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### Architecture, Ornament, and Digital Reality

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This paper addresses architecture in the digital age, i.e. architecture in the age of digital imaging technologies. There can be no doubt that since the early 1990s we have been undergoing an unprecedented shift in the cultural force field. In the words of Fredric Jameson<sup>1</sup>, we are witnessing a change in the cultural dominant from modernist object production to post-industrial image consumption. There is little doubt that digital imaging techniques are about to change the world and force on contemporary architecture an aesthetic practice it has been eager to avoid for the past 100 years: ornament and imagery.

#### **The repressed unconscious of architectural modernism**

Clearly the rejection and elimination of the ornamental is synonymous for architecture in the modern era. It is common knowledge that around the turn of the 20th century new mass media such as photography, newspapers, advertising, and later on, film, challenged architecture's sole claim to representation. After all, modernism started with an attack on architecture's oldest *raison d'être*: representation. Until the early 20th century architecture was doubtless the foremost representational art, with ornaments, images and iconography as its primary means of expression. Thus, in a sense, architecture was the leading mass medium for centuries. Only at the beginning of the 20th century did architecture become embroiled in a fierce rivalry with the new mass media, and was forced to compete with representational media then emerging, especially photography.

However, instead of facing the challenge posed by the new mass media, architecture withdrew to a position that was considered its stronghold: space. Subsequently the paradigm of space replaced the paradigm of representation. By shifting its focus from representation to space, and by turning itself into "spatial art", architecture tried to maintain its autonomy as a discipline. From then on architects were primarily concerned with space, and the time-honored practice of ornamentation fell into disfavor. Thereafter the disdain for ornamentation and the negation of representation were considered cultural indicators of modernity, which has since been equated with a phobia about imagery. Thus one might say that ornament and imagery constitute something like the repressed unconscious of architectural modernism even today.

The point I'm trying to make is that at the root of the modernist movement in architecture lies what we might call its "narcissistic injury" by the new mass media of the early machine age and its imaging techniques. The shift to the paradigm of space was a reaction forced upon architecture by its rivalry with the new mass media. The "narcissistic injury" sustained by architecture led architectural modernism to negate both the ornament and the notion of architecture as image and representation.

However, the situation has changed since the early modern era. Today's flood of images and new media technologies are again invading the realm of architecture, forcing it into a discourse on images while at the same time challenging it in its most modern paradigm: the production of space. It is the digital media technologies and the virtual realm that are today calling into question architecture's claim to the production of space. It is clear that today's digital technologies are capable of producing more complex spatial arrangements than is architecturally feasible. This can be hardly overlooked. With the development of 3D interfaces, with CAVE technology and breathtaking simulated space flights, digital imaging technologies are successfully competing with architecture for the production of space. Having lost the privilege of representation in the early 20th century, architecture is about to lose its sole responsibility for space, as well.

This raises the question of whether we shouldn't speak of two narcissistic injuries to architecture in the 20th century - with the second one inflicted by today's digital mass media. It is interesting to note that, once again, instead of meeting the challenge, architecture is trying to redeem itself by shifting its focus, this time towards its material and phenomenal presence. As an immediate reaction to the digital revolution of the 1990s, architects became increasingly interested in the material presence and sensual and physical aspects of architecture. Atmospheric presence and authentic sensual experience came into focus as the genuine features of architecture. Architecture was revalued as the hard edge of a digital and increasingly virtual world. In focusing on its material presence, architecture took up an opposing position in regard to the digital realm and its interest in creating space.

After this brief outline of the situation architecture currently finds itself in, I would like to propose the following argument. From the very beginning, modern architecture tried to avoid the challenge of modernity - the challenge of modern mass culture. Undoubtedly, both the early modern disputes about ornamentation and architecture's problems with digital imaging techniques arise from the same source: the narcissistic injury inflicted on architecture in the modern era. Thus architecture can only become a truly modern cultural practice by actively overcoming this injury. Only if it finally responds to and integrates new imaging technologies will architecture succeed in establishing a continuity of discourse between the three major architectural categories central to the concept of modern architecture: representation, space and physical presence. This is something it has neglected to do for decades. Thus my central argument is that architecture will only manage to become a truly modern cultural practice by addressing the reality of the digital world and integrating modern imaging techniques into the discipline.

