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TEN CANONICAL BUILDINGS 1950–2000

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2. The Umbrella Diagram
Ludwig Mies van der Rohe, Farnsworth House, 1946-51

According to Philip Johnson, Ludwig Mies van der Rohe lived by his aphorism “Less is more.” Some years later, Robert Venturi, in a reply to Mies, said, “Less is a bore.” While Venturi meant this as a pejorative comment, it resonates differently when read through Roland Barthes’s citation of “the boring” as a locus of resistance; the boring was a way to stand against the rampant consumption of art by a postwar consumerist culture. Mies’s “less is more” is a key statement for architecture; it makes its first appearance in the Farnsworth House, where less is more in the sense that this is not an architecture of modernist abstraction, but one which provokes another kind of close reading. Of all the works in this book, the Farnsworth House is the most abstract, while seemingly retaining a modernist vocabulary and conception of space. But a close reading of the Farnsworth House reveals important deviations from the modernist conventions of the open plan and the expression of structure. Together these point toward what could be considered Mies van der Rohe’s first diagram.

All houses are traditionally thought of as a unity. The Farnsworth House is a tour de force that denies this idea. From its detached and oversized entry “portico” to its pervasive yet disrupted symmetries, the Farnsworth House marks one of the beginnings of the breakdown of the classical part-to-whole unity of the house. While for the early modernists the house was often a place for the study of radical innovation, from Le Corbusier’s two canonical diagrams—the Maison Dom-ino and the Maison Citrohan—to Gerrit Rietveld’s De Stijl Schroeder House, these were still single, definable entities. The early houses of Mies were no exceptions to this attitude.
From his early Brick and Concrete Country Houses to the Lange House, Mies worked out many of his later large-scale projects at a residential scale. But the Farnsworth House disrupts this cycle; it is no longer a single, definable entity, and the little-mentioned detached entry platform produces the most poignant clue to this idea. Mies’s rejection of the part-to-whole unity is more subtle than Walter Gropius’s and Marcel Breuer’s obvious bi-nuclear houses, which are conceptually two-thirds of a palazzo type. The Farnsworth House does not function as a fragment, but proposes another type of reading altogether.

Mies’s idea of building—and in particular, of building a house—can be contrasted with Heidegger’s idea of dwelling as an object in a specific place. Heidegger’s notion of dwelling concerned the rootedness to a place: site specificity, the grounding of the subject, and ultimately the presentness of presence. For Mies, dwelling is an abstract series of conditions and, in the case of the Farnsworth House, the “dwelling” itself offers the opportunity to enact a critical reading of modernity. The Farnsworth House can be seen as a transition from Mies’s earlier work to his later work; it is a hinge between what modernism was to Mies and what will appear postmodern in his work. The shift with the Farnsworth House also sets up the difference between a scenographic, or postmodernist, use of architectural elements to create a visual illusion, and the alternative use of the column and wall to provoke a critical reading of modernity. This confrontation, from what had been containers in Mies’s early abstract building denying the idea of dwelling, to containers that were no longer only abstractions, produces a diagram of a different sort—one which is metaphorically figured—initiated at the Farnsworth House.

It is the interplay between column, wall, and horizontal plane that marks the evolution of Mies’s thinking, beginning with his early houses, which emphasized the formal and organizational role of the vertical wall plane. The Brick Country House, for example, used vertical walls extending and pinwheeling out from a central vortex (à la De Stijl), while the later houses of the 1930s—such as the Tugendhat House in Brno and the prototypical courtyard houses—were composed of vertical planes which no longer extended out from the main volume, but rather defined and enclosed space. The first two houses, the Brick Country House and the Concrete Country House, were both load-bearing concepts without columns. These houses were essentially walls that did not enclose volumes in a boxlike rectangle; the space is fractured by the way the walls extended out into the landscape. Following from these two
houses, Mies's Barcelona Pavilion introduced a new set of questions regarding the relationship of column, wall, and roof. The walls here are no longer load-bearing, rather the columns become the load-bearing elements; the enclosing elements are distinguished from the tectonic elements. The pavilion could be called an open plan, as opposed to a Raumplan or even a free plan, because the column in this space is conceived differently from Corbusian columns, which allowed for the free movement of enclosing walls.

The Farnsworth House is a transitional point that moves Mies's idea in several new directions. First, unlike Le Corbusier, Mies had no diagram until the Farnsworth House. This, it could be argued, is an important distinction between the two architects. The Farnsworth House, however, sets the groundwork for a diagram, and in this sense it functions as an incipient diagram. Second, at the Farnsworth House Mies is no longer dealing with the corner or the column in space; rather, at Farnsworth he introduces the use of outboard columns, which rethinks structure in proposing the idea of the sign of the column. Mies's use of the column suggests a movement from the abstract to the real: the sign of the column is a real column, exposed on the outside of a real floor slab. Thus the Farnsworth House poses two questions: one, the question of the representation of structure as opposed to structure itself; and two, the disassociation of the column from its use as a spatial integer. The Farnsworth House is the first of Mies's many projects to follow that questions the truth of what is seen as structure.

