

Digital Introjection

Abstract: Advancements in digital technology have brought forth changes in art and architecture in the way that knowledge is represented and visualized. As an abstract machine, the new architecture points to "data-space" environments, rather than to "tectonic-space" compositions.

1. *Knowledge as the differentiation of the actual vs. the virtual.*
Architecture cannot limit itself to craftsmanship and aesthetics any longer. The new reality requires that architecture keep abreast of two significant bodies of knowledge: the actual and the virtual. Knowledge is a parallel universe, forms a generic diagram, and acts as comparative research.

2. *The science of art rather than the art of science.*
There is little doubt that a significant body of architecture and critical thought exists outside mainstream architectural discourse. This process may transgress the limits of architecture, bringing forth an architecture that no longer conditions the design, but designs the conditions.

3. *Knowledge transgresses the limit.*
Would it be possible to enter a space that appears to be real, but exists "neither here nor there"? According to Foucault, "we are in the age of the simultaneous, of juxtaposition, the near and far, the side by side and the scattered."

4. *The abstract modeling machine: architecture as research.*
The virtual ignites the spark of the new, the element of innovation that it has over the possible. It generates change through the unpredicted leaps that the virtual bring to the actual. It enables the actual to become more than itself, to move away from the way it has always functioned, since the virtual has become a potential reality. The next step...

Keywords: architecture, space, virtual, environment, experience.

1. Knowledge as the differentiation of the actual vs. the virtual

Architecture has for centuries been considered a "craft". The architectural profession confronted with the complex manifestations of our society, can no longer limit itself to craftsmanship

and aesthetics. This new reality requires architecture to be continuously become informed on two major forms of complexity and knowledge: on one hand the application of the new craft techniques and on the other the methodology used in the making of the architectural space. The notion of knowledge is pivotal in shaping the new dynamic field: it is a parallel universe, a generic diagram and a comparative research.

If we consider architecture as one of the modern sciences, then we can follow Heidegger's statement that a science cannot represent its own essence. In science we find the phenomena of comparative science, like for example cybernetics introduces physics and psychology for the comparative study of 'control' systems represented both in the brain and nervous systems as well as in the mechanical or computerized information- and control systems. The consequences for the possible architectural developments could be investigated by tracing parallel meanings with other sciences and these may be the human, natural and social sciences and the arts.

Architecture, like philosophy (and for that matter, biology and physics), is perpetually verging on, irresistibly drawn to its own virtualities, to ever-increasing loops of uncertainty and immanence that its own practices engage and produce. The future of each discipline requires that each open itself up to reconsideration of the virtual and the promise it holds for newness, otherness, and divergence from what currently prevails. Space is understood, according to Deleuze as a multiplicity that brings together the key characteristics of externality, simultaneity, contiguity or juxtaposition, differences of degree, and quantitative differentiations. Space is continuous, infinitely divisible, static, and always actual. Space in short is the milieu of things, matter, identities, substances, entities that are real, comparable, and calculable. Duration, by contrast, is a multiplicity of succession, heterogeneity, differences in kind, and qualitative differentiations. It is continuous and virtual. According to Henri Bergson, space could be conceived, instead of being the pure medium of actuality, as the field for the play of virtualities: a kind of mental diagram.

Knowledge, expressed within the context of this conference, as a field of architecture and human sciences, natural sciences, social sciences and the arts, can be placed both against the architecture of the actual (existing as real) and the architecture of the virtual (not yet realized as real). It is this virtual

aspect of architecture that precedes the real and holds the promise for newness and otherness, by difference. It is difference that is primary in the process of actualization – the difference between the virtual from which we begin and the actual at which we arrive. This means that the virtual requires the actual to diverge and to differentiate it. The virtual is the realm of productivity, of functioning other than the plan or the blueprint. This is the spark of the new that the virtual has over the possible: it is the capacity for generating innovation through an unpredicted leap that the virtual brings to the actual, the capacity of the actual to be more than itself, to become other than the way it has always functioned.

The virtual is potential reality. It is the next move.

2. The science of art rather than the art of science

There is little doubt that there is a consistent body of architecture and critical thought that exists outside of mainstream architectural discourse. Space is an object of knowledge. Knowledge is the subject for research and enquiry. The field of architectural enquiry is a complex matrix of operations and forces. This process may transgress the limit of architecture. The 21st century has started in the same manner exactly a century after the optimistic visions of a Futurists' utopian and their cathartic attempts opened the way to a successive generations of 20th century avant-garde designers, armed with Utopian visions. Innovation requires the testing of new ideas, beyond continuity. Architecture is one of the last surviving residual conditions of Classical thought and Enlightenment. The collective convergence of numerous developments in science, technology and globalization, signifies, for the first time in history the hybridization of all the components of the modern era.

The digital evolution and virtuality not only is upsetting the prescribed characteristic of architecture, but also has become an integral part of its generic process. Digital technology has been implanted in the nature of architectural design. An additional attribute to the nature of architecture has been found, that of "life engineering".

Modernism always provided an open field of ideas in the clarity of space, materials and light. The characteristics of the new virtuality dissolve in an ambiguous hybrid. Space is never neutral.

It is not about conditioning the design, but designing the conditions. Derrida supports the need to "contaminate" architecture. It is necessary to acknowledge the heterogeneous nature. By engaging with this theoretical and technological debate traditionally perceived as being "outside" its domain, architecture may become, paradoxically, rigorous.

