From the Edge of the Horizon
Considerations Upon the Work of Mies Van Der Rohe

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The remarkable aspect of the horizon-phenomena is the manner in which it gathers the conditions of sight and site. The horizon is the form which consciousness inscribes upon the surround, the manner of seeing that binds our thinking to the visual presence of our world.

Because the horizon cannot be said to exist in itself (it is not an object with a physical presence like a tree), it must be constructed through artifice. But even then its presence remains elusive. What is being "constructed" is, in effect, a relationship between a consciousness and its surround. This reflecting aspect of the horizon is its most fertile, yet enigmatic characteristic. In this sense, the horizon is a symbol, a phenomena whose effect is transparent to the medium of its conveyance.

This does not mean that the horizon is resistant to examination and analysis. Because we recognize it as a phenomena, it is possible, therefore, to ask the question of how it exists for us; what is the manner in which the horizon is used, how is this use to be understood? Finally, how is the horizon represented? This last question opens the inquiry to a territory that can be explicitly analyzed using the evidence of artifacts, for a representation is a construction with a specific intention and means of reference. The aim of this investigation is to examine the very means through which the horizon phenomena is constructed. Upon this "evidence", speculations can then be offered regarding the meaning of the horizon and the significance of its function.

Architecture offers itself as an appropriate site for an inquiry upon the horizon. Its physical presence places it in line of sight with the horizon, it shares the ground from which the horizon appears, it recognizes a surround through which we establish its presence. Architecture is also constructed from the geometry that contains an idea of the horizon, an important consideration in this case - since geometry has been the primary vehicle for the construction of representational forms in architecture since its inception. Considerations upon the presence of the horizon in geometry are therefore critical to the understanding of geometry itself and, by implication, architecture.

The work of the architect Mies Van Der Rohe is an excellent vehicle for such considerations. Though he does not make specific mention of the horizon in his writings, it is evident from his drawings and built work that the phenomena has played a special role in his thinking. The work of Mies is also important here for its questioning of the historical giveness of the representational form of the horizon in perspective. This questioning takes the form of extending perspective to its formal limits, as it were, stretching the assumptions of its structure so that it begins to challenge the very ground upon which these assumptions have been made.

Mies was also aware of the historical dimension of his work. His writings are filled with allusions to the "spirit of the age." He believed that meditations upon architecture could reveal this "spirit." Commentary upon Mies has stressed his use of industrialized materials and a distilled formal syntax as evidence of this awareness. Though these considerations are critical to an understanding of Mies, what is being offered here is that these aspects can be focused specifically around the issue of the role of the horizon in his work. The reductive clarity of his drawings demonstrate that Mies was intensely interested in questions of architectural representation. It is these referential structures (the formal geometry of lines, planes and solids) that, I would argue are the primary vehicles of meaning in his work.

Through reading Spengler and others, Mies was aware of the historical dimension of the questioning of geometry that occurred in the nineteenth and twentieth century. What is impressive in his work was the ability to point to this questioning while maintaining a connection to these historic (Euclidean) forms.

Before proceeding with an examination of the work it would be helpful to establish a context with a brief review of the representational and geometrical precedents found in the Renaissance theory of perspective. Here, sight is represented by the so-called "pyramid of vision," a triangular projection cut by a sectional frame, the center of which is an axis that connects the eye of the viewer to a vanishing point upon the horizon. Though the horizon extends laterally on either side of the visual axis, it is the depth between the eye and the vanishing point that is emphasized over the lateral extension or flatness of the horizon plane. This depth was the phenomenal "discovery" of perspective, a depth that had been absent in the vertically layered and flattened space of previous forms of representation. With perspective, the implied vertical motion through the stacked layers was now secularized by motion along the ground plane into the depth of the picture. The sacred realm had now been rotated down into a balance with the secular, the picture plane acting as the fulcrum between the two. Movement along the visual axis was symbolic of movement towards faith, a singular path through the revealed texts. The iconographic narratives of these early perspectival images are significant in that they demonstrate the temporal and spatial ideas built into this initial formulation of perspective. The distance between the viewer and the eye/point of God was a measure of faith. Though one could