Such use of the column can be related to Alberti's critique of Vitruvius, which Alberti articulated in his *De Re Aedificatoria* (*Ten Books on Architecture*), regarding Vitruvius's three basic principles of architecture: commodity, firmness, and delight. Commodity was usefulness, firmness was structural utility, and delight was beauty. Alberti said that all architecture is firmitas because all architecture must stand up, and suggests that Vitruvius was stressing firmitas not in reference to standing up, but in reference to the appearance of standing up—in other words, as the sign of structure. Thus a column or a wall has two functions: it stands up, and it represents the idea of standing up.

The three categories of signs proposed by C.S. Peirce are useful in characterizing Mies's use of the column: the icon, which has a visual and formal similitude to its object; the symbol, which has a cultural and an agreed-upon conventional meaning in reference to its object; and the index, which describes a prior activity of the object. Peirce also is one of the first to use the term diagram, which for him is an icon having a visual
simultaneity with its object. As a sign of standing up, the column embodies a double condition: a column is an icon that looks like a column, and it also is the sign or index of being a column. In the Peircian triad of icon, symbol, and index, a column is both an icon and an index. This condition of simultaneity—the column used simultaneously as a critique and a representation of structure—disrupts a single reading and provokes both formal (as a representation of structure) and conceptual (as a critique of structure) readings.

These simultaneous readings of the column informed what could be considered Mies’s insipient diagram. This diagram responds on several levels to two other preexisting diagrams in modern architecture: the Dom-ino and Citrohan diagrams proposed by Le Corbusier. The Maison Dom-ino illustrated Le Corbusier’s “Five Points” as well as instituted an idea of the possibility of a spatial continuum in the horizontal dimension. The Maison Dom-ino presents a diagram as a horizontal sandwich of space, in that the floor and the roof are conceptually equivalent integers. Mies’s architectural development is in one sense a sustained critique of the Dom-ino diagram’s notion of a horizontal continuum of space. The Farnsworth House proposes what could be considered Mies’s first diagram: the umbrella, a critical diagram distinguished from those of Le Corbusier in that it makes a conceptual distinction between the horizontal floor plane and the horizontal roof plane while at the same time denying any horizontal continuum.

Mies’s evolution of the column section can also be distinguished from Le Corbusier’s use of the column. In Le Corbusier’s work, the column was a didactic mark that punctuated space in the free plan. Usually these punctuations were round, allowing space to flow freely around them. The Dom-ino diagram does not reveal much about structural intention, but expresses intentionality about the continuum of space, set up in part by the locations of columns, which are flush from the ends and set back from the sides equally, implying a cut on both ends. Le Corbusier, for the most part, used round and square columns relative to their placement. If he wanted to stress the edge, he would use a square column flush with the facade; if he set the column back from the glass plane, he would typically use a round column. Mies’s columns are set back from the wall plane in the Barcelona Pavilion, but are also cruciform in section. The cruciform column section illustrates Mies’s position between Adolf Loos’s Raumplan and Le Corbusier’s free plan: the cruciform stainless steel columns define a series of cubic volumes.
in articulating the corners of each spatial unit. The chrome plating on the columns serves as a mirror, inverting conventional square columns; that which is typically solid—the actual corner of a space defined by a real column—becomes a mirror or a reflection of the space and thus becomes a void. The real column in some sense becomes a virtual column, even while it continues to define a spatial unit. For Mies, columns define and circumscribe spatial units; for Le Corbusier, columns allow space to pivot and act as a fulcrum rather than as corners. For Mies, the column and the corner become one didactic model, from the Barcelona Pavilion to the buildings at the Illinois Institute of Technology (IIT). The position in space and the sectional properties of the column at the corner frames a conceptual discourse for Mies.

Yet at the Farnsworth House, the corner would seem to be a nonthematic element; the columns are no longer at the corner, neither gridding space internally nor holding the outboard corners. Mies's initial sketches for the Farnsworth House demonstrate his intention to use the columns in a different way, namely outboard of the floor slab. It is possible to assume that the outboard columns are more of a structural expression, that the columns are functioning as structural elements. But this is not the case. This is the first time that Mies places the columns outboard. He seems to suspend the roof between the columns, suggesting that another strategy is intended—one which occurs in many of the buildings that follow. At the Farnsworth House, the horizontal floor slab and roof are framed between the columns, so the columns are no longer supporting the roof, but rather the roof and floor are slung like hammocks between the columns. Mies's postwar work represents a transition from the column as either load-bearing or marking a spatial quadrant to a condition where the column is the support of a suspension structure, in which the horizontal members are hung from the outboard structural columns and the overhead roof beams. This will lead to a subsequent development, in which the beams are articulated above and the roof hung from these beams, giving rise to what will become the Miesian umbrella diagram. The metaphorical umbrella is a diagram in which the roof and its appended columns seem to be hovering above a podium base. The Farnsworth House is the first realization of this umbrella diagram.

The Farnsworth House is also perhaps the most didactic critique of the column and the wall as merely structural elements. This building has often been misread as an articulation of the principles of Le Corbusier because of its seem-
ing evolution of the Dom-ino diagram, or as the progenitor of Philip Johnson's Glass House. In either case, these attributions are problematic, if not superficial. The Farnsworth House is not about trabeation, but rather engages the look of trabeation in bringing the columns outboard and suspending the floor and roof slabs between the columns.

The idea of the sign of structure at the Farnsworth House is also a precursor of the column-over-column detail at the Seagram Building and also at IIT, where Mies adds I-sections and H-sections at the corner and on the facade to mask the actual structure. This thematic in Mies's postwar work engages structure that is the sign of structure; what is seen is not the actual column, but a mask of the structure. The Farnsworth House initiates this argumentation: when the column is placed outboard of the slabs, it still acts as a column, but not as straightforwardly, as in the case of directly countering vertical load. Because the slabs are being held up through the suspension of plates coming off the column, this allows the box-frame of the house to straddle and be suspended between the columnar structure. This is a radical idea for the late 1940s and early 1950s; it is a radical idea for Mies, and breaks with his use of the idea of the column as a clear indication of tectonics. Instead the column reads as both structure and the sign of its diagrammatic condition.

The plinth and the horizontal roof plane are again conceptually different in Mies's space as opposed to Le Corbusier's space. Whereas Le Corbusier's ground plane is separated from the ground conceptually and floats, like the roof plane, Mies's ground plane is tied to the ground while the roof floats free. If there are precedents for the differentiation of space between ground and roof at the Farnsworth House, one would include the Resor House of 1937-8. The model of the Resor House is the first indication of a new attitude in Mies's work. The house seems to float above the ground, though it actually spans a ravine and is anchored at both ends. The house itself is a virtual podium that reappears in the Farnsworth House, with its suspension a few feet off the ground. This lifting of the house has a different value than Le Corbusier's Dom-ino diagram. For Le Corbusier it signals the infinite horizontal extension of
space; for Mies, it sets out the ultimate distinction between the ground and the roof, leading eventually to the umbrella diagram.

The Farnsworth House also had important implications for the 50 by 50 House that immediately followed in 1951. First, at the 50 by 50 House, there are only four outboard columns, which appear at the centers of the sides of the square, providing the building with a clear rotational quality while framing the corners on the diagonal. Second, the ground-floor plane is no longer articulated; the glass box sits on what seems to be a natural plinth, which is clearly distinguished from the pristine white line of the roof. Together, the roof line and single columns produce an image of an umbrella-like structure. What follows, less literally but no less conceptually, are the Mannheim Theater project, Crown and Alumni Memorial Halls at IIT. In these projects, the columns are brought outboard, not so much to show them holding the roof up but rather to show them as representing another kind of spatial attitude articulated in Mies's umbrella diagram. The 50 by 50 House also manifests the transition to the exposed steel truss running above the roof line at IIT's Crown Hall and at Mannheim, suspending the roof like a giant parachute. Clearly the National Gallery in Berlin is the last, and perhaps most subtle, in the line of progeny from the Farnsworth House. Given the gallery's stone base and projecting roof line flush with the exterior column line, the umbrella effect is finally presented as concept and not image.

In both the National Gallery and IIT, the idea of dwelling, or use, is clearly not what is at stake, since Mies sinks the primary functions below ground. Their envelopes function as an icon of a building that will be used as an architectural school or as a museum. On entering Crown Hall at IIT, for example, one notices little on the iconic plane that involves its use as an architectural school: all of the offices and studios, whether they need light or not, are placed below the plinth. Similarly, there is little at the plinth level at the National Gallery that represents its use as a museum.

At the Farnsworth House, with Mies's careful manipulation and placement of the forms, it becomes clear that a scenographic condition: between the viewer and the building is not what
58 Farnsworth House

is desired. Rather, a reading of the relationships between column, floor, plinth, and roof other than as a series of modernist abstractions gives this building its critical dimension. To further this idea, Mies establishes shifting axes of symmetry deployed among the three disparate entities of the Farnsworth House: the entry platform, the house platform, and the glass box. While the stairs of the entry platform are aligned with the stairs to the house, the intermediate platform itself is slipped off this potential axis. Similarly, the glass enclosure is asymmetrically placed in relation to the floor slab, yet symmetrically placed with respect to the centerline of the column grid. This sliding or oscillating movement between the glass, mullion, columns, floor slab, and plinth produces a complex and dense relationship of elements that, while they appear scenographic, produce a critique of any single reading. The different axes formed by a series of symmetrical parts indicate that the parts do not create a whole. What seems to be a classical and symmetrical whole is rather broken down into asymmetrical dynamic parts.

Mies’s play against classical symmetries continues with his treatment of the glass surfaces. At the Farnsworth House, the glass is dematerialized and there are no horizontals to articulate a wall plane. The outboard columns of the Farnsworth House do not go above the line of the finished roof but just up to it, articulating the difference between structure and finished surface. This can be contrasted with Johnson’s Glass House, which,
whether trying to break away from a Miesian or a Corbusian space, basically defines a classical vertical surface with the marking of a chair rail in the vertical plane. There is no chair rail in the vertical plane at the Farnsworth House. Johnson, both for the sake of his furniture but also to differentiate his ideas, is interested in the glass as a plane or membrane, as opposed to Mies's interest in glass as a void. Johnson's intent is to render the surface as a vertical plane, while at the Farnsworth House, Mies renders it as an absence.

The shift at the Farnsworth House registers the difference between a scenographic representation linked to postmodernism and the use of the column as a critical reading of modernity's idea of a spatial continuum. The Farnsworth House stages this confrontation between what in Mies's early building was used to deny the image of dwelling, and the Farnsworth House, where the elements are no longer abstractions. The organization of column, walls, and slabs become real but no less critical counters in the design, which proposes an implied real structure against the sign of structure; columns read not for their tectonic truthfulness, or for their visual composition, but for their condition as a sign of a conceptual diagram.
The organization of the column grid at the Farnsworth House and its entry platform produces an AAAAA four-bay sequence. Each bay is equal in size. The edge of the enclosing glass wall falls symmetrically between the right two bays, extending a half-module beyond each column line.

Each slab is also positioned symmetrically within the column grid, yet the center of the main slab is not aligned with the column grid. The columns supporting the entry platform are aligned with the column grid of the house, yet the platform itself is slid off the axis established by the floor plane.
15. The glass enclosure is symmetrically placed within the framework of the columns. The center of the glass enclosure is aligned with the column line. The glass enclosure, therefore, produces a second center located along the middle column line, while the center of the floor plane lies along the mullion line. This establishes a tension between the glass enclosure’s center and that of the floor plane.

16. The play of the two centers is an aspect of the dynamic of the Farnsworth House. The location of the glass enclosure, in coming to the edge of one end of the floor slab but not to the other; while seemingly asymmetrical, defines a symmetry about the middle column. These two symmetries also define closure, and anchor what would seem to be the potential extendability of the building.
17. The Farnsworth House does not present a horizontal sandwich of space in the manner of Le Corbusier's Dom-ino diagram. The lower slab is raised off the ground on stub columns, but it does not echo the precepts of the Dom-ino diagram because the floor slab is connected to the ground by the entry platform. The movement from the ground level up the stairs to the entry platform and up to entrance on the main floor is perpendicular to the grain of the house.
18 (a-b). The progression of movement at the Farnsworth House is significant, emphasizing Mies’s transformation of vertical and horizontal surfaces in response to Le Corbusier’s diagrams.

At the Farnsworth House, the perpendicular movement resembles that of the subject entering the Maison Dom-ino (a), as opposed to that of the Maison Citrohan (b), which is parallel to the movement of entry.
19. The traditional relationship of post to beam is confounded by the outboard columns, with no obvious fastening system, but rather a carefully detailed set of discreet connections, holds the horizontal slabs in place.

20. The attachment of the mullions to the corner produces what could be considered a positive inboard corner, thereby inverting the conventional form of the corner.
21. Mies’s corner reads as two entities fused together, with the trace of their joining still legible: the mullions are compressed together to articulate the corner.

22. The two sets of mullions at the corner produce an outboard L-shaped condition, creating a void at the outboard corner.
23 (a-e). The existing column arrangement at the Farnsworth House (a). Possible alternate arrangements include columns aligned with the inner edge of the floor plane (b and c); columns organized similarly to those of the Dom-ino diagram (d); and doubled columns at the corners of the slab (e).
Farnsworth House, exploded axonometric of slabs and columns.
34. Farnsworth House, exploded axonometric view.
36. Farnsworth House, axonometric view.
2. The Umbrella Diagram