### **Resisting deconstructivism**

When computers were introduced into the field of architecture on a broad scale, the fact immediately generated an incredible amount of hype. When architects started designing on computers around 1990, it was the deconstructivists who first realized the potential of this new medium. Indeed, the new digital medium lent itself well to the deconstructivist method. Anything was possible in virtual space: Things could be flipped upside down, twisted and stretched freely. Morphing, scaling and warping - the fundamental techniques of deconstructivist architecture - all became easily applicable. Strange things began to appear in architectural magazines. Protagonists of the method believed that

deconstructivism had finally attained its goals with the help of virtual space, i.e. had broken with the strong ontology of architecture.

It has to be pointed out that prior to this deconstructivism had already been successfully applied to literature, music, art, dance, etc. in the 1980s. However, there was one cultural practice - probably the one most central to our everyday lives - that had so far resisted the deconstructionist paradigm: architecture, or rather, modern architecture. This was due to the concept of architecture itself. Certainly we are accustomed to speaking of "modern architecture" when referring to the buildings of Le Corbusier, Walter Gropius or Mies van der Rohe. However, one question is rarely put forward, namely whether modern architecture was ever on par with the cultural concept of modernity. Of course, modern architecture is associated with new building materials and technologies like steel, glass and concrete. However, it is equally true that modern architecture had never given up its most ancient feature, the triad of *utilitas*, *firmitas* and *venustas* - function, stability and beauty - as first mentioned by Marcus Vitruvius Pollio in his Ten Books of Architecture published in 33 BC.

Though early modernism focused on function, it nevertheless held on to the concept of stability. Even modern architecture never questioned the idea that architecture was a grounded and grounding practice of all human practice. Foundation, stability and durability were the unbroken basis of architecture from the beginning. Even fluidity, dynamism, speed and perpetual change, the basic precepts of modernity could not change that. Even today, architecture stands for some of the most powerful metaphors of foundation and durability. Metaphorically, architecture stands for the notion of the solid. We refer to the "architecture" of the Middle East peace process, the "architect" of the coalition forces in the war in Iraq, the "architect" of an opposition movement, etc. In regard to the concept of foundation, architecture still provides the strongest metaphor.

Modern architecture held fast to this concept of "grounding" throughout the 20th century. Apart from certain avant-garde movements, such as futurism, Russian constructivism or the situationist movement, modern architecture rather consciously took an oppositional position in regard to the modern ideas of fluidity, dynamism, etc. And we should not let ourselves be distracted by the modern glass facades. Although they provide a certain degree of transparency, they pose no challenge to the notion of firmness, especially when applied to high-rise buildings. I would like to emphasize that architecture was unwilling to internalize or accept the *conditio moderna*. It resisted the concept of ambivalence; it did not accept the antinomian concept of modernity; it still holds on to the concept of a strong ontology and firmness.

This is why the deconstructivists became interested in architecture in the 1980s in the first place. Architecture was probably the last cultural practice that had resisted deconstruction. The hope was that if it succeeded in deconstructing the strong ontology of architecture, deconstructivism would finally succeed in establishing itself as the dominant cultural practice. Architecture was the last obstacle to proving the validity of deconstruction. However, even in the late 1980s - when the movement was probably at the peak of its international success - it had become evident that architecture was going to resist the deconstructivist attack. Ironically, the reasons for that were highlighted by one of the most fervent protagonists of architectural deconstruction, the New York-based architect Peter Eisenman himself.

In a discussion with Jacques Derrida held in 1993<sup>2</sup>, Eisenman pointed out why the deconstructivist method failed: Deconstructivism's linguistic approach could not be successfully applied to architecture without significantly changing its basic ideas. According to Eisenman there is a fundamental difference between a linguistic sign and an architectural sign. While a linguistic sign always refers to something absent, an architectural sign cannot be separated from its presence. "The difference between a linguistic sign and an architectural sign is that a column is always a real thing and not a sign." According to Eisenman, in architecture the ideal of what he refers to as an "unmotivated sign" - what we might term a free-floating signifier - is difficult to achieve. If I say the word "house," for example, the linguistic sign is not the house itself, but refers to an absent thing designated a "house." However, a door in a wall is a material presence, a real thing I can walk through, but it is also a "sign" of a door, and as such refers to doors in general. Contrary to images and abstract signs, architectural signs cannot be separated from their material presence. A door in a wall is the sign of a door as much as it is an actual door. From a distance, the door appears as the sign of a door, although it consists of real material, and as we draw closer, it offers itself as something we can walk through. A window in architecture is not only the sign of a window but is a real window.

This allows us to draw a first conclusion: Signs in architecture are always self-referential. Even in cases where they refer to an abstract idea, they always have a material presence. Thus the term "architecture" can refer to a sign and a real thing at the same time.

### **Architecture between old and new media**

Now let us return to our main topic. When computer-aided design was introduced to the field of architecture it was hailed as a technique by means of which deconstructivism might finally succeed in breaking with the strong ontology of architecture. Take Hani Rashid's Virtual Guggenheim Museum, or even Eisenman's own Virtual House. Both exist solely in the virtual realm, with little chance of ever being translated into real time and real space.

Ben van Berkel was the first to take the problem of translation from the virtual to the material world seriously. Although van Berkel is a very talented architect, he failed in this endeavor. Let's have a look at his famous Möbius House; whose formal reference was the Möbius strip. Möbius strips are unique in that moving on one and the same surface leads you from the inside to the outside and back without ever leaving the surface, so first you find yourself walking on the floor, then on the ceiling, then back on the floor again. What makes the Möbius strip so fascinating is that it suspends some of the major parameters that constitute our normal experience of the world, and of architecture in particular: the dichotomy of inside-out and upside-down.

Unfortunately, the highly original idea of a Möbius house suffered heavily when the preliminary sketches and images were transferred into a real building. Suddenly it was no longer possible to walk along a continuous surface from inside to out and back. No one has ever walked on the ceilings of the house. In this sense the house remained rather conventional. There are some basic laws of physics architecture simply cannot transcend: the boundary between inside and outside is the very essence architecture. Moreover, all buildings have a floor and a ceiling, and due to the laws of gravity, human beings can only walk on the floor. The material of a real building also provides little scope for the

kind of twisting and stretching of material required to connect the two ends of a Möbius strip.

The fact is that this strategy to overcome the ontological strong form of architecture failed once it was applied to the real world. There is a boundary between the virtual world and the real world that is hard to cross. When the deconstructivists appropriated the new digital medium, the computer - and I think they were right to do so - they applied an old paradigm, i.e. deconstructivism and its semiotic basis, the floating signifier and the idea of the supplementary to the new medium. But what they insufficiently understood is that the new medium was less about signs than about images. These imaging techniques could not be dealt with in the manner to which the deconstructivist world was accustomed: to linguistic signs and a semiotic reading of architecture. It is interesting to remember that Marshall McLuhan pointed out decades ago that new media are always initially used like old ones. How true that is for the digital medium in regard to architecture and deconstructivism! But the question is: What can we learn from McLuhan's insight? Not much, I guess. To make McLuhan's phrase more pointed, i.e. epistemologically more valuable, I propose altering it slightly: In first being used like an old medium, the new medium highlights the deficits of the old one. The failure of the deconstructivists' attempt to appropriate the digital media highlighted the fact that the reduction of architecture to a system of linguistic signs ignored the material basis of the world we live in, namely the fundamental distinction between inside and out, upside and down.

## **Conclusion**

Both the early modern disputes about ornaments and architecture's problems with digital imaging techniques undoubtedly arise from the same source, the narcissistic injury inflicted on architecture in the modern era. I am convinced that architecture can only become a truly modern cultural practice if it overcomes this. Only by addressing the question of the image will architecture succeed in establishing a continuity of discourse between the three architectural categories so central to the concept of modern architecture: representation, space and physical presence. Only by incorporating modern imaging techniques will architecture become a truly modern cultural practice.

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<sup>1</sup> Fredric Jameson, *Postmodernism, or The Cultural Logic of Late Capitalism*, Durham 1991.

<sup>2</sup> Peter Eisenman, *Architecture Writing*, Architecture New York ANY, May/June 1993.