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From Anguish to Hope

Noticing that reality is more random than predictable; that logics is no longer rigorous, but has been replaced by uncertainty; it is reasonable to admit that we are given a certain space/room to liberty/freedom, but at the same time we are disquieted by the lack of reference points. As a matter of fact, many of our contemporaries would rather trade this freedom with the reassuring guidelines of the prison of the quotidian. Today we have to accept our new status of explorers faced with the unknown; we are about to venture into a century where the previously delineated paths can no longer be extended.

De l'angoisse a l'espoir
Albert Jacquard

In the space of liberty we enjoy, it is reasonable first, to attempt a formulation of the question: whither theories in architecture? After Charles Yves' unanswered question: whither music?

Any attempt to formulate the question "whither theories in architecture" should obviously be rooted in the definitions of the term "theory" and the term "architecture" articulated around selected historical references.

Theory: a systematic *ideational structure* of broad scope, conceived by the imagination of man, that encompasses a family of experiential laws regarding regularities existing *in objects and events* both observed and posited; a structure suggested by these laws and *devised to explain them* in a rational manner: Critical thinking and Critic. [E.B]

Architecture: "The art and technique of building employed to fulfill the practical and expressive requirements of "people" [E.B]
a work of architecture is characterized by:
1- *suitability* to be used by human beings in general, and *adaptability* to particular activities
2- *stability* and permanence of construction
3- *communication* of experience and ideas through form.

In order to trace the *implementation path* of architecture as a discipline of intellectual inquiry in the "citadels of knowledge" and the evolution of its theoretical educational means, there is a need for some historical landmarks:

After 27 BC Vitruvius
De Architettura (divided into ten books dealing with: city planning and architecture in general; building material; temple construction and use of the Greek orders; mensurations...)

1452 Alberti
Ten Books on Architecture (described as the Bible of Renaissance architecture, for it incorporated and made advances upon the engineering knowledge of antiquity, and founded the stylistic principles of classical Art in a fully developed theory of proportionality and harmony.)
"Architecture must without doubt be directed by some sure rules of art and proportion, which rules whoever neglects makes himself ridiculous."

1570 Palladio
Four books on architecture (described as a the most important and influential pattern book for architects.)

1750 De Quincy
Assumed to have implemented the first System of architectural education
De Quincy united the School of architