

Walter Benjamin and Architecture

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Chapter 2

Looking backward, looking forward

Delightful delays

Gevork Hartoonian

... just as the magnificent vistas of the city provided by the new construction in iron for a long time were reserved exclusively for the workers and engineers, so too the philosopher who wishes here to garner fresh perspectives must be someone immune to vertigo – an independent and, if need be, solitary worker.

– Walter Benjamin

Hard matter

The introduction of mediatic techniques into architectural discipline has raised the following fundamental question, how is the representational tradition of architecture to be negotiated using a technique that pushes the aesthetics of abstraction to a new level? To be more specific, what role does the tectonic play in current architecture? These are important questions because since the eighteenth century *technique* has undermined the symbolic dimension of architecture, and has emerged as the main form giving force in art and architecture. This last point is the theoretical underpinning of Walter Benjamin's discourse on construction, the many facets of which are elaborated in the *Arcades Project*. What makes Benjamin's position different from that of many other thinkers who had also discussed the subject¹ is that, although Benjamin sees technique as detrimental to the traditions of architecture, nevertheless, he makes the argument that it is through technological development that the most archaic dimensions of architecture might resurface.

Starting from this aspect of Benjamin's discourse, this essay posits the formative function of themes such as wrapping and roofing as one consequence of the introduction of mediatic technique into architecture.² Another one can be pursued in the distanciation (delay) of the realm of creativity (design) from construction to the point that through mediatic techniques the act of design has emerged as the sole construction site for architects.

Reading the book in a contemporary situation one cannot but ask what should be done with Benjamin's 'incomplete project', the *Arcades Project*. Was it truly 'incomplete' for him? What we can claim to know is Benjamin's approach to the historical past, and the temptation to turn it against his own work: to blast the material out of its historical crust, and reassemble it based not on any preconceived image or idea of the past, but according to the demands of the present. Only in this light is what is negative in the past not thrown away. Following Benjamin, one should rather highlight a positive element in the past from which something new could emerge.³ If this were a plausible strategy, what would be the task of an architect in confronting the body of a work that in more ways than one reflects on issues formative for contemporary architecture? More specifically, how should one appropriate Benjamin's ideas on 'construction' in the present situation when mediatic images have drawn architects' attention to the surface? This is important not only because of Benjamin's suggestion that technological transformation affects one's perception of the object, but because the present shift to surface demands, among other things, revisiting Gottfried Semper's ideas on cladding and its relation to the constructed form. Focusing on section 'F' of the *Arcades Project*, this essay will explore Benjamin's contention that construction was the unconscious of the nineteenth century. The intention is to demonstrate the criticality of the theme of 'construction' for the present state of architecture.

Starting from the dialogical rapport that Benjamin establishes between 'construction' and destruction, it is not too far-fetched to suggest that, in its departure from the symbolic world, technology carries the traces of the past. The dream world created by technological development also provides the awakening seeds of the same dream. According to Benjamin

in the dialectical image, the past of a particular epoch ... appears before the eye of ... a particular, present epoch in which humanity, rubbing its eyes, recognizes precisely this dream as a dream. It is in this moment that the historian takes upon himself the task of dream interpretation.⁴

If one agrees with his proposition, how should one discuss the present state of technology – though this time experienced by the soft surfaces of the telecommunication media – that has put architects in the position of being 'asleep'? Should an architect draw a one-to-one correspondence between design and the new formal principles dictated by computer technologies? Or, should s/he search for the reconstruction of architecture itself, and ask, what is architectural in architecture of the now of the present? More importantly, is it correct to reactivate the residue of 'dream work' of the near past, the emancipatory

forms of construction emanating in the nineteenth century, as a recipe for current architectural problems?

These questions are important because the fog spreading over the discipline of architecture today differs from that which Benjamin saw arise out of the dichotomy between engineers and architects, on the one hand, and his belief that, both in art and architecture, technique determines the formal. Le Corbusier had also underlined the rivalry between architecture and the engineer. He wrote, 'engineers are healthy and virile, active and useful, moral and joyful. Architects are disenchanting and idle, boastful or morose.' And this, according to Le Corbusier, was why architects 'will soon have nothing to do'.⁵ Having said this, one should also say the obvious, that the implied dichotomy between these two professions has now lost its historical force.

Taking up Benjamin's second observation, mentioned above, this chapter would like to argue that the 'thingness' of architecture has the potentiality to confront the present drive for the full commodification of the life-world. What is of interest here is the 'thing' quality of architecture and the ways in which it differs from the materiality of a shirt or even a work of art, painting for one. Architecture is *still* a *métier*, a craft (the putting of things together), the artefacts of which give form to a landscape, the many dimensions of which measure the aesthetics and ethical values permeating the life-world. Contrary to other works of art, architecture, on the one hand, is deeply woven into the web of various production activities that are essential for the capitalist cycle of production and consumption. The implied paradox is suggested in Benjamin's text. However, the material reality of the first decades of the twentieth century was not ripe enough to illuminate the architectonic implications of the suggested paradox. What it was able to do was to highlight the aforementioned conflict between engineering and architecture. However, it is the expressionistic quality of the computer-generated forms today that qualifies a discussion of construction by which one can demonstrate the specific changes taking place in architectural form: the shift from object to image and from the tectonic to the surface effects.

