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FRIEDRICHSTRASSE SKYSCRAPER: TRANSFIGURATION THROUGH GLASS, OR VERTICAL AND HORIZONTAL TRANSPARENCIES

Ufuk Ersoy

Water intrinsically belongs to glass architecture because of its capacity to reflect; neither is separable from the other. . .¹

Mies van der Rohe's entry for the Friedrichstrasse Skyscraper Competition of 1921, a project he named the "*Wabe*" (Honeycomb) construction, not only epitomized the polemics then current about the renovation of Berlin as a modern metropolis, but also represented a radical shift in the architect's own viewpoint – his views of modern life, modern construction, and modern materials, particularly glass.

The year before the competition the 34-year-old architect, then called Ludwig Mies, decided to distance himself from his family. He moved to his atelier at Am Karlsbad 24, where he would fully commit himself to his search for the truth of architecture. Having practiced for more than a decade in the offices of two well-known Berlin architects, Bruno Paul and Peter Behrens, Mies was ready to reorient his thinking and practice.

Although the residences he had built on his own at the outskirts of the city allowed him to implement and experiment with what he had learned, he had convinced himself that the time had come to discover the real possibilities for architecture embedded in the period's specific – and specifically modern – conditions. The glass skyscraper project, which seems to have received its impetus from his observations on contemporary technology, vividly expressed the architecture he sought. And the project heralded new beginnings in

another sense: by combining his mother's and father's names, he gave himself a new name: Mies van der Rohe.

In the monograph accompanying the Mies van der Rohe exhibition at the Museum of Modern Art in 1947, Philip Johnson described the Friedrichstrasse Skyscraper project as the point of departure for the architect's "visionary/experimental" projects; that is, designs in which he explored the "genuine" elements of building art.² Through careful observation of Mies' works, however, it is possible to see that the skyscraper project extended earlier developments. If there were heralds of the principles and elements that would give shape to his later buildings, including the Barcelona Pavilion (1929–30) and the Tugendhat House (1928–30), they were his early country villas and houses.

Nevertheless, the glass skyscraper did signal a transition in the history of Mies' formal expression. In the 1920s, making use of modern building techniques and materials, Mies successfully paraphrased what he had expressed in his earlier works but with more mature, "artless" words.³

The questions this chapter⁴ will address are: how did modern materials, particularly glass, contribute to Mies' search for expressive silence; and, more directly, how did glass act on his architectural imagination and alter his understanding and practice of architectural expression? While the competition entry will be my point of focus, I will also consider the work of a few of his contemporaries, in order to indicate what is unique and significant about this design.

Mies' revolutionary proposal for the Friedrichstrasse Skyscraper failed to receive an award. Even worse, it was even excluded from the pamphlet of the competition results.

The evaluation was harsh: the judges thought it was a fantasy that could never be built. Even so, Mies continued working on his drawings and developed a second glass skyscraper project, *Hochhaus* (High Rise), intended to give visual manifestation to ideas he developed in a text on glazed high-rise buildings. That short article, which broke his reticence in architectural media, appeared in the fourth and last issue of *Frühlicht*, the journal edited by Bruno Taut.⁵

Mies' preference for Taut's journal was hardly coincidental. After designing the Glass Pavilion for the *Werkbund* Exhibition at Cologne (1914), in collaboration with the poet Paul Scheerbart, Taut took on the mission of encouraging architects to make use of glass as often and in as many ways as possible. During the turmoil following the First World War, Taut's utopian vision appealed to the young generation of artists and architects, and brought many of them together in the *Arbeitsrat für Kunst* (Workers' Council for Art) and *Gläserne Kette* (Crystal Chain) circles he led. *Frühlicht* served as the forum of radical thought, where the limits of possible reality were questioned. Although Mies did not share the utopian vision of all of the journal's contributors, and never joined the art and architecture circles around Taut, he knew very well that *Frühlicht* was the only professional publication that would publicize his glass skyscraper projects.⁶ And the two shared basic ideas: both Taut and Mies believed that technology was the formative agent of modern culture, and identified glass as the prospective element of modern architecture, with which architects had to experiment.