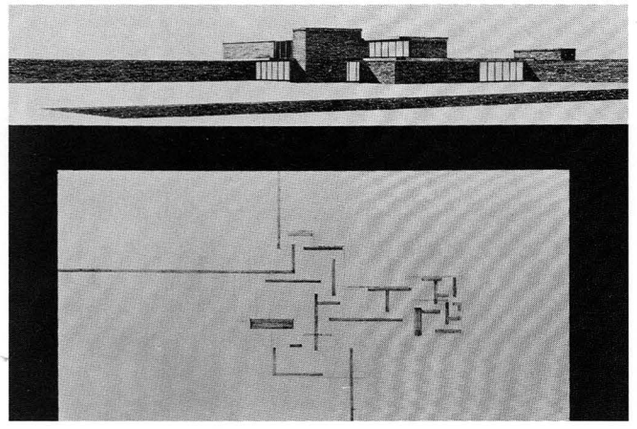
Pantheon Bible; The Creation and Fall of Man.

move forward, into the painting, the temporal reference was always to a point at the beginning of history, to the event of the birth and death of God as man. A move forward was a move towards the point, the point of origin in the temporal as well as in the spatial realm.

However, despite the obvious reference to the authority of Euclidean geometry (the point-origin, line-projection, plane-horizon ground), there was an obvious formal contradiction in the phenomena of perspectival depth. This concerned the parallel postulate; the assumption that two lines would remain equidistant for an infinite distance. The convergence of parallel lines in perspective contradicts this assumption and thereby questions the authority of the very geometry upon which the perspective–and the architecture that it depicted–was based. This contradiction was eventually overcome by Descartes, who gave a final authority to the "clarity" of mathematics and abstract reason over the secondary knowledge of sensory experience. For him the convergence of parallel was an illusion created by the structure of our senses. The true condition remained in the abstract, mathematical realm of mind.

Coupled with the Cartesianism of analytic geometry, perspective remained the dominant vehicle for representation through the turn of this century. It was then that the singular balance of axial perspective was drawn to its limits and ruptured. The limits in this case refer both to the logic of the geometric constraints of Euclidean geometry as well as to the limits of positivist epistemology that sustained and justified it against questions and contradictions of so-called "secondary" qualities.

The problems of this rupture are worked through in a number of projects by Mies executed in the period from 1924-1938. In these projects the two-point perspective is utilized almost exclusively as the form of picturing or representing architecture. This choice of viewpoint permits a non-centric, lateral view of buildings and spaces. Here the extension of the horizon is emphasized over the singular axis of the one-point perspective. There were certainly many, previous examples of this manner of viewing space, but never had the station points been extended to such a degree along the horizon line. (The drawings of Frank Lloyd Wright were known to Mies at the time. He cites the Robie House in particular as an inspiration.) The results can be seen in Mies' drawings of the concrete country house project of 1923 and the brick country house project of 1924. Here the perspectives are flattened to the point where there is hardly any noticeable angle to the major perspective lines of the roof and and the wall. The perspectives are now nearly-frontal elevations whose profiles approximate the parallel of the horizon. From a distance, the walls of the brick country house can be understood as a doubling of the horizon itself, the wall as a thickened horizon line. Each course of brick repeats the horizon, lying one on top of another in parallel layers. The significance of the brick unit to Mies is underscored by the manner with which each individual brick is drawn on the plan. The brute repetition of the units makes one think of the infinite extension of the building walls out towards the surrounding horizon.



Mies Van Der Rohe; Brick Country House.

Mies' attention to the building geometry of the brick is demonstrated in the walls of the Lange and Ester's houses where the straightness of the brick and mortar joints are controlled to the extent that the solid materiality of the brick gives way to the transparency of the mortar joint grid. We are now imagining a space through the wall. The horizon is always present beyond. The perfection of the joint suggests a transparency, suggesting a space rather than a solid between us and the horizon.