Obviously, the argument presented here differs from what Benjamin formulated in the 'Expose' of 1935. He wrote:

Just as Napoleon failed to understand the functional nature of the state as an instrument of domination by the bourgeois class, so the architects of his time failed to understand the functional nature of iron, with which the constructive principle begins its domination of architecture.⁶

Benjamin's statement supports an argument in which iron is seen as the second condition necessary for the emergence of the arcades. Benjamin does not see architecture from the point of view of an architectural historian. Nor does he discuss buildings in terms of the traditions of formalism. His rumination on the interior space, *flaneur*, and the arcades of Paris; his opinion on what architects have said or theorized about architecture; the tactile sensibilities he weaves into the surface of materials covering the interior or exterior

of buildings visible in many cosmopolitan cities; all these provide him with a picture of artefacts that are constructive for the architecture of the city. It would be wrong to take the same picture for the city itself. Benjamin seemingly was interested in setting the tone for the construction of the coming Metropolis of Modernity. Obviously, the city is not the subject to be explored here. Rather what should be addressed is an understanding of the 'utility' implied in Benjamin's approach, which was also entertained in engineers' designs for bridges and exhibition halls, the constructive quality of which made early modern architects nervous. The idea of utility had already sneaked into Fourier's phalanstery, whose organization was seen as a machine par excellence. If in the nineteenth century 'construction plays the role of subconscious', an idea Benjamin borrowed from Sigfried Giedion,⁷ how did architects remain blind to the aesthetic of 'utility'?

In section 'N', Benjamin returns to Giedion, criticizing the historian's inclination for historicism. He wrote: 'just as Giedion teaches us to read off the basic features of today's architecture in the buildings erected around 1850, we, in turn, would recognize today's life, today's form, in the life and in the apparently secondary, lost forms of that epoch.'⁸ Benjamin approached the question raised before from the point of view of architecture's connection to the institutions of power. Both the Empire and some architects, according to him, saw iron as a technology that could contribute to the revival of Greek architecture. The reader is also reminded of Carl Botticher, and the German architect's association of the art form of new construction with the trabeated principles of Greek temples. The association is registered in Benjamin's interest in *technique* – motivated either by the materiality of stone or iron – which concept was seen as the form giving aspect to architecture. Nevertheless, and for good reason, Benjamin came short of considering the long traditions of representation in architecture to be the major reason that most architects of the nineteenth century were unable to fully entertain iron in their design. There is no room here to discuss this last point in detail. What should be dealt with is the architects' theoretical entanglement with the nineteenth-century historicism, Botticher's and Semper's theory of the tectonic, in particular.⁹

What both Botticher and Semper were concerned with was the use of iron in construction of a space whose art form, according to their theories, should shine out of the embellishment of its core form.¹⁰ The tectonic, 'while deeply concerned with ontological issues of structure and materials, was also conceived through the terms of modern subjectivity and artistic freedom'.¹¹ Botticher, for one, advised architects to seek a new style in iron, mainly because its materiality had the potential to span wider spaces, which was not possible using stone construction techniques. Semper, instead, remained sceptical of the stylistic implication of the naked iron-frame as used in John Paxton's Crystal Palace. Still, George Heuser, to mention another nineteenth-century architect, responded to Semper's scepticism by proposing a composite structural support system that was made of hollow bodies. Nevertheless, in addressing the principle of frame and infill, Botticher and Semper were primarily concerned with the artistic articulation of the structural members informed by the early construction motives, *urform* as Benjamin would say.

One might argue that the time was not yet ripe for the nineteenth-century

architects to entertain the concept of utility, and unfold an aesthetic sensibility that would soon find its architectural language in the *Neue Sachlichkeit* permeating the architecture of the 1920s.¹² Even in 1921, the Dutch architect J. J. P. Oud argued that

it comes about that the products of technological progress do not find immediate application in building, but are first scrutinized by the standards of the ruling aesthetics, and if, as usual, found to be in opposition to them, will have difficulty in maintaining themselves against the venerable weight of the architectural profession.¹³

On this, Oud was not alone. Emphasizing the importance of programme, function, and purpose, during the years spanning 1914 and 1932, architecture was generally sought for its capacity to give form to the demands of the modern lifestyle. This was the ethos by which Hermann Mathesius, for example, believed one could eliminate the distinction between architecture and a utilitarian object. One is also reminded of Karl Kraus's saying that what he and Adolf Loos did was to show a difference between an urn and a chamber pot.¹⁴ Writing in 1927, Walter Behrendt, instead, set the tone for underlining the importance of construction. In his opinion, 'the new architectural attitude no longer regards form simply as an aesthetic problem, but at the same time, and, decidedly, as a constructional one'.¹⁵ He goes further, defining construction not in terms of a dogma or for that matter a 'product of purpose, material, and construction. Rather, it should be taken quite literally: "to construct" [*konstruieren*] derives from the Latin verb *construere*, meaning to "to invent, to deduce, to shape, to form, to design"'.¹⁶ Against the minimum material body offered by iron construction, most early modernist architects found themselves in a situation that had no choice but to conceive of architecture alongside the aesthetic traditions induced by the culture of stone;¹⁷ or else, to modify the constructive potentialities vested in steel, and adhere to a concept of construction that was coined by Otto Wagner. In the 1902 version of his famous text, *Modern Architektur*, Wagner wrote that 'construction always precedes, for no art form can rise without it, and the task of art, which is to idealize the existing, is impossible without the existence of the object', by which he meant utility and realism.¹⁸

