus, built integrally into the architecture, cling to the perimeter of the space, as if under the influence of some centrifugal force. Paradoxically, this space contains walls that move and furniture that remains fixed. The beds do, however, transform their function from night to day: they become couches during the daytime with the addition of large pillows. The habitual process of transforming the upper level space in the Schröder House from private bedrooms to a fluid communal space reenacts the cultural transformation from the recent Victorian past of formal and segregated domestic spaces to the spatial continuum of modernity.

Rietveld realized that the motile partitions were more than just a functional necessity: they were also an opportunity to express the aesthetic agenda of the "De Stijl" movement. Kenneth Frampton, in his book, *Modern Architecture: A Critical History*, writes:

"This house . . . was in many respects a realization of Van Doesburg's Tot een beeldende architectuur ('16 points of a Plastic Architecture'), published at the time of its completion. It fulfilled his prescription, being elementary, economic, and functional: un-monumental

and dynamic: anti-cubic in its form and anti-decorative in its colour. Its main living level on the top floor, with its open 'transformable plan,' exemplified, despite its traditional brick and timber construction, his postulation of a dynamic architecture liberated from the encumbrance of load bearing walls and the restrictions imposed by pierced openings." (Frampton, Kenneth, *Modern Architecture: A Critical History*, New York: Oxford University Press, 1980, p. 145).

Zones are defined on the upper level within the open space by tracks that guide the movable partitions on the floor and the ceiling. A pattern of the characteristic De Stijl pallet of black and gray with the primary colors red, blue, and yellow is painted on the floor and walls between these guidelines. Although the ceiling is painted white, the "T" shaped tracks themselves are painted with alternating primary colors. Seen altogether, the assemblage of colored planes projects into three dimensions what the De Stijl painters had explored in two dimensions: a dynamic composition of high-contrast colored planes suspended in space. When the walls are slid out into position in the evening, each room has its own particular composition of color and planes. The sliding partitions themselves are painted either black or white to augment the reading of separate planes in space. When the walls are retracted, the color pattern on the floor forms a trace, or memory, of the separate rooms during the opposing cycle. The mutable domestic space in the Schröder House oscillates between night and day, private and public, and presence and absence.

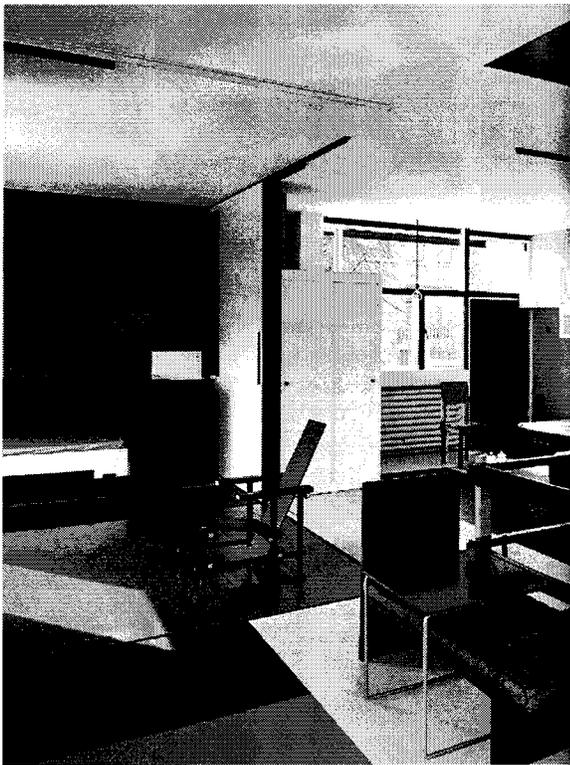


Fig. 3. Schröder House, space at daytime

The sliding partition system in the Schröder House not only responds to the diurnal cycles of family living, but also measures larger, lifelong cycles, too. As the Schröder children moved out of the house, Ms. Schröder had the house to herself. The necessity of separating the sleeping spaces at night was reserved for sporadic events, such as when guests or one of the children would stay the night. Otherwise, Ms. Schröder could simply leave the partitions in the open position when she was alone. This domestic space that was initially conceived to respond to a diurnal necessity, in time, also denotes the vicissitudes of Ms. Schröder's complete life.

