The Roofscape as Locus of Modernity in Giedion and Zola

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As an imperative of interwar avant-garde, the roof became a landscape away from the ground of the city where modernism’s technological and social goals could be actualized. In his 1928 Building in France, Sigfried Giedion identified the nineteenth-century roofscape as a privileged locus, far removed from the pressures of historian representation, where the unconscious building of engineers could engender new aesthetic, spatial and social principal for architecture. A photograph of the Bon Marché department store, accompanied by the caption: “When the nineteenth century feels itself unobserved, it becomes bold …” confirms this conception of the roofscape as an unconscious and uninhabited site, awaiting discovery by Giedion’s psychoanalysis. Such a view is challenged by several passages in Émile Zola’s novels, in which the roofs of large Parisian buildings dematerialize into scenes of mythic nature. These passages reveal the nineteenth-century iron and glass roofscape to be a potentially inhabited space imbued with utopian social visions.

As such, Zola’s conception of the roofscape foreshadows its full modernist actualization as an integral and spatially undivided part of the modern house. The social goals embedded in the roofs designed by Perret, Le Corbusier and Mallet-Stevens also flowed outward from these rooftop vantage points to inflect upon the reading of the city as an organism. While Giedion praised the shared vision of the nineteenth-century engineers and twentieth-century architects, which had produced the roofs of Building in France, Walter Benjamin lauded the constructors who had first gained a new, technologically mediated understanding of the wider city from above. In looking down upon the oppressive reality of the present, they were among the first to glimpse brief images of a utopian future.
“Unobserved, it becomes bold ...”

The roof was a great imperative for the avant-garde architects of interwar modernism. It offered a new and radical spatial experience, a hygienic breath of fresh air in contrast to the chaotic crush of the bourgeois metropolis. While its parapets necessarily marked a physical boundary, the modernist roof celebrated the avant-garde desire for complete transparency, the total “interpenetration” of visual sightlines, physical spaces and social realities. This “roofscape” was often inhabited by modern industrial technology, so wonderfully exemplified by Matté Trucco’s FIAT factory at Lingotto (inaugurated in 1922), where the roof served as a test track for motorcars. Elsewhere, the roofscape sought to reconcile technology and pure nature, an intention Le Corbusier and Pierre Jeanneret described in their 1927 “Five Points of a New Architecture.” Finally, the roofscape could also appear as a surrealist dream, exemplified by the roof terrace that Le Corbusier designed for Charles de Bestegui’s apartment in Paris (1929).

This notion that the roofscape served as a privileged manifestation, a true “locus” of modernity was extended by Sigfried Giedion back into the nineteenth century. Such retroactive projections lay at the heart of his 1928 Bauen in Frankreich, Bauen in Eisen, Bauen in Eisenbeton (Building in France, Building in Iron, Building in Ferroconcrete). Within its stunningly provocative pages (designed in collaboration with László Moholy-Nagy), Giedion linked the “vision” of nineteenth-century engineers to the work of those twentieth-century architects he was actively promoting. While Giedion saw the nineteenth century as an eclectic morass, which he derided elsewhere as the “epoch of the upholsterer,” he argued that the functional-aesthetic possibilities championed by the twentieth-century avant-garde had been present—albeit well hidden—in the preceding century. For Giedion, the iron constructions erected by his heroic engineers had been the “subconscious” of the nineteenth-century.¹

A passage from Building in France confirms the hidden nature of this “subconscious” presence: “When the nineteenth century feels itself unobserved, it becomes bold. Only gradually do the unobserved rear fronts of railroad stations, factories, the unspoiled forms of iron and concrete become visible.”² These moments of “unobserved” boldness were to be celebrated, for in them the


². Giedion, Building in France, 117.
constructive subconscious was given free reign. Often, it appeared during the construction process only to then be concealed behind historicist masks, as in the case of Charles Garnier’s Paris Opéra (1861-1875). Sometimes, it was nakedly displayed in plain sight on buildings not included within the canons of architecture: bridges, greenhouses and train sheds, etc. When Giedion speaks of the “unobserved rear fronts” of railroad stations and factories, he echoes Le Corbusier’s criticism of “eyes that do not see.”