Delay

The idea of 'delay' in the nineteenth-century architects' appropriation of iron is implied in Benjamin's writing. One reads in the *Arcades Project* that:

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. And the experience of such a society – as stored in the unconsciousness of the collective – engender, through interpretation with what is new, the utopia that has left its traces in a thousand configurations of life, from enduring edifices to passing fashions.¹⁹

Here Benjamin seemingly alludes to his idea of wish-images in which the 'new' presents itself in the guise of essential forms (*urform*), and aspects of culture that are experienced collectively. Thus he suggests that fashion, a major epitome of modernity, is nothing more than the eternal return of the same. By the same token, the work of engineering is perceived as future-oriented because of the work's ability to recollect a logic of making that prevailed in primary societies. If the work of engineering embodied the seeds of the next century's architecture, what was the 'picture' of wish-images that the nineteenth-century architects dreamed of?

Consider Henry Labrouste's Bibliotheque Sainte-Genevieve, a building familiar to Benjamin. In the main reading room of this library, the stone pedestals receive iron columns that are shaped and detailed in the classical form of a flute. More dramatic are the cast-iron arches of the main reading room. The exposed truss of these arches juxtaposes structural logic with a classical sense of ornamentation. Similar to a burdened row of leaves forming a cyma and abacus, the floral forms, cut out of the fabric of the truss, are meant to increase the inertia of iron. Kenneth Frampton observes that 'Labrouste strove for a consistent tectonic expression, one in which the ornamentation would be derived directly from the process of construction'.²⁰ Robin Middleton reminds us that, besides its utility, iron was used for symbolic purpose. According to Middleton, Labrouste's work was 'aimed not just at making evident the structural system, but to present it as part of a civic décor appropriate to the nineteenth century'.²¹ One is also reminded of the ways in which 'nature' was used to domesticate the tactile and visual aspects of new materials.

Important for the argument presented here, another building should be considered. The idea of masking the structural members with natural forms reappears in the tectonics of the frame and infill evidence in August Perret's 25 bis rue Franklin built in 1903. Here the concrete structural frame is covered with sunflower ceramic infill, drawing one's attention to the duality between the core form and the art form.²² In these examples, the tectonic speaks both for the form emanating from construction and the values of the Enlightenment, in particular the century's desire to juxtapose Nature with History: the outmoded with the new. Seemingly, such an idea of montage was natural for the nineteenth century

when Grandville presents a new fan as the 'fan of Iris', when the Milky Way appears as an 'avenue' illuminated at night by gas lamps, when 'the moon (a self-portrait)' reposes on fashionable velvet cushions instead of clouds, then history is being secularized and drawn into a natural context as relentlessly as it was three hundred years earlier with allegory.²³

It is not too far-fetched to say that one of the intentions of these architects was to 'return' to a mythic time when the natural world was not separated from the experience of everyday life. The cladding of rue Franklin disguises the frame and at the same time expresses the desire for a repressed state of the natural frame depicted in Laugier's hut, as depicted on the cover of his famous essay on architecture. The same phenomenon is applicable

to Le Corbusier who had to sell the idea of the Dom-ino frame in reference to Greek architecture. Both Le Corbusier and Perret welded the new with the mythical past: one by turning to Greek culture, the childhood of civilization and the loci of the eternal *logos*, and the other by returning to Nature, that is, the common ground for primal experience. Charging these buildings with the idea of wish-images, the idea is to recall Benjamin's discourse in which architecture is presented as a technical form. Similar to the correspondence between the archaic-symbolic world and that of modern technology,²⁴ form in architecture could internalize the 'constructive style', debunking the symbolic world proper to the material of building.

If engineers could entertain iron in conjunction with a utilitarian logic vested in artefacts of primitive societies, architects, instead, had to give lip service to the long history of their profession, that is, representation, and the fact that architecture stands somewhere between a utilitarian artefact and a work of art, to recall Adolf Loos's famous distinction between architecture and art.²⁵ Thus, in the nineteenth century, buildings could not reach the stage where the form is emancipated from art (the symbolic world Benjamin says), even though a start was made towards seeing 'architecture as engineered construction'.²⁶ Benjamin asks: 'are not all great conquests in the field of forms ultimately a matter of technical discoveries?'²⁷ Seemingly, it is not clear what Benjamin means by 'the field of forms'. Nevertheless, he might have been making a general statement based on his own observation of the nineteenth-century exhibition halls where the duality between the art-form and the core-form (essential for the tectonic) is put aside for the sheer expression of structural elements: the form of load and support. The implied esteem for 'nakedness' might be associated with Mies van der Rohe's aspiration for 'almost nothing', if not with the work of Russian constructivists. Were these works alluding to the actualization of the nineteenth-century architects' wish-images? If so, how should one discuss the problematic of cladding in today's architecture when the *object* is transferred into an image, a virtual one in most cases?