In the architectural discourse of the second half of the twentieth century and up until today, glass architecture has been widely seen in technical terms, obvious in its

properties, self-evidently useful, and plainly modern. From this vantage point, the approaches taken by Taut and Mies may well seem surprising, as if they sought not to use but to fetishize an industrial product and the techniques of its use. From their vantage point, however, glass was neither an icon of industrialization nor an obsession of bourgeois culture. Nor were its properties obvious. Even if it had not yet been architectonically mastered, it was a material that could redefine the nature of architectural space. As Arthur Korn wrote in *Glas im Bau und als Gebrauchsgegenstand* (1929): “[glass] can enclose and open up spaces in more than one direction. Its peculiar advantage is in the diversity of the impressions it creates.”⁷

When these two architects are viewed together, Korn seems to have been correct, for both Taut and Mies used glass to open interior space in multiple directions. Yet, their approaches also differed, at least in Korn’s view. Believing that the order of modern architecture and of modern culture more generally was based on the rational and objective laws of building art, Korn presented Mies’ perspective as the opening page of his book. Taut’s *Glashauss*, by contrast, was ignored. The term objectivity (*Sachlichkeit*) referred to a norm used to measure the appropriateness of architecture to contemporary life conditions and was generally used to invoke “a straightforward attention to needs” missing in the world of daily life.⁸ Yet, the range of needs that architecture addressed were phenomena open to interpretations that could be poles apart, as will be clear in what follows.

Glass Architecture

At the dawn of the twentieth century, glass was a material that had not yet been architecturally mastered, especially when it was used in sheets of large dimensions. This lack of mastery did not prevent it from performing splendidly in the literature of the time, however. Paul Scheerbarth's sense of the possibilities of glass emerged in criticism of its use in the late nineteenth century. He had observed that the misuse of industrial materials had mechanized the interiors both of buildings and of the individuals who inhabited them.⁹ In reaction, he attempted to redefine their use, to imagine expressions and meanings that were radically alternative. Scheerbarth's most significant and typical literary tactic was "fictional estrangement."¹⁰ Through a series of metaphorical utterances, he created semantic ambiguities that destabilized postulations that had mostly been taken for granted by the general population. The aim was not destabilization for its own sake, but to stimulate his readers' imaginations. One of the most effective ways by which Scheerbarth attempted to loosen the link between words and the world was with the use of glass. For the poet, glass, specifically colored glass, could serve as a metaphoric tool to deform what one perceived. His aim was to free the mind from habitual images in memory. To this end glass became an instrument of imaginative freedom, capable of engendering possible, if unknown environments.

In 1914, after learning about Taut's engagement in the Glass House project, and in the hope of extending the imaginative abilities of architects, Scheerbarth attempted to translate his ideas into architecture. The result was his widely known manifesto, *Glasarchitektur*.¹¹ In the first and strongest chapter of the text he invited architects to break open the closed character of the rooms in which modern men had been constrained to live. He

intentionally juxtaposed architecture with glass to separate buildings from their ordinary, pragmatic definition.

Taut's *Glashaus* was designed with a similar intent, exploiting glass's fictional and estranging potential. In Taut's view, what distinguished glass from other materials was its fictive character. Although it "emanated" from the earth, it could act as if it were intangible. By virtue of its changeable nature, submissive one might say to external or ambient influences, it could mimic "air, water, fire," and overcome the heaviness of the earth.¹² This meant that glass could help the architect elevate the materials of construction toward the immaterial. Furthermore, glass was not only to chronicle substantial transformations of the earth surface, but also to carry "subtle" values and feelings that would stimulate the human psyche. Through colorful luminous surfaces in constant flux, Taut created perceptual ambiguity, which encouraged the impression of an architecture without earthly limitations, agitating the visitors' sense of horizon. After visitors entered the glass hall their contact with mundane reality was suspended.

From a distance the *Glashaus* looked like a gemstone, one that crystalized subsurface potentials. Coming closer, one would notice a substantial transformation from the bottom upwards. Emerging from a sculpted, organically shaped concrete base, the building ended in the crystalline geometry of the polyhedral cupola, which was composed of rhomboids.