Giedion’s text extended the scope of this blindness to include more public buildings, such as exhibition pavilions and department stores. Of course, the nineteenth century was far from blind to the technological changes provoking rapid transformations in most, if not all, facets of life. Whether new technologies such as iron construction, gas lighting, and photography, to give but a few examples, could be incorporated into the body of architecture was a pressing subject for both practical and theoretical debate. In Giedion’s pronouncement we find not so much an accurate register of the reception of modernity in the nineteenth century as a trace of the twentieth-century’s thirst for psychoanalysis, a desire to find authenticity amidst the conflicting legacy of the not-so-distant past.

While Giedion’s statement was intended to apply generally to a wide range of buildings and other structures, what is most interesting for the present discussion is its specific context. “When the nineteenth century feels itself unobserved, it becomes bold …” captions a photograph of the glass roof atop L. C. Boileau and Gustave Eiffel’s 1876 Bon Marché department store in Paris. Giedion presented this image as evidence of the department store’s role, as a newly invented building type, in advancing industrial production, functionalist design and the use of new materials. While a separate photograph of the interior of the Bon Marché’s atrium also displays the glass roof, slender iron structure and the single, unified space of Boileau and Eiffel’s design, these features are obscured by the fine ornamental detail applied to the interior ironwork. In the exterior view of the department store’s roofscape, their boldness is uncompromised: the photograph provides a close-up revelation of a new urban landscape. Within the framework of Giedion’s teleology, this roofscape served as a locus where the nineteenth century could develop its full, proleptic potential. If the façade had remained wedded to the canons of classicism, the roofscape was an unseen and largely technical problem, situated beyond the clutches of the academy. As such it paradoxically offered the ideal situation for

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the emergence of a new architecture, imbued with its own set of rationalist and utopian goals, so dear to the avant-garde project of the interwar years.

Material immateriality?

The roof was central to the vociferous debates that surrounded the development of iron construction. As Sokratis Georgiadis artfully traces in his introduction to the recent English translation of *Building in France*, the nineteenth-century witnessed a shift between attempts to include (or exclude) iron from the aesthetic canons of architecture to an understanding that new forms, beauty and perhaps even the future of architecture were immanent within iron construction. What had been perceived at first as a threat to academic classicism was later hailed, albeit neither unanimously or unreservedly, as the expression of the modern zeitgeist. For a wide range of important commentators, including Gottfried Semper, Karl Bötticher, Richard Lucae, Constantin Lipsius and A. G. Meyer, such arguments concerning the use of iron were closely linked to the tectonic understanding of the roof.

Gottfried Semper had recognized the roof’s importance, choosing it as one of his four “motives” or “elements” of architecture. However, Semper could not countenance the notion of iron as the generator of a new architectural style. While he accepted its value in engineering structures, its slender proportions lacked the corporeality needed for true monumentality. After all, iron reached perfection as it became infinitesimally thin. Semper’s rival Karl Bötticher saw the roof as not only an important tectonic consideration, but also as the driving factor in the emergence of a new style. Bötticher believed the possibilities for development in stone construction had been exhausted, both in post-and-lintel classicism and the pointed-arched gothic. He saw a third style as a historical necessity. While on certain occasions Bötticher imagined this new style as a dialectical synthesis of classicism and the gothic, on others he expressed his belief that a new material—iron—would bring about an entirely new series of “art forms.” Furthermore, by virtue of its ability to span great openings, iron construction could permit a whole new range of spatial configurations.