The dialogue between nakedness and cladding needs to be addressed. Semper emphasizes dressing,²⁸ both in terms of the import of weaving skills for the origin of architecture, and the fact that the surface of cultural representation is akin to the idea of fashion. These ideas set the tone for Benjamin to argue that fashion is 'without doubt the newest, but only where it emerges in the medium of the oldest, the longer the past the most ingrained'.²⁹ In fashion, but also in nineteenth-century architecture, the contact between the old and the new was mediated in reference to the natural world. Similar to the use of floral elements in the girders of the Bibliotheque Sainte-Genevieve, Benjamin's remarks on fashion enumerate occasions when natural materials were introduced to women's clothes. Benjamin argued that feather or cork in women's clothes functioned similarly to the floral elements used in *Jugendstil's* design for iron gates. Again, one is reminded of the use of organic elements for domesticating the new. Although Benjamin's conclusion on this subject directs his reader towards the erotic dimension of fashion, I am more inclined to underline the use of surface, both in fashion and architecture, as the site where the cultural communication takes place.

If a cyclical relationship between old and new has been the *modus operandi* of fashion, in contemporary architecture, relieved from the tectonic expression of the structure,³⁰ the surface becomes the epitome of fashion: a state of autonomy that fashion can't enjoy fully mainly because of its dichotomous bond with the organic; that is, the body. Nudity is fashion's death knoll. In architecture, nudity has been architects' dream world since the nineteenth century,³¹ one awakening moment of which, I would argue, can be pursued in Mies's steel and glass architecture. Was his architecture truly naked? The welding used in most of Mies's details is highly crafted, though 'of an industrial sort'. Yet 'each operation disappears with the next'. Michael Cadwell observes that, in the Franks House, 'the steel fabricators brushed the steel's surface free of burrs and the finishers painted the steel with successive coats of flat white enamel'.³² Mies is famous for asking for the columns of the National Gallery in Berlin to be painted over and over again. Tectonic embellishment is as essential for architecture as 'cut' is for fashion.

If the aesthetic dimension of fashion is conceived in reference to the topography of the body and the preceding styles, in architecture, according to Benjamin, both the formal and the aesthetic are motivated by technique. First the formal: the passage on 'iron construction' starts with numerous remarks by Botticher and his concern for the choice of load and support appropriate to iron as a structural material. Benjamin also recalls the German architect's suggestion that in regard to the new system of iron construction 'the formal principles of the Hellenic mode must find acceptance'.³³ Benjamin seemingly uses this analogy to highlight the problematic of form and matter. He does this, however, in association with a discussion that focuses on the relationship between art and architecture. To him, iron as a product of a systematic industrial conversion of natural material into building material initiates a relationship between matter and form that is different from that resulting from the conversion of stone to ashlar, or clay to tile. Recalling A. G. Meyer, Benjamin notes that, with iron, 'building material and structural form are, as it were, more homogeneous'.³⁴ Here the word 'homogeneous' suggests the absence of 'art' in the iron and steel structures erected during the nineteenth century. Benjamin's use of the clause 'as it were', however, suggests that he was not sure if architecture could live on a constructed form devoid of any representational dimension. To put it differently, is there any *excess* involved in the conversion of matter to form, let alone its articulation into the tectonics? Were not some motifs of Gothic cathedrals spread over the mesh of iron and glass covering the surface of the Crystal Palace? The desire to cancel out representational or symbolic features from the elements of load and support in iron structures is consistent with Benjamin's concern for the loss of aura through mechanical reproduction of the work of art. Thus, we note his speculative approach to earlier periods and the fact that 'technical necessities in architecture (but also in all other arts) determined the forms, the style, as thoroughly as they do today'. Does not Benjamin's sympathy with the work of engineers relate to his deterministic approach to technology?

Matter resurfaced

At the beginning of the notes collected under the heading of 'Exhibitions, Advertising, Grandville', Benjamin observes that, from the Middle Ages until the beginning of the nineteenth century, art has enjoyed a developmental tempo, securing its autonomy from technical innovations. Accordingly, the spread of fashion since 1800 has affected the above autonomy, and more importantly 'the possibility now arises that art will no longer find time to adapt somehow to technological process'.³⁵ His statement indeed confirms my previous observation concerning the delay in architecture's internalization of the new construction techniques into the representational mode of building. The best a nineteenth-century architect could do was to debunk the theory of imitation (that is, making analogies between the Greek temple and a wooden hut) and pursue Botticher's theory in which the form is seen as the artistic expression of material and technique. If this is not exactly what Benjamin would have recommended to architects, nevertheless, he was keen to use Adolf Behn's criticism of *Jugendstil*, and the latter's failure to understand that historical problems cannot be resolved through design. He wrote:

By no means was Jugendstil ridiculous in its original intentions. It was looking for renewal because it clearly recognized the peculiar conditions arising between imitation Renaissance art and new methods of production determined by the machine. But it gradually became ridiculous because it believed that it could resolve the enormous objective tensions formally, on paper, in the studio.³⁶

To tackle the difference between the historical style and the constructive style, both Semper and Botticher had to empty architecture of its symbolic basis. Botticher argued that architecture has exhausted the spatial and constructional potentialities of the culture of the stone at work since the Renaissance. Even in the light of Botticher's theory, architects still could not articulate the art form of a steel structure that would stand for the relevant homogeneity permeating the load and support elements of the great exhibition halls of the nineteenth century.