The art critic Adolf Behne, who hoped that the renewal of arts would generate a spiritual revolution and change the modern individual, appreciated the *Glashaus* for having given shape to nothing other than its "inner-artistic" purpose.¹³ Taut's building was a purpose-free – *zweckfrei* – work that freed technology from its pragmatic concerns. Taut had

accomplished this by returning to “the primal elements of building.” The wall and the opening exposed the “reality of arts.” The primal elements were enlivened through “pure” artistic means of color, line, and light. Leaving aside all derivative elements, Taut invented his own modern ornament, which was stripped of all excess and was purely expressive. In Behne’s view, Taut subdued construction techniques to artistic expression and converted the art of building (*Baukunst*) into a primitive, cosmic ur-force, capable of transforming the world. For Behne, the *Glashaus* stood as a prototype that allowed him to reconcile artistic creativity with matter-of-factness and construe the principle of *Sachlichkeit* as a synthesis of reason and vision – *sachliche Kunst*. It provided the concrete model of a new kind of architecture closer to crystalline, abstract, non-historical forms, distinct from what he judged to be the pseudo-symbolic buildings of technology, such as Peter Behrens’s well-known AEG Turbine Factory (1908–09).

Reflections

The rejection Mies received in his entry in the 1919 *Ausstellung für unbekannte Architekten* (Exhibition of Unknown Architects) provoked him to reconsider his design strategies.¹⁴ He became increasingly engaged in theoretical discussions, questioning the fundamentals of artistic form-giving (*Gestaltung*), with the hope of more fully understanding what constituted architecture as a work of art. The same year, after the exhibition closed its doors and Taut’s *Alpine Architecture* was already in the hands of its readers,¹⁵ Ludwig Hilberseimer warned his colleagues against the sort of misapplications of Scheerbart’s glass architecture that had already become common. According to

Hilberseimer, Taut and his circle misread Scheerbart by closing their eyes to existing conditions. They sacrificed the essential “constructive premises” of architecture for the sake of their fantasies.¹⁶ Taut’s over-exaggerated speculations about achieving a faultless world and society by simply adorning the Alps with crystalline glass buildings denoted an escapist attitude that gave in to the difficulty of offering concrete alternatives to the present conditions. Years later, Taut admitted with regret that the freedom of work on paper led him to easily overlook the given reality of the material world in which he lived, and ended in an unachievable abstraction.¹⁷

Hilberseimer’s criticism was an open call for a glass architecture based on a more realist and practical understanding of *Sachlichkeit*. Mies would seem to have responded to this call in the Friedrichstrasse competition. For him, the demand for *Sachlichkeit* meant the end of art in architecture. Nevertheless, pure expression was a goal common to both Mies and Taut. To attain an elementary but more realist language, Mies focused on building technology. Explicitly industrial materials and construction techniques came before purely artistic means, as a precondition for architectural design. The basic concern was to conceive the primitive and eternal *ur-form* immanent in modern technology, even if it had been intentionally ignored or masked by the previous generation. In the first paragraph of his manifesto in *Frühlicht*, Mies clarified that “the bold constructive thoughts” that give skyscrapers their strong impression were only visible on buildings “under construction.”¹⁸ Traditional walls concealing steel skeletons completely killed this impression. Technology was important, but no more so than the impression it was capable of creating.

Mies had no doubt that the non-load-bearing glass walls would best represent the constructive principle he saw as the possibility and sign of the times. Even so, he did not forget that glass itself required a unique formal approach, pertinent to its particular characteristics. Otherwise, large glass panes hung on steel frames would kill the façade. “To avoid the danger of lifelessness,” Mies imagined a stereometric mass composed of three polygonal towers. None of the “façade fronts” of the polygonal structure was parallel to the outlines of its triangular site. He proposed angled glazed façades not for the effect of light and shadow but for “a rich interplay of light reflections.”¹⁹ Because he said little more, the precise distinction between his sense of “interplay” and Taut’s dematerialization remains unclear – yet they may have been more like one another than either of their designers cared to admit.