At the dawn of the twentieth century, this ability of an iron roof to enclose a new, modern space was echoed by A. G. Meyer, who

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followed August Schmarsow’s proclamation that architecture was above all a spatial art. Iron construction, as exemplified by the Galerie des Machines at the 1889 universal exhibition in Paris, had rendered the spatial divisions brought about by columns and walls obsolete. For Meyer, breadth and depth had replaced height as the dramatic axis; the self-supporting iron roof made possible a “unified space,” defined by free movement and the absence of intervening obstacles. In examples such as the Galerie des Machines, the roof had become the building, its immense and almost immaterial membrane enclosing pure atmosphere. Meyer claimed that iron construction transposed mechanical problems “from the realm of arithmetic operations and algebraic formulae into the vision of graphic forms.” Paradoxically this produced an architecture in which this visible rationality of calculation dissolved into a technological sublime, an immaterial fantasy revealing the enchanting possibilities immanent in industrial production. While positivist rationalism is often accused of disenchanting the world, Antoine Picon has convincingly argued in his writings on the Saint-Simonian movement that the opposite is in fact true. This re-enchantment, so clearly on display in the Crystal Palace and the great Parisian exhibition pavilions was by no means limited to the interior, to the protected space underneath their gigantic iron and glass roofs. It was also to be found on the exterior, in the roofscape.

Giedion’s argument in Building in France relies upon his claim that a common “vision” linked the engineers of the nineteenth century to the avant-garde architects of the twentieth. This connection rested upon a shared boldness in the visible display of pared-down construction, one that yielded a light and dematerialized architecture in which a single, unified field of space flowed between related and interpenetrating volumes. For Giedion, both iron and ferroconcrete structures were permeated by freely flowing air. In the case of the Eiffel Tower, he noted that while its silhouette yielded a monumental sculpture, “all the flesh has been left off … and the air drawn into the interior of the piers now becomes, in an unprecedented way, a formative material.”

Taking great pains to emphasize the lightness of twentieth-century construction, Giedion claimed that Le Corbusier “attempts to translate into the housing form that suspended equilibrium, that lightness and openness that iron constructions of the nineteenth century express abstractly.” However, Georgiadis notes the tenuous nature of Giedion’s connection: to most observers, the ferroconcrete architecture of the interwar years
was highly corporeal. In *Vers une Architecture* (1923, *Toward an Architecture*), Le Corbusier had identified mass as one of his “three reminders to architects,” while Walter Curt Behrendt spoke of the “new style” as a *Materialstil* (material style) in his 1927 *Der Sieg des neuen Baustils* (*Victory of the New Building Style*).14 Against these prevailing views, Giedion set aside the corporeality of concrete architecture in order to construct his genealogy of dematerialized construction.

“Open on all sides …”

This tension inherent in Giedion’s primary argument is echoed by the variety of rooftop views published in *Building in France*. The close-up view of the Bon Marché’s roofscape reveals a hidden world, an inward prospect into the future of architecture, one that was denied to nineteenth-century observers. Only Giedion (and Moholy-Nagy’s) retrospective psychoanalysis permits its assimilation by twentieth-century readers. However, the other roofscape images in *Building in France* produce very different readings of the roof. Giedion follows the progression of the roof in Le Corbusier’s housing designs, which can be seen through a comparison of two villas in Boulogne-sur-Seine. At the Miestchaninoff House (1923-24), the flat roof was not yet incorporated into the body of the house.15 It was a formal gesture that began the dissolution of the housing type’s traditional form. With the 1926-27 Cook House the “ROOF is completely integrated into the organism of the house [which] is no longer a structure whose gable happens to have been shaved off. It is open on all sides and has finally lost the closure of cubic armor.”16

While the accompanying photograph does reveal the openness of the covered roof terrace to its surroundings, it does not testify to the organic interpenetration of spaces so dear to Giedion, who acknowledged elsewhere in *Building in France* that only film, and not photography, could hope to do justice to “the oscillating relations between things.”17 A clearer representation of the roof as an inhabited, spatially contiguous part of the house is provided by a photograph of the exercise area on the roof of André Lurçat’s Guggenbuhl House (1927) in Paris. However in this image a blind concrete wall divides the space of the house from the exterior world, which is visible only as tranche of nineteenth-century mansard roofs with their countless chimneys.18

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15. Giedion, *Building in France*, 177, see fig. 103.