Is the naked use of iron in load and support elements in these structures devoid of aesthetics? Benjamin's answer to this question is *no*. Referring to the Galerie de Machines, Benjamin reminds us of a sense of horizontality expressed in the roof. Again he recalls A. G. Meyer whose explanation for this phenomenon touches issues that are essential to the tectonic culture. According to Meyer, 'everywhere the demand for continuous horizontal extension is so great that the stone arch and the wooden ceiling can have only very limited applications'. In Gothic structures, he continues, 'the wall turns into the ceiling, whereas in iron halls of the type ... represented by the Gallery of Machines in Paris, the ceiling slides over the walls without interruption'.³⁷ Interestingly, Meyer's statement draws Benjamin's attention to the roof as the most essential component of arcades, and indicates that the etymology of 'hall' alludes to the element of roof. Through Meyer Benjamin also noticed the difference between what is a covered and what is an enclosed space: a distinction critical for any discussion of the way technique can change the form

in architecture. This last point is important since, for both Botticher and Semper, the aesthetic proceeds from utility, that is, transformation of a constructed form into the tectonic. Benjamin does not speak of the horizontality expressed in the roof of Hall de Machine in aesthetic terms. Nevertheless, he was aware of Heinrich Wölfflin's speculation on line and horizontality as the harbinger of a new aesthetic vision prevailing throughout the nineteenth century.³⁸ Rejecting formalism, Benjamin had this to say about the theoretical orientation of a collection of essays published by Viennese art historians:

... such study is not concerned with objects of pleasure, with formal problems ... Rather, this sort of studious work considers the formal incorporation of the given world by the artist not a selection but rather always an advance into a field of knowledge which did not 'exist' prior to the moment of this formal conquest ... We should never be interested in 'problems of form' as such, as if a form ever came into existence for the sake of the stimulus it would produce.³⁹

More importantly, such a vision recalls the relationship between 'enclosure' and the roof: the two elements essential for the tectonic. Benjamin wanted to relate Meyer's observation to the principle of montage. One could reiterate Meyer's reflections on the relationship between the roof and the enclosure and argue for the importance of construction for the present architecture. This discussion also entails the specificity of the conversion of matter into form; although mediatic techniques have opened a different perceptual field, architectural form is still realized through techniques that can transform historical style into constructive style.

Here I would like to draw two conclusions from my excursion into Benjamin's notes on construction. First, my remarks concerning the delay in nineteenth-century's architects' appropriation of the formal potentialities embedded in the iron construction relate to the state of architecture after Mies. His ruminations on 'less is more' and 'almost nothing' present an image of architecture that problematizes the relationship between what is structural and what is clothing. Mies did indeed give a new twist to Semper's theory of cladding, reversing the modernist understanding of the relationship between column and skin. As noted before, Le Corbusier's Dom-ino frame unfolds an aesthetic vision, which overcomes the vertical datum of column that was seen as an obstacle to the aesthetic of the free-façade and the horizontal window. The glass enclosure in the National Gallery in Berlin, instead, recalls Semper's speculation on the origin of architecture in which the support elements of four carpets enclosing an interior space are placed *behind* the carpets. And yet, one should address the historicity of Mies: his later work could be read in the light of the debate arising from the question, 'In what style should we build?', posed by Heinrich Hubsch in 1828.⁴⁰ The nineteenth-century architects' search for a style proper to steel and glass comes full circle in Mies, whose architecture is not about form but a constructed form that responds to the tropes such as inside/outside, mass/volume, and a sense of lightness, that were essential for differentiating the Hall de Machine, for example, from the work of historicist architects. Mies's later work epitomizes

the architectonic issues implied in Benjamin's remarks on the conversion of natural material into building material, and the contrast between historical style and constructive style. At the same time, Mies's architecture deterritorializes the modernist understanding of architecture; his work has left most contemporary architects with no choice but to return to the ethos of historical eclecticism, or to the tradition of the historical avant-garde, now approached through digital techniques.⁴¹

Second, Benjamin's assertion that technique determines the formal in art and architecture needs a detailed discussion of the way mediatic techniques transform form in architecture. That one's perception changes through technological transformation needs no further elaboration here. In his seminal essay, 'The Work of Art in the Age of Mechanical Reproduction', Benjamin discusses the subject in reference to film and photography. Following this line of argument, Andrew Benjamin underlines the import of technique to differentiate the particularity of form in painting and photography.⁴² But the question is: how do perceptual changes transform form in architecture? As noted above, Benjamin discusses the subject in the following doubling: the conversion of natural material into building material, and the contrast between historical style and constructive style. Underlining these ideas, I want to stress the criticality of representation in the realization of constructive style, that is, the tectonic, in architecture. But how should one discuss the impact of mediatic techniques on the tectonic?

In the first place, a distinction between electronic techniques and the technologies that transformed form in the architecture of the nineteenth century is fundamental. While electronic techniques have shifted most architects' perceptual horizon from the object to the image, the techniques and materials involved in the production of architectural form are still the same, if not a modified and improved version of techniques essential for differentiating modern architecture from the nineteenth-century historicism. This is not to suggest that Greg Lynn's discourse on the blob, for example, should not be considered as part of the perceptual changes taking place through mediatic techniques, nor to deny the impact of these techniques for 'the expansion of the spatial imagination, the radical break with a hierarchical design approach, and the introduction of different disciplines into the design process'.⁴³ The point is to discuss the implication of Lynn's ideas on 'surface effect' for the tectonic.