3. Knowledge transgressing the limit

In the past, architecture rarely transgressed its limit, at least in terms of its physical and tectonic nature. The wish to transgress remained a desire rather than reality. Transgression does not deny the principle of limit. The existence of a limit is a prerequisite for the definition of transgression. Likewise a limit is not a limit unless it can be transgressed. According to Foucault:

Transgression is an action which involves the limit, that narrow zone of a line where it displays the flash of its passage, but perhaps also its entire trajectory, even its origin.

Therefore transgressing the limits may encourage the expansion and reconsidering of the position of the limit itself. Therefore the issue here is not so much about transgression or overstepping the limit, as much as transplating it. What is in question here is the invention of "new relations, in which the components of architecture are broken down and reconstructed along other axes". These axes are now integral part of the state of architecture. The "first" concern will no longer be to organize space as a function. By pushing "architecture towards its limits", a place will be made for "pleasure" and architecture possesses the characteristic of the image. The more architecture expands, or negates its nature, the more it also contracts and embraces other things. An inherent oxymoron of dualities. Architecture is never unitary. As Foucault said:

We are in the age of the simultaneous, of juxtaposition, the near and far, the side by side and the scattered.

On another note, "Space may be the projection or the extension of the physical apparatus", Freud noted. In an essay, later published as a chapter of *In/Different Spaces*, Victor Burgin emphasized the specifically psychological character of modernist space. A space would be a result of introjection or projection - which is to say, a product of the thinking and sensing subject as opposed to the universal and stable entity envisaged since the Enlightenment. What this also implied, as Burgin developed, was that there existed a spatial unconscious,

susceptible to analysis and interpretation. Space is never universal, but subjective. Digital space is not mimetic or literal, but referential. What the new digital spatialities have rediscovered is the unconscious of urban space.

4. The modeling abstract machine: architecture as research

The experiments in morphogenesis are based on an abstract formal system that is autonomous and deterministic once the rules are set and defined. The emphasis of the exploration is for morphological complexity whereby the construction and selection of rules that produce specific effects is motivated by aesthetic and plastic sensibilities. For the first time, architecture is genuinely searching for complexity of this formal type in order to keep in touch with that of the city of the networks and systems and the intricacy of culture and vagueness of globalization. This abstract machine therefore calls into question traditional methods of architectural design and proposes a design process in which the architect becomes an inventor or constructor of formal systems as well as takes on the role of a navigator of the system's behavior over time. In a fast production consumable architecture, very few items are defamiliarized.

In many ways, the aesthetic experience, according to Benjamin, consisted of keeping defamiliarization alive, as contrasted to its opposite - familiarization and security. I would like to point out that Benjamin's analysis corresponds exactly to the historical and philosophical dilemma of architecture. Is the experience of architecture something that is meant to defamiliarize - let's say, a form of "art" - or, on the contrary, is it something that is meant to be comforting and homely. Here, of course, one recognizes the constant opposition between those who see architecture and our cities as places of experience and experiment, as exciting reflections of contemporary society - those who like "things that go bump in the night," that "deconstruct and self-destruct" - and those who see the role of architecture as refamiliarization, contextualization, insertion; in other words, those who describe themselves as historicists, contextualists. This widening of the gap may prove to be profitable, given certain economic and social advancements. It will eventually soothe and bring an ultimate seamless fusion, without compromising or losing the intensity and even controversy, even though it is still fragile and there are no signs of it happening yet. This "weakening" of

architecture, has altered the relationship between structure / image and structure / skin. It is interesting to debate that which is always discussed in architectural circles, namely, structure versus ornament. Since the Renaissance, architectural theory has always distinguished between structure and ornament, and has set forth the hierarchy between them. In the contemporary discourse, this dichotomy has been eliminated.

The notion of the virtual can incorporate the diagrammatic practice as design strategy. Many architects and scholars today have adopted Foucault's and Deleuze's idea of the diagram as an abstract machine. Both have emphasized the notion of the "archivist" as a concept that can characterize the way in which we manoeuvre about our surroundings, which cannot assume a true form but instead a collection of relationships between forces. The archivist works not only vertically and horizontally, but also in diagonal dimensions, cutting across all levels and links; the archivist can explore a collection or series of points and at the same time discover that some of the points diverge and therefore must be redistributed within a new space and time. This sort of "diagonal dimension" can be activated with the help of the diagram. As an "abstract machine", the diagram does not distinguish between notions such as content and expression – it is inter-social and in a state of constant evolution. It is an idea-gram. Its purpose is not to represent any existing world, but to produce a new kind of reality. The diagram must not be used as a metaphor or reference, but as a generator. In this context, a diagram may easily be turned into a system of total prediction and control. What is thus required is a dynamic architectural system, which can adapt itself to changing circumstances, the equivalent of a 'trans-formal' space, a space that has 'overcome' form. Here we are concerned with the investigation of a heterogeneous, fluid, smooth space, the development and representation of this spatial fluidity will be enabled by the generative precision and virtual representation of the computer.

This generates the development of the urban environment as a dynamic space of flows and has rendered the wall in the traditional sense into a permeable 'smart' zone where continuous topological surfaces connect exterior and interior spaces, functional programs and infrastructures. Think of the development of the following typologies and the dynamic complexities or expertise necessary in the design of airports, mega-malls, corporate office spaces, department stores and theme hotels.

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