Although the large-format image rendered in charcoal initially brings to mind the technique of chiaroscuro, it derived from a series of photomontages.²⁰ Mies consciously drew on the technique of montage to determine how his glass skyscraper would look in its urban context. At the outset, he inserted a rough outline of his building into the enlarged eye-level photograph looking north along the *Friedrichstrasse*. Then, he cleaned the scene from all distractions of metropolitan life by darkening the surroundings. Finally, to expose the skyscraper, he cropped the frame and meticulously articulated the reflections on its glazed surface. Later in his career, he frequently used the same technique to control and manipulate the settings and optic qualities of his buildings in ways that denied their palpable reality.²¹ In the Friedrichstrasse project, however, his intention was not to create a photo-realistic simulation. By superimposing, dissolving, and cropping he abstracted the existing conditions and located his building on the

Friedrichstrasse that he imagined. He made use of these techniques, as the filmmaker Lev Kuleshov has suggested “to create a new earthly terrain that did not exist anywhere.”²²

Obviously, in the drawing the skyscraper stands out as the most active figure while the city is largely suppressed into a mute background. It is only the building – not the urban context – that communicates an architectural intention. Its glazed surfaces both reflect the sunlight and pick up on the shadows of surrounding buildings, together with those of the interior. Though dark shadows on the surface give clues about vertical volumetric recesses and the slabs behind the glass, the luminous reflections that Mies highlighted obscure any real sense of what exists beneath the surface within the interiors.

In contrast to the edges that sharply define the skyscraper’s geometry, the depth of the glazed surface remains elusive. This perceptual instability imbues the glass and the building with a sense of mystery. As his term “reflection” implies, Mies used glass to liquefy the surface. He exploited the technique of chiaroscuro to emphasize its receptive character, as if it were similar to water. The liquid surface was offered as a cure for modern eyes, tired of looking at congested opaque walls. It was to give depth to pure vision by approaching the limits of sensual experience.

The polygonal shape of Mies’ 20-floor glass building made critics like Carl Gottfried think of a “tower-like gothic force,” and compare it with Hans Scharoun’s crystalline towers in watercolor.²³ The idea that the glass skyscraper aimed to embody the crown of the city (*Stadtkrone*) that Taut advocated has merit, yet only with some qualifications, for Mies was interested neither in colored light nor in any formal distortions that challenged the perspective. Glass, for Mies, was cold and colorless. Nevertheless, the glazed façades

of the skyscraper, like the walls of the *Glashaus*, presented themselves as if in flux. What set the façades in motion, however, was not the colored prismatic structure of glass that transformed sunlight into a shadow-less colored light, but the reflective patina that liquefied the surface. Mies' scrutiny of reflective, watery surfaces reached its peak in his Barcelona Pavilion, which marked the end of the period of experimentation that had started with the Friedrichstrasse project.

Similar to the glazed surfaces of the skyscraper, the reflective walls in the Barcelona Pavilion rendered prospects unclear in both profile and position. Along with the labyrinthine layout of the building, polished glass and marble surfaces transmuted the rational structure into a perceptually ambiguous space. In *Glass in Architecture and Decoration* (1936), Raymond McGrath maintained that Mies polished glass as a “modern counterpart, on a larger scale, to the Claude Lorraine glasses,” in order to create a stereoscopic effect.²⁴ Similar to the eighteenth-century glasses that transformed landscapes into picturesque images, the optics of the pavilion visually dislocated surfaces and figures. Superimposed reflections on the marble and glass relocated elements in a fictive landscape. Robin Evans described his experience in the reconstructed pavilion as a “dreamy disorientation.”²⁵ By virtue of their anamorphic quality, reflective surfaces simultaneously created an aesthetic distance between the pavilion and its observers and intensified the sense of the wider horizon by visually extending the platforms and walls that ostensibly defined the building. The polished, reflective surface was a dream device that opened Mies' building to imagination. But, unlike the hermetic microcosm of Taut, the self-discovery it promoted was not only from within but also in relation to the milieu.²⁶