What is intriguing in biomorphic forms is the juxtaposition of *mechanicus* and *organicus*,⁴⁴ especially when these forms are read in the light of Benjamin's discourse on the actuality of the present. There are two issues involved here: first, the biomorphic forms generated through computer programming still pursue the constructive logic implied in the Dom-ino frame. Is not the fold produced through the superimposition of the surface on a Cartesian grid system? This much is suggested in Rosalind Krauss's observation that 'In the flatness that results from its coordinate, the grid is the means of crowding out the dimensions of the real and replacing them with the lateral spread of a single surface.'⁴⁵ Techniques implemented through computer programming modify the vectors of the grid system, projecting the surface as an autonomous entity with almost unlimited formal potentialities. The implied nakedness in biomorphic forms demands the infusion of surface

with the structural frame, if not the virtual unity between matter and form.⁴⁶ What is taking place here is the projection of the a-tectonic relationship between the surface and structural frame operative in the idea of Dom-ino into a new level of abstraction. In digital form, the surface is released from any single referential point, and is rather perceived from multiple referential points. If the modernists approached the Dom-ino frame as the logos of form, the fold operates in a perceptual field in which the image is emancipated from any deep structure. Speaking of the need to articulate a different relation between architecture and technology, John Rajchman suggests that, contrary to the Bauhaus approach to technology, computer-generated images show the 'detachment of form, in the sort of contortions between random and the regular that electronic modelling makes possible'. And he concludes that

from the Bauhaus aesthetic of geometric abstraction one passes to the electronic aesthetic of 'free' abstraction, where an intensive line goes 'all over', released from its subordination to the grid – a passage from formal juxtaposition to informal smoothing out, of the sort Deleuze associates with Klee rather than Kandinsky, in the points, lines, and inflections of the Bauhaus painters.⁴⁷

Yet, the virtual image still has to be constructed through techniques essential to modern architecture. Lynn has taken this issue to argue for blob tectonics. According to him, in the blob the element of roof is not made of repetitive and identical elements to cover a long span with singular height, but is perceived as 'a surface that continuously connects across all heights like a wet-cloth'.⁴⁸

Any further discussion of Benjamin's distinction between historical style and constructive style should consider the aesthetic dimension that differentiates Frank Gehry's Guggenheim project in Bilbao, for example, from the international style architecture of the 1930s: the dichotomy between frame structure and the enclosure is indeed disseminated in Gehry's architecture.⁴⁹

Second, the juxtaposition of networks of grid system and the fold should be discussed within the actuality of the present. For Benjamin 'the present must be relieved from its identification with the eternal past and be nourished by the now'.⁵⁰ But in Benjaminian terms the now of the present is pregnant with the most archaic, and for Benjamin, the culture of modernity is nothing but the clash between the ever new and the outmoded past. His idea of 'doubling', the return of the past in the new, gives us the chance to see the biomorphic forms of the neo-avant-garde architecture neither as an expression of the *Zeitgeist*, nor a direct product of electronic technologies. The organic forms permeating current architectural practices are, indeed, the return of the familiar, that is, the organicity of nature so essential to the discourse of the nineteenth century.⁵¹ The return of the organic wishes to domesticate the shock effects and anxieties unleashed by late capitalism whose products are opening an aesthetic horizon that surpasses the modernist aesthetic of abstraction, on the one hand, and a shared state of commonality induced by globalization of capital on the other.

My emphasis on 'construction' should not be taken for an operative agenda. In this essay, I wanted to read Benjamin in conjunction with Botticher and Semper's theories and stress the import of the particularity of architecture, the culture of building.⁵² Therefore, Benjamin's distinction between constructive form and stylistic form should be addressed: architecture retains its particularity by distancing itself from both the work of art and engineering. Fundamental to this distancing is architecture's internalization of technique through recollection of the tectonic. What this entails is that a discussion of 'image', as one consequence of the introduction of mediatic technologies into architectural discipline, although it has proliferated diverse and innovative approaches to design, nevertheless dismisses the culture of building, thus putting limitations on the scope of criticism. To speak of the tectonic relationship between column and wall, for example, does not mean to dismiss the perceptual realm offered by the mediatic technologies. Such a critical strategy is indeed needed to address the import of material and technique for form in architecture. The fallacies of technological determinism are avoided when the now of the present attains its materiality by the difference maintained through recollection of the culture of building.⁵³ There is another dimension to any historicization of current architecture: even those who would like to read current architecture merely in terms of 'surface' are indeed opting for an idea of construction that is implied in the architecture of the tent. Ironically, the similarity between the blob and the tent is of a tectonic nature: both systems nullify the line that demarcates the roof from the wall. While this distinction is essential to the biomorphic forms produced by mediatic techniques, nevertheless, the autonomy of hull (fold) from the constructed core recollects the Semperian concept of textile, and the nineteenth-century problematic understanding of surface in reference to the constructed form.