MAISON DE VERRE

The Dalsaces, a bourgeois family connected to the intellectual community on the Left Bank of Paris, commissioned Pierre Chareau in 1928 to design a house that would accommodate the offices of Dr. Dalsace's gynecological practice, a large salon for entertaining, private spaces for the family, and servants' quarters. (Brace Taylor, Brian, *Pierre Chareau, Designer and Architect*, Cologne: Taschen, 1998, p. 17). Bernard Bijvoët, a Dutch architect, and Louis Dalbet, a metal craftsman, assisted Chareau in the design and production of the house through its completion in 1932. The family had bought a three floor, 19th-century residence in a courtyard off Rue St. Guillaume with the intention of rebuilding it. After an elderly resident on the third floor refused to move, Chareau demolished just the first two floors while supporting the existing third floor masonry construction above by inserting a new steel structure underneath. This created a 'free-plan' space with an exposed steel frame under the existing third floor. (Vellay, Marc, and Kenneth Frampton, *Pierre Chareau, Architect and Craftsman, 1883-1950*, New York: Rizzoli, 1984, p. 239). Within this space, Chareau created three new levels with the medical offices on the ground level, social spaces on the second level, or *piano nobile*, and bedrooms on the third level. The large double-height space on the piano nobile became a center of Parisian intellectual activity: it doubled as a theater for musical and literary performances, while displaying the Dalsaces' treasures of modern art.



Fig. 4. Maison de Verre, exterior

The most conspicuous features of the Maison de Verre are the exterior skin of translucent glass block and the internal supporting steel frame structure. A myriad of other architectural themes, however, pervade the house, such as the use of industrial materials in the context of domestic architecture; divisions of gender within the organization of spaces; and the emphasis on spaces and objects devoted to bodily hygiene. There are also mechanical devices and motile features throughout the house that reflect the restless energy of modern life and the machine aesthetic of the 1920s. Like the Schröder House, the Maison de Verre incorporates operable architectural elements that can transform the program of a given space. There is a series of operable architectural screens, doors, and walls that are strategically located throughout the house. Kenneth Frampton opines, in his article, "Pierre Chareau: An Eclectic Architect," that "the Maison de Verre is the transformable plan *par excellence*." (Vellay, Marc, and Kenneth Frampton, *Pierre Chareau, Architect and Craftsman, 1883-1950*, New York: Rizzoli, 1984, p. 241).

Depending on how these motile elements are deployed, the Dalsaces' could control *who* could use certain spaces and *how* those spaces are to be used.

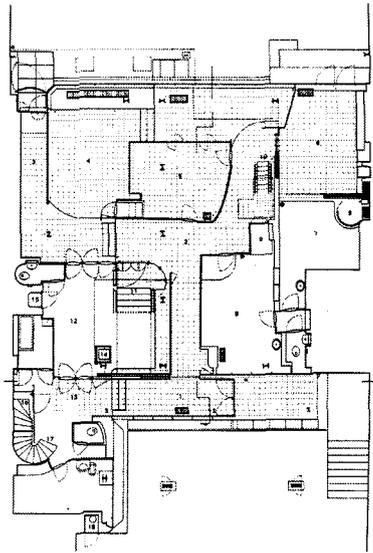


Fig. 5. *Maison de Verre*, first level plan

The first example of mutable space and motile objects that one encounters when entering the house is located adjacent the receptionist's desk for the medical offices at the bottom of the main staircase that leads up to the piano nobile. Here, there are two different types of perforated metal and glass screens, one that rotates around the corner of the stair, and another bi-folding pair of screens directly facing the stair. When the medical office is open, the screens are swung in front of the main stair to deny the visiting medical patients access. Although one can still see the light cascading down the stair way from the large glass block wall on the second level, these screens clearly signify that the stairway is off limits to a patient. In the evening, while the family is entertaining, the screens retract out of the way to invite the guests up to the grand salon on the second level. These motile elements literally act as gatekeepers, regulating who may enter and who may not. The action of these screens creates a social filter that directs one group towards the professional office, and invites another group into the home.