Material Cause

As a substance on the threshold between materiality and immateriality, glass seemed to signify for both Taut and Mies a repository of profound expressions – even if it was also a material of building construction. Under Scheerbart's influence, both saw glass as a contemplative substance, one that would give rise to psychic aspirations by engaging the imagination. Read through the philosopher Gaston Bachelard's outlook, they were after a poetry of materials that science had destroyed and, correspondingly, engineers could not read. The imaginary aura of glass made it exceptional among other materials and kept it outside the cognitive order. The potential of glass to act in the subjunctive mode of “as if” and to suspend material reality invited both architects to use it as a metaphor that opened the doors of the poetic reality. This common attribute of the *Glashaus* and the Barcelona Pavilion that makes possible to set up affinities between these two buildings and Symbolist, expressionist, Dadaist, surrealist or even existentialist approaches.

For both Mies and Taut, buildings ought to signify more than a simple technical phenomenon (to which they were and still are typically reduced). Their search for pure expression did not intend to purify space of content and context, nor of meaning. They were interested in an iconoclasm that would initiate a search for the images hidden behind or within visible phenomena. To this end they replaced traditional stone with glass. But again, they explored different ways of engaging the world. Taut was interested in the vertical axis. He employed glass to elevate his buildings, as if they embodied an inexhaustible force. His aim was to cause a psychic excitement of airiness that would

evoke the dreams of flight or fall. Mies, on the other hand, sought the liquidity of glass, allowing or imagining a later spread of effects, reflections, or mirrorings. He used glass to give depth to walls – even if it was an exceedingly shallow depth – and to make them, thereby, unfathomable, like a mystery. The eyes that dived into Mies’ walls were to look for pale and vague images of the self on a far horizon. Mies’ portrait as the rational architect has been built upon his apparent apathy toward emotional content. But, using glass he disclosed the material cause to be one that arose from feelings. Hidden behind the veil of reason, glass was the perfect vehicle that allowed Mies, as Evans has explained, to force sensation into the foreground and to push consciousness into apperception.²⁷

To conclude, it is worth noting that Scheerbart’s aim in writing *Glasarchitektur* was to create a *Traumkunst*, not a *Raumkunst*. He believed that in the twentieth century neither reason nor faith would break the eternal silence of infinite space, only dream. With a similarly optimistic view, Bachelard suggested a return to the cosmology of dreams, covert in the primitive zone of “material reveries that precede contemplation.”²⁸ This seems to recall an observation of ancient Empedocles: “It is through the earth that is in us that we know the earth, water through water, through our air the air divine, and through our fire devouring fire.”²⁹

¹ Paul Scheerbart, Bruno Taut, and Dennis Sharp, ed., *Glass Architecture by Paul Scheerbart and Alpine Architecture by Bruno Taut*, trans. James Palmes and Shirley Palmer (New York, NY: Praeger Publishers, 1972), 14.

² The series of projects Johnson mentioned were the Friedrichstrasse Skyscraper, the Glass Skyscraper, the Concrete Country House, the Concrete Office Building, and the Brick Country House. See Terence Riley, "Making History; Mies van der Rohe and The Museum of Modern Art," in *Mies in Berlin*, ed. Barry Bergdoll and Terence Riley (New York: The Museum of Modern Art, 2001), 17.

³ Fritz Neumeyer, *The Artless Word; Mies Van Der Rohe on the Building Art*, trans. Mark Jarzombek (Cambridge, MA: MIT Press, 1991), 46.

⁴ An earlier version of this chapter was published in Matthew Mindrup, ed., *The Material Imagination; Reveries on Architecture and Matter* (Farnham, Surrey: Ashgate, 2015) 155–68, under the title "Glass as Light as Air, as Deep as Water."

⁵ Mies, untitled, in *Frühlicht* 1, no 4 (1922): 122–4, translated in Neumeyer, *The Artless Word*, 240.

⁶ Mies was probably aware that, in the previous issue of *Frühlicht*, Behrens', Mendelsohn's, Scharoun's, and Taut's entries for the Friedrichstrasse Competition had been published. At the time that Mies submitted his text, Taut was about to draft the sketches of his glass skyscraper project for the Chicago Tribune Competition.