References

- 1 Among others, see Kenneth Frampton (1997), 'Industrialization and the crisis of architecture', *Oppositions*, 1: 57–81; Manfredo Tafuri (1976), *Architecture and Utopia: design and capitalist development*, Cambridge, Mass: MIT Press; and Alberto Perez-Gomez (1983), *Architecture and the Crisis of the Modern Science*, Cambridge, Mass: MIT Press.
- 2 On this subject see Gevork Hartoonian (2006), *Crisis of the Object: the architecture of theatricality*, London: Routledge.
- 3 Walter Benjamin (1999), *The Arcades Project*, trans. H. Eiland and K. McLaughlin, Cambridge, Mass: Belknap Press of Harvard University Press, p. 459.
- 4 Susan Buck-Morris (1980), *The Dialectics of Seeing*, Cambridge, Mass: MIT Press, p. 261.
- 5 Le Corbusier (2007), *Towards an Architecture*, trans. John Goodman, Los Angeles: Getty Research Institute, p. 94.
- 6 Benjamin (1999), *The Arcades Project*, p. 4.
- 7 Sigfried Giedion (1995), *Building in France, Building in Iron, Building in Ferro-Concrete*, trans. Duncan Berry, Santa Monica: Getty Center for the History of Art and the Humanities, p. 87.
- 8 Benjamin (1999), *The Arcades Project*, p. 458. For Benjamin's correspondence with Giedion see note 7 above, p. 53.
- 9 In the entire book, Walter Benjamin mentions Gottfried Semper once and in relation to the German architect's reflection on gas lighting: Benjamin (1999), *The Arcade Project*, pp. 569–70. For a comprehensive

discussion of Gottfried Semper see Harry Francis Mallgrave (1996), *Gottfried Semper: architect of the nineteenth century*, New Haven: Yale University Press. For Carl Botticher and Semper's ideas on different issues of nineteenth-century German architecture, see Mitchell Schwarzer (1995), *German Architectural Theory and the Search for Modern Identity*, Cambridge, Mass: Cambridge University Press. On the nineteenth-century debate on iron and Semper and Botticher's position on the subject see also Wolfgang Herrmann (1984), *Gottfried Semper: in search of architecture*, Cambridge, Mass: MIT Press.

- 10 On the tectonic in contemporary architecture see my (1994) *Ontology of Construction*, Cambridge: Cambridge University Press, and Kenneth Frampton (1995), *Studies in Tectonic Culture*, Cambridge, Mass: MIT Press. For Carl Botticher see Mitchell Schwarzer (1995), *German Architectural Theory*, Cambridge: Cambridge University Press, and on the importance of Gottfried Semper for nineteenth-century architecture see Harry Francis Mallgrave (1996), *Gottfried Semper*, New Haven: Yale University Press.
- 11 Schwarzer (1995), *German Architectural Theory*, p. 172.
- 12 Although Nikolaus Pevsner has been criticized for his historicist articulation of modern architecture, his *Pioneers of Modern Design*, first published in 1938 and reprinted several times since, is relevant to my suggested periodization. For a criticism of Pevsner, see David Watkin (1922), 'Sir Nikolaus Pevsner: a study in "historicism"', *Apollo*, September: 169–72.
- 13 Reyner Banham (1978), *Theory and Design in the First Machine Age*, New York: Praeger Publishers, p. 158.
- 14 Edward Timms (1986), *Karl Kraus: apocalyptic satirist*, New Haven: Yale University Press, p. 119.
- 15 See Detlef Mertins's introduction to Walter Behrendt (2000), *The Victory of the New Building Style*, trans. Harry F. Mallgrave, Santa Monica: Getty Center for the History of Art and the Humanities, p. 39.
- 16 Behrendt (2000), *The Victory of the New Building Style*, p. 39.
- 17 On this dialogue see Fritz Neumeyer (1993), 'Iron and stone: the architecture of Grobstadt' in *Otto Wagner*, ed. Harry Francis Mallgrave, Santa Monica: Getty Center for the History of Art and the Humanities, pp. 115–56.
- 18 Otto Wagner (1988), *Modern Architecture*, trans. Harry F. Mallgrave, Santa Monica: Getty Center Publication Programs, pp. 92–3.
- 19 Benjamin (1999), *The Arcades Project*, pp. 4–5.
- 20 Kenneth Frampton (1995), *Studies in Tectonic Culture*, Cambridge, Mass: MIT Press, p. 45.
- 21 Robin Middleton (2000), 'The iron structure of the Bibliotheque Saint-Genevieve as the basis of a civic décor', *AA Files*, 40: 33–52.
- 22 For a discussion of the tectonic aspects of this building see Frampton (1995), *Studies in Tectonic Culture*.
- 23 Benjamin (1999), *The Arcades Project*, p. 201. Also see Susan Buck-Morris's reflections on this subject in (1989) *The Dialectics of Seeing*, Cambridge, Mass: MIT Press.
- 24 'Only a thoughtless observer can deny that correspondences come into play between the world of modern technology and the archaic symbol-world of mythology.' Benjamin (1999), *The Arcades Project*, p. 461.
- 25 On this difference see Gevork Hartoonian (1997), *Modernity and its Other*, College Station, Texas: Texas University Press, p. 139.
- 26 Benjamin (1999), *The Arcades Project*, p. 13. Elsewhere I have discussed the work of some Russian Constructivists in terms of wish-image where architecture is emancipated from its history.
- 27 Benjamin (1999), *The Arcades Project*, p. 155. Benjamin takes note of a passage of *Das Kapital* where Karl Marx suggests 'the supports and the load, in architecture, are also "form"'.
28 For Gottfried Semper's idea of clothing see 'The Four Elements', trans. Harry F. Mallgrave and Wolfgang Herrmann (1989), *Gottfried Semper: the four elements of architecture and other writings*, Cambridge, Cambridge University Press, pp. 101–26. See also my reflections on this subject in Gevork Hartoonian (1994), *Ontology of Construction*, pp. 20–2.
- 29 Benjamin (1999), *The Arcades Project*, p. 64.
- 30 I have discussed this subject in reference to Le Corbusier's idea of the Dom-ino frame. See Gevork Hartoonian (2001), 'The limelight of the house-machine', *The Journal of Architecture*, 6(1): 53–80.