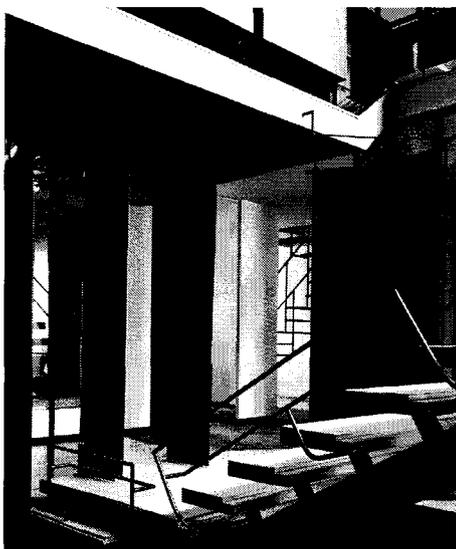


Fig. 6. *Maison de Verre*, screens in open position

As mentioned earlier, there is a preoccupation in the *Maison de Verre* with objects of hygiene. There are over thirty plumbing fixtures devoted to bodily ablutions located throughout the house. On the third level, there are plumbing fixtures prominently located within the bedroom spaces. The fixtures are grouped together on top of raised platforms, and they are visible through perforated metal screens. Just as in to the examination room in the doctor's office, here the most private bodily functions are put on display, albeit within the privacy of the bedrooms. The screens can pivot either to increase or decrease the bathing area. The fixtures themselves can also pivot into more accessible and convenient positions. The inhabitant must physically move the screen and the plumbing fixture in order to use them comfortably, thereby becoming conscious of an otherwise habitual act. The mobility of the plumbing fixtures does not so much alter an architectural program, but it certainly elevates the conceptual importance of the otherwise quotidian hygienic activities to a series of performative bodily acts.

Within the doctor's office, there are two adjacent rooms that are striking in their contrast. One is a comfortable consultation room with an abundance of natural light and heavy wooden furniture. The other is the examination room with an ominous array of highly mechanized gynecological equipment. The two rooms are separated by an aluminum partition that slides laterally to open up or close off the examination room. When the doctor opens the partition from the consultation room, the effect is that of a proscenium curtain being drawn back to reveal the female body in its most vulnerable position. When the woman enters the examination room from the comfort of the doctor's office, she walks onto a stage. The patient/subject becomes the framed object for the doctor's scientific scrutiny. Here, the architecture reifies the patriarchal gaze.

A similar laterally sliding aluminum partition exists on the second level between the grand salon and Dr. Dalsace's study. When the partition is in the closed position, the doctor's study is completely isolated from the publicness of the salon. As he opens the partition, however, the two spaces are connected as one fluid spatial continuum: the otherwise private study becomes an extension of the more public salon at the doctor's discretion. There is also a small and private stair in the doctor's study that leads to the medical office on the lower level. This allows the doctor to move freely between the professional realm, the privacy of his study, and the public spaces of the house. The study, therefore, is a center of control. From here, the 'man-of-the-house' can monitor the activity throughout the house while he can appear and disappear at will. Adjacent to the doctor's study behind an opaque plaster wall is his wife's day room, or 'petit salon.' The entrance to her room is tucked away from the public spaces on the second level, and therefore, has little connection to the more public activities in the house. In fact, there is a retractable stair that can be pulled down from the ceiling that connects the day room to the master bedroom above on the third level. While the husband has a commanding presence in the public spaces of the house, the woman's domain is relegated to the most private realm. In the *Maison de Verre*, the male spaces of flexibility and control created by the transformable architecture are in direct opposition to the female spaces of containment and subjugation.