⁷ Arthur Korn, *Glas im Bau und als Gebrauchsgegenstand* (Berlin: Ernst Pollak Verlag, 1929).

⁸ As a noun that derives from the adjective *sachlich* and the noun *Sache*, *Sachlichkeit* has been translated in numerous ways: objectivity, thingness, practicality, straightforwardness, functionalism, realism, and matter-of-factness.

⁹ Paul Scheerbart, "Licht und Luft," *Ver Sacrum* 1, no. 7 (1898): 13.

¹⁰ Cornelius Partsch, "Paul Scheerbart and the Art of Science Fiction," *Science Fiction Studies* 29 (2002): 204.

¹¹ It is likely that while Taut was drafting the sketches of this pavilion in July 1913, Gottfried Heinersdorff, a famous glass painter from Berlin, introduced him to Scheerbart. Immediately after Taut built the *Glashaus*, Scheerbart published his *Glasarchitektur*, which Taut accepted as a programmatic account of his building; they even went so far as to dedicate their respective works to each other.

¹² Taut wrote: "Human beings recover gradually their earth, and from this earth they make the carrier of their subtle feelings, the glass. Depending on the excess of their work on the soil, they can carve out the opulence of color in glass by adding metals whose preciousness is ranked according to the luminosity of the color; gold for red, silver for yellow, copper for blue and green, nickel for violet and iron for brown." Bruno Taut, "Glaserzeugung und Glasbau," *Qualität; Wirtschaftliche Bildung und Qualitätsproduktion* 1, no. 1/2 (April/May 1920): 12.

¹³ Adolf Behne, "Bruno Taut," *Der Sturm* 4, no. 198/199 (1914): 183.

¹⁴ Walter Gropius, the organizer of the exhibition, declined Mies' Kröller-Müller project by saying that the architecture they were looking for was "something entirely different." Detlef Mertins, "Architectures of Becoming; Mies van der Rohe and the Avant-Garde," in *Mies in Berlin*, ed. Barry Bergdoll and Terence Riley (New York: The Museum of Modern Art, 2001), 107.

¹⁵ Bruno Taut, *Alpine Architektur* (Hagen: Folkwang-Verlag, 1919).

¹⁶ Mertins, "Architectures of Becoming," 114.

¹⁷ Bruno Taut, *Modern Architecture* (London: The Studio, Ltd., 1929), 71.

¹⁸ Mies, untitled, in *Frühlicht* 1, no 4 (1922): 124, translated in Neumeyer, *The Artless Word*, 240.

¹⁹ *ibid.*

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- ²⁰ Andres Lepik, "Mies and Photomontage, 1910–38," in *Mies in Berlin*, ed. Barry Bergdoll and Terence Riley (New York: The Museum of Modern Art, 2001), 325.
- ²¹ George Dodds, *Building Desire; On the Barcelona Pavilion* (New York: Routledge, 2005).
- ²² Dodds, *Building Desire*, 14.
- ²³ Carl Gottfried, "Hochhäuser," *Qualität* 3, no. 5 (1922/23): 63. Cited in Neumeier, *The Artless Word*, 3.
- ²⁴ Raymond McGrath and Albert C. Frost, *Glass in Architecture and Decoration* (London: The Architectural Press, 1937), 370.
- ²⁵ Robin Evans, "Mies van der Rohe's Paradoxical Symmetries," in *Translations from Drawing to Building and Other Essays* (Cambridge, MA: MIT Press, 1997), 233–78.
- ²⁶ Mertins, "Architectures of Becoming," 132.
- ²⁷ Evans, "Mies van der Rohe's Paradoxical Symmetries," 270.
- ²⁸ Gaston Bachelard, *Water and Dreams; An Essay on the Imagination of Matter*, trans. Edith R. Farrell (Dallas: The Pegasus Foundation, 1983).
- ²⁹ C. G. Christofides, "Bachelard's Aesthetics," *The Journal of Aesthetics and Art Criticism* 20, no. 3 (Spring, 1962): 263.

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