- 31 In reference to the tectonic relationship between the constructed form and the stylistic form, in his 1886 essay Joseph Bayer suggested that '... then, certainly, the beautifully ornamented historical stylistic hulls will fracture away; they will disappear forever and the new kernel will emerge naked and clear in the sunlight'. Quoted in Werner Oechslin (2002), *Otto Wagner, Adolf Loos, and the Road to Modern Architecture*, Cambridge: Cambridge University Press. However, according to the author, the desire for 'nudity' in architectural form could be traced back in many treatises written since the Renaissance.
- 32 Michael Cadwell (2007), *Strange Details*, Cambridge, Mass: MIT Press, p. 113.
- 33 Benjamin (1999), *The Arcades Project*, p. 150.
- 34 Ibid., p. 157.
- 35 Ibid., p. 172.
- 36 Ibid. For Behne's ideas see 'Art, craft, technology', in Francesco Dal Co (1990), *Figures of Architecture and Thought: German architecture culture 1880–1920*, New York: Rizzoli, pp. 324–38.
- 37 Benjamin (1999), *The Arcades Project*, p. 160.
- 38 Heinrich Wölfflin formulated the autonomy character of art, postulating a formalistic understanding of style. Wölfflin epitomized the years around 1800 as the renewal of a linear mode of vision, which 'comes to serve a new objectivity'. Wölfflin (1950), *The Principles of Art History*, trans. M. D. Hottinger, New York: Dover.
- 39 Walter Benjamin (1988), 'Rigorous study of art', *October*, 47: 84–90.
- 40 On Heinrich Hubsch see (1992) *In What Style Should We Build*, trans. Wolfgang Hermann, Santa Monica: Getty Center for the History of Art and the Humanities. On the above reading of Mies van der Rohe see my 'Mies van der Rohe: the genealogy of column and wall' in (1994) *Ontology of Construction*, pp. 56–67.
- 41 For my interpretation of 'postmodernity' and Mies see Hartoonian (1997), *Modernity and its Other*.
- 42 Andrew Benjamin (2004), 'On different images, painting and photography' in his *Disclosing Spaces: on painting*, Manchester: Cinamen Press.
- 43 Caroline Bos (2002), 'Techniques and effects', *Datutop*, 22: 108–17.
- 44 In a seminal piece Joseph Rykwert locates the etymological roots of the word 'organic' in *organon*, which 'came from an archaic term, *ergon*, work'. He continues, saying the Latin use of the term '*organicus* did not mean anything very different from *mechanicus*: something done by means of instruments indirectly'. The Latin use of the term came to its end by the seventeenth century when a distinction was made between animal, mineral and vegetable as separate worlds. The word's appeal for the archaic unity between organic and mechanic, Rykwert reminds us, resurfaced through many nineteenth-century functional theories, especially by those architects and theoreticians who would totalize the rift between structure (mechanics/necessity) and ornament (excess/aesthetic pleasure). Joseph Rykwert (1992), 'Organic and mechanic', *Res*, 22: 11–18, (p. 13).
- 45 Rosalind Krauss (1985), *The Originality of the Avant-Garde and Other Modernist Myths*, Cambridge, Mass: MIT Press, p. 9.
- 46 The symbolic unity between matter and form was essential for tectonic. However, as Werner Oechslin reminds us, the next generation of German architects questioned such a unity and shifted the emphasis on construction. R. Redtenbacher, for one, argued that 'architecture begins with construction and ends where there is nothing left to construct'. See Werner Oechslin (2002), *Otto Wagner, Adolf Loos, and the Road to Modern Architecture*, Cambridge: Cambridge University Press.
- 47 John Rajchman (1998), *Constructions*, Cambridge, Mass: MIT Press, pp. 30–1.
- 48 This statement of Greg Lynn characterizes the tectonics of topological roof typologies in Shoel Yoh's 'sport complex' project, Japan 1992, that differs from any other roof tectonics, including Alejandro Zaera-Polo and Moussavi, where 'construction techniques are developed simultaneously with formal diagram'. Greg Lynn (1998), *Folds, Bodies and Blobs: collected essays*, Brussels: La Lettre Vole, p. 177.
- 49 For further elaboration of this subject see Gevork Hartoonian (2002), 'Frank Gehry: roofing, wrapping, and wrapping the roof', *The Journal of Architecture*, 7(1): 1–31.
- 50 Harry Harootunian (2000), *History's Disquiet: modernity, cultural practice, and the question of everyday life*, New York: Columbia University Press, p. 104.

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- 51 On this subject see Caroline van Eck (1994), *Organicism in Nineteenth-Century Architecture*, Amsterdam: Architecture Natura.
- 52 I have discussed this subject in (1997) *Modernity and its Other*, especially in the last chapter of the book. The idea is also suggested in Peter Eisenman's discourse on the 'interiority of architecture' and Andrew Benjamin's discussion of 'particularity' of painting. See Peter Eisenman (1999), *Diagram Diaries*, New York: Universe Publishing; and Andrew Benjamin (forthcoming), *On Painting*, Manchester: Clinamen Press.
- 53 See my reading of the column and wall in Mies van der Rohe's architecture in Gevork Hartoonian (1994), *Ontology of Construction*, Cambridge: Cambridge University Press, pp. 68–80.