CONCLUSION

An analysis of the mutable domestic space of both the Schröder House and the *Maison de Verre* demonstrates how the act of sliding partitions or rotating screen walls at recurrent temporal thresholds elevates daily habits to a scripted performance that makes 'dwelling' a conscious event. The repetitive bodily interaction with a transformative architecture is an habitual act, that is, an act of inhabitation. This performance, therefore, has direct ontological significance: these actions are choreographed by the architecture, such that the inhabitants construct and reconstruct their domestic world on a cyclic basis. Mutable domestic

space can only exist with the active participation of the inhabitant, thereby creating a fusion between the phenomenal 'body and space' and between the ontological 'being and dwelling.'

A comparison of these two houses, however, reveal divergent relationships between space and program. In the Schröder House, for example, when the common room on the upper level is transformed into separate bedrooms, the family displaces one architectural program in preference over another. This necessitates absolute cooperation and compatibility among family members to decide when to deploy each particular programmatic mode. The mutability of space and program in the Schröder House is a choreography of familial harmony. In contrast, the movable objects in the Maison de Verre operate at the periphery of the domestic spaces. Here, the architectural program is altered by changing its context, not by superimposing one program on top of another. For example, when the doctor's private study is opened to the grand salon, it becomes an extension of the public realm, but it does not lose its spatial identity. In the open position, both spaces are connected, yet they both remain spatially intact. In this respect, the motile objects are deployed as social filters to regulate interaction between spaces. The mutability of space and program in the Maison de Verre is the choreography of control.

Both the Schröder House and the Maison de Verre have long been recognized as icons of modern architecture. Their place in architectural history has been secured by their affiliation with the art world of the 1920s. As Frampton has identified, the Schröder House is seen as the embodiment of the "De Stijl" ideals of anti-gravitational form and the new objectivity of primary colors. Frampton also argues that the Maison de Verre has an affinity to Marcel Duchamp's *The Bride Stripped Bare by her Bachelors, even*, of 1923, more commonly known as *Le Grand Verre*. (Vellay, Marc, and Kenneth Frampton, *Pierre Chareau, Architect and Craftsman, 1883-1950*, New York: Rizzoli, 1984, p. 242). The industrial

pallet of glass and steel is equally polemical in the context of Chareau's domestic space as it was for Duchamp's work of art. Frampton furthers his comparison by equating the sexually-charged content of *Le Grand Verre* with the programmatic organization within the Maison de Verre. He writes:

"Subtly, but with a curious insistence, the house appears to be dedicated again and again to the "bride," from the gynecological suite itself to the multiplicity of bidets arranged on the bedroom floor. Moreover, in spite of the functional motifs, a feminine image (which is nevertheless paradoxically submissive) is twice placed at the panoptic centre of a space; the first in the axis on the entry hall, which appropriately falls under the eye of the nurse who supervises the medical floor, the second on the third floor, where the maid's work and control room looks down on the entire volume of the lounge." (Vellay, Marc, and Kenneth Frampton, Pierre Chareau, Architect and Craftsman, 1883-1950, New York: Rizzoli, 1984, p. 245).

Although Frampton parenthetically recognizes that women have a servile position in the Maison de Verre, his reading of the house still insists that a feminine subject occupies the center of control. I contend just the opposite: the panoptic center is the doctor's study, and his control is augmented by the motile architectural elements at his disposal. The women in Frampton's analysis are in fact servants of the house that appear more as contained feminine objects than controlling subjects. This 'marginalization of the feminine' in the Maison de Verre is further reinforced by keeping the doctor's wife out of the public eye. In contrast to the Maison de Verre, the radical aesthetic of the Schröder House declares Truus Schröder's independence from the social norms of her late-husband's male-dominated world. It is Rietveld, and not Chareau, that created a feminine domain rooted in family life.