The only differences that Giedion acknowledges between the two conceptions of the roofscape exemplified by the Bon Marché and the Cook House images are matters of agency and visibility. While the twentieth-century roofscapes are deliberate acts of conscious architecture, which produce an inhabited landscape, their antecedents were unconsciously produced by engineers and hidden, both literally and metaphorically, from the inhabitants of the nineteenth-century city. However, Giedion had elsewhere suggested a plausible means of access for the nineteenth-century iron and glass roofscape. An engraving of the Galerie des Machines at the 1867 universal exhibition in Paris shows the elevators which allowed visitors to access a viewing platform atop this structure, the tallest and outermost of the seven rings forming the main exhibition pavilion.¹⁹ In the text Giedion compares the operation of these hydraulic lifts to “the clumsiness of newborn monsters.”²⁰ A second engraving shows the “unusual view into this gallery city of corrugated sheet metal and glass” afforded by this continuous viewing platform.²¹ The engraving chosen by Giedion is a centripetal view towards the centre of the exhibition pavilion; it does not look outwards towards the rest of the city. Only the domes of several Parisian monuments interrupt the unbroken expanse of roof and sky visible in this image, in which the gigantic scale of the pavilion, with its many rings, produces a roofscape that stretches as far as the eye can see.

Visions of Mythical Nature

This possibility of the nineteenth-century roofscape as a landscape where an observer could glimpse some privileged vision was explored in a series of passages in Émile Zola’s novels. In Le Ventre de Paris (1873, The Belly of Paris), the protagonist Florent often contemplates the roofscape formed by the pavilions of Victor Baltard’s Halles Centrales, or central market (1851-74) from the mansard window of his room high above his half brother’s charcuterie. A political prisoner escaped from Devil’s Island, Florent’s thin frame is ill at ease amidst the corpuscular plenitude of the market. The new, Haussmanized Paris, and the Empire that it represents oppress him. His unease extends to the market pavilions themselves, where he works as a minor functionary. Often, Florent describes the Halles as a terrifying and sublime machine, “a steam engine or a cauldron supplying the digestive

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¹⁹. Giedion, Building in France, 128, fig. 36.  
²⁰. Giedion, Building in France, 125.  
²¹. Giedion, Building in France, 125.
Yet strangely, while the market pavilions serve as the material manifestation of Florent’s malaise amidst the gluttonous and self-satisfied bourgeois of Second Empire Paris, they also provide an immaterial surface through which he can project himself elsewhere.

As Florent gazes upon the Halles’ roofscape, the pavilions are dissolved into an evocation of nature, one that goes far beyond simple metaphor. Strangely, from this rare vantage point from which Baltard’s vast market can be seen in its entirety, the otherwise solid and oppressively material pavilions sublimate into an immense and mythical nature. The Halles’ roofscape becomes a still body of water, “sleeping lakes, on whose surface the reflection of a window pane gleamed every now and then like a silvery ripple.”

This natural image is fluid, changing with the seasons and Florent’s moods, transforming iron, zinc and glass into icy Norwegian fjords, “shimmering fountains of light” or snowy Arctic wastes. Florent’s visions confirm the extent to which the iron roofscape served as a rich and fertile territory for the imaginary.

A similar rooftop dematerialization occurs in *Au Bonheur des Dames* (1883, *The Ladies’ Paradise*), Zola’s 1883 homage to the *grands magasins*, the Parisian department stores so emblematic of modern commerce. Under the direction of its owner Octave Mouret, the Bonheur des Dames disorients its clients in a maze of commercial temptation, first producing and then satisfying their pleasures. While the anonymous architect of Au Bonheur had used cast iron and glass throughout the *grand magasin*, this supremely rationalist architecture was cloaked in a rich layer of ornament. Zola makes clear the dangers inherent in this lavish decoration: the higher a visitor ascends in the Bonheur des Dames (and the deeper a reader penetrates into Zola’s novel), the more the architecture of the department store becomes an agent of Mouret’s commercial seduction.