For Mies, it is the horizon itself that determines the space of the perspective, emphasizing the lateral extension of space rather than its axial depth. It could be said that perspectives issue forth from the horizon. Each individual perspective is one of an infinitude of perspectives that are contained along the horizon line. The location of the vanishing points no longer have a prime significance, one can imagine looking one way or another at the brick country house without altering the particular meaning of the view. The perspective as Mies draws it, is consistent with the root of the word "perspico," meaning "to catch sight of, to have a glimpse of." [1] The perspective is an incidental view, one of many possible in the visual field. Rather than being a privileged view that is channeled and anticipated by architecture, the perspective surveys architecture as a collection of partial glimpses set between the observer and the horizon. The ground plane is considered as an open field extending horizontally in every direction; the flat roof planes parallel reiteration of the horizon opening up a space, a section of inhabitation between earth and sky, the space within the thickened horizon line.

The plan of the brick country house implies the multi-directional possibilities of the open, visual field, its rotational quadrants gathering the surround into a localized density of the dwelling. The periphery remains open to the horizon, which is the theoretical limit of the house. Like a nomad, the inhabitant migrates from one quarter of the house-field to another. The articulations of the plan remain open for interpretation; architecture as a landscape for dwelling in the space of the horizon.

The geometry of this horizonal space can be understood as an inversion of the material space of Euclidean geometry. Spengler describes Euclidean geometry as inherited by the Greeks as the geometry of "bodily solids." The point, or first principle (particle?) of geometry is the smallest of all bodies, but a body nonetheless. This interpretation of geometry as the structure of bodies was maintained until the turn of the century. For example, writing in 1906, Ernst Mach confirms this in his description of the constancy of the geometrical body:

> *Crude physical experience impels us to attribute to bodies a certain constancy. Unless there are special reasons for not doing so, the same constancy of the complexus "body"; thus we also regard the color, hardness, shape, etc., of the body as constant; and particularly we look upon the body as constant with respect to space, as indestructible. This assumption of spatial constancy, of spatial substantiality finds its direct expression in geometry.*[2]

Mies questions this assumption of the material bias of geometry by consider-

ing the syntax of geometry as the space between adjacent surfaces. A line is the smallest space that can exist between two parallel surfaces. A point is the space that exists within two surfaces of the crossing at an intersection. These meditations can be seen in the empty joints in the travertine paving of the Barcelona pavilion, and within the section of the cruciform column. (The cruciform is constructed around the virtual space of the orthogonal intersection.)

The inhabited space of the horizon-horizontal section is the virtual space of the linear joint writ large. The structure of the existential space of Mies now comes into focus. The open horizon offers a site for active reflection. Movement within the horizontal section is incidental and multi-directional since the horizon is understood to exist on all sides simultaneously. We always move towards the horizon in Mies. It is present and beyond every perspective.

Mies Van Der Rohe; I.I.T. Crown Hall–Note horizon at the horizontal glass mullion.

Van Peursen writes:

> *Man lives in the horizon, the horizon is himself, the horizon is the world; the horizon reflects back to him the human world, namely the world as visible in the beam of human reflection.*[3]

The paths and views through the Barcelona pavilion clearly demonstrate the sense of Van Peursen's inhabited horizon. The horizon is present in every glance between roof and plinth and in the partially obscured objects beyond. We are continually being drawn forward by the temporal-gravity of the horizon. The horizon recedes with our every advance.