However, if the architecture of the *grand magasin*’s interior produced a temple for the worship of the capitalist fetish, a different story unfolds above, upon its roof. In the penultimate chapter, the novel’s heroine Denise meets her friend Deloche in one of the department store’s attics. Leaning out a window, pastoral memories of their native Normandy began to appear in the roofscape:

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Their voices died away, and they remained there, gazing fixedly at the sunny lake of the window-panes. From this blinding water a mirage rose up before them; they could see the endless pastures, the Cotentin soaked with breezes from the ocean, bathed in a luminous haze which was melting away on the horizon in the delicate grey of a water-colour. Below them, beneath the colossal iron framework, there was the roar of the buying and selling in the silk department, the reverberation of the machine at work, the whole shop vibrating with the trampling of the crowd, the bustle of salesmen, the life of the thirty thousand people packed together there; but, carried away by their dreams, they felt this deep, muffled roar with which the roofs were resounding, and thought they were listening to the wind from the sea blowing over the pastures, shaking the tall trees as it went.

This immense roofscape offers a clearing, a large void in both the city and in the novel where a dream can materialize. For Denise, this is an emancipatory moment, for it offers her, if only for a short while, the possibility of escape from the two men who wish to confine her: Mouret within his capitalist enterprise and Zola within his naturalist novel. The same was true for Florent in *Le Ventre de Paris*. Since his return to Paris he had prepared an insurrection against Napoléon III’s regime. The failure of this coup was doubly predetermined, in part by the omnipotence of the “Party of Order” and otherwise by the hereditary weakness, which dominates the genealogy of Zola’s novels. Florent seems resigned to his catastrophe; only in his moment of rooftop fantasy does he escape from the oppression of his destiny to find true freedom.

**Wish Images**

The utopian undertones of such appearances cannot be denied; what Florent and Denise see is an impregnation of industrial modernity with images of archaic, pastoral nature. These co-presences echo Walter Benjamin’s 1935 formulation of the *Wunschbild* (wish image). Simply, these were “images in the collective consciousness in which the new is permeated with the old.” Wish images express a desire to break with that which the present finds to be most outdated: the recent past. Such a rupture throws the imagination back upon primal origins. As Benjamin

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stated, “in the dream in which each epoch entertains images of its successor, the latter appears wedded to elements of primal history Urgeschichte—that is, to elements of a classless society.”27 These “ur-elements” were generally harvested from the “ur-reserves” of nature and mythology and reveal a desire, in the words of Susan Buck-Morss, “to ‘return’ to a mythic time when human beings were reconciled with the natural world.”

The wish image was most commonly understood as ornament, as motifs taken from mythology or nature applied to the products of modern industry. For Benjamin, these ur-images could not offer a picture of the future. They could, however, provide a stimulus towards change and a suggestion of the social goals towards which the new means of production must be deployed. At first glance, the wish image appears to offer Florent and Denise only a moment of respite within the claustrophobic space of nineteenth-century Paris and also within the pages of Zola’s literary universe. Yet the utopian image that answers their gaze in the roofscape of the markets and the department store was nevertheless far more real than any other avenue available to them. Zola himself was trapped within his own realist style, disavowing political engagement throughout his Rougon-Macquart cycle (which includes both Le Ventre de Paris and Au Bonheur des Dames).

Just as the appearance of the rooftop wish image in these novels provided an ephemeral yet somehow more real possibility of freedom for Florent and Denise, it also hints at the more radical and utopian side of Zola’s final novels, as well as his personal defence of the wrongly imprisoned Captain Dreyfus.