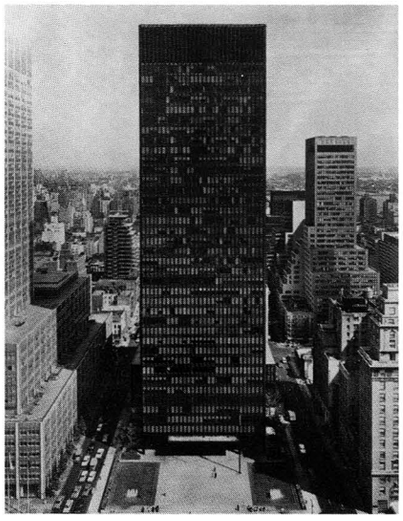
The significance of the horizon is manifested by the fertility of its interpretations. Located on the threshold of thought and perception, the horizon-symbol shuttles between the two realms, an architecture that weaves thought and action together.

Because the horizon is constituted as a "limit," our thinking too, must dwell upon its limits so that we may formulate assumptions upon its structure. In the brick country house, for example, the "limit" of the dwelling is inferred by the implied extension of the walls at the edge of the drawing. The implied extension of the walls beyond, begins to question the frame of the visual and geometric structures with which they are built. Inevitably, the issue of the "flatness" of the represented earth plane must be drawn into question. How far can these walls extend? Do they remain parallel for their entire length? Do they begin to curve around us at their limit? The curvature of the earth's surface at the extent of the perceived horizon questions the orthogonal geometries of the house and demands a reconsideration of the geometric assumptions of its architecture. What, then, is the geometry that exists at or beyond the horizon? This can be answered only if the earth's surface is understood as a continuity, something that passes over the horizon rather than projects us up to it. We must now consider the geometry of a surface rather than the geometry of uniform and parallel lines. In this case the flat edge of the horizon must be considered as provisional, a special case where curved continuity is the rule. These conditions are answered by the non-Euclidean geometries of Riemann and Lobatchevsky developed in the 19th century. In the case of Riemann's spherical geometry it is assumed that there are no parallel lines since all lines that traverse the diameter of the sphere intersect in at least one point. This resolves the conflict in perspective between the perceptual convergence of sight lines and the maintenance of the parallel dimension in favor of convergence. Indeed Riemannian geometry stipulates that all lines perpendicular to a base line converge at a single point. (In Riemannian geometry all the operations of Euclidean geometry can hold true, thereby eliminating the inconsistencies of the parallel postulate which, within the logic of Euclidean geometry alone, cannot be proven.)

The knowledge of the curvature beyond the horizon isolates the choice of the orthogonal geometry of Mies as a deliberate choice amongst many possible geometries. The mathematician Felix Klein points out that "the form of every geometry depends on which spatial determinations and relations it selects to posit as invariable."[4] What the logical success of non-Euclidean geometries demonstrates is that the contemporary use of Euclidean geometry must be accompanied by a parenthetical questioning within its application. Mies has chosen the invariable aspect of the continuity of parallels as the frame of his architecture. It is a choice made amidst the instabilities of conflicting, modern claims upon space. The historical meaning in this choice becomes overt in his later work where classical plans and syntax are referred to directly as precedents. Herein lies the profound lament of his later work, the return to these classical forms amidst the apparent erosions of formal structures within architecture. The darkened steel of these later buildings signify this lament, the gravitas in the light of classical architecture's end.

Perhaps for Mies the horizon had been reached, an end achieved. The intense questioning in his early projects brings forth issues that the given traditions of architecture may not be able to sustain. Taken to the edge, we have the choice to wait and see what emerges or to accelerate over its surface. Mies chose to wait.

> *...but we also said of the horizon that out of the view which it encircles, the appearance of objects comes to meet us.*
> *–Heidegger*



Mies Van Der Rohe; The Seagram's Building.

Notes

1. Cornelius A. Van Peursen, "The Horizon," in *Husserl; Expositions and Appraisals*, Elliston and McCormick editors, University of Notre Dame Press, (Notre Dame, Indiana, 1977), p. 190.

2. Ernst Mach, *Space and Geometry*, the Open Court Publishing Company, (LasSalle, Illinois, 1906), p. 41.

3. Van Peursen, "The Horizon," p. 185.

4. Ernest Cassirer, *The Philosophy of Symbolic Forms*, Yale University Press, (New Haven, 1906), p. 157.