In other novels, Zola explored the roof as a vantage from which the entire city could be observed. Martin Bressani has noted how Paris appeared to Hélène, the protagonist of Une page d’amour (1878; A Love Episode) from her elevated viewpoint in suburban Passy.29 Before her gaze, the appearance of the city changes so as to reflect her own subjective emotional state. Bressani notes the co-incidental construction of Auguste Perret’s 25bis Rue Franklin apartments in 1904 on a similar site in Passy. Perret himself lived in the penthouse and often praised the elevated view offered by towers. From such a perspective, the unknowably fragmented reality of the modern city could be reinterpreted as a vital and teeming organism, pulsating with natural life.


Radical Knowledge

Giedion’s *Building in France* hugely impressed Walter Benjamin, who wrote personally to congratulate the author. As Detlef Mertins explains, both Giedion and Benjamin were enthralled with the possibilities offered by elevated views. While they commonly referred in their examples to freestanding structures such as the Eiffel Tower and the Pont Transbordeur in Marseilles, many of the same qualities—especially an elevated landscape of iron—were present atop the Halles, the Bon Marché and other department stores as well. Both Giedion and Benjamin were enthralled by the interpenetration of spaces afforded by a dematerialized architecture. As Hilde Heynen notes, this interpenetration was clearly understood to have a social component; the erasure of boundaries was to be applied to both physical obstacles and societal hierarchies.30 As we have seen, this embedded social component in the rofoscape was clearly present in Zola’s novels.

As Mertins explains, in *Building in France* Benjamin gained a slightly different perspective on the city and the iron construction that Giedion. Benjamin certainly admired the “radical knowledge” Giedion harvested from the elevated viewpoints offered by the Eiffel Tower and the Pont Transbordeur in Marseilles. Through the imperfect mediation of photography, Giedion could indeed use these structures as vantage points to see the future in the past. For Giedion this futuricity lay in the structure itself, within the physical pattern of solid and void that characterizes iron construction. Benjamin saw something else: the view of the city afforded through the iron structure. Such views could reveal the “magnificent potentiality locked within the reality of alienation and exploitation” visible below in the working class quarters of Paris.31 While Giedion praised the engineers’ vision that has produced the glazed rofoscape, Walter Benjamin lauded the constructors who had first gained a new, technologically mediated understanding of the city from above. This understanding transformed the overcrowded city from a site of daily oppression into a hopeful image of future emancipation. Zola’s rooftop scenes span these two categorizations: in them the oppression of the tumultuous city is overcome by images of a utopian future. In *Le Ventre de Paris* and in *Au Bonheur des Dames*, it is the rofoscape of the building itself that is transformed into an image of utopian emancipation; in *Une Page d’amour*, it is the turn of the city to undergo its own metamorphosis into a new field of social possibility.


Given the several conceptions of the roof unconsciously presented by Giedion in *Building in France*, it is hardly surprising that its final image, of the roof atop Robert Mallet-Stevens’ Alfa-Romeo garage (1926) on the rue Marbeuf in Paris, reveals yet another. Giedion’s caption praises the roof’s programmatic utility:

> The Broad surfaces at the top level of the large cities will be used for sports, gardening, and eventually probably also for landing strips for aircraft. For hygienic reasons alone, steep roofs will soon be forbidden in large cities. Flat ROOFS will serve recreational purposes and offer points of rest for the eye accustomed to today’s disruptions.³²

Here Giedion is presenting the roof as radical knowledge of the future, a futuricity that is embedded within the building itself, just as it had been in the Eiffel Tower and the Bon Marché. Yet when we look at this photograph, in which the roof is reduced to a blank slate, interrupted only by irregular cracks and its drains, we cannot help but turn towards Benjamin’s view. For this image offers a sweeping panorama of Paris, a radical view of the city’s dense multitude of roofs made possible by the vantage point of the modernist roof.

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³² Giedion, *Building in France*, 204. See Fig. 139, “Roof of the rue Marbeuf Garage, Paris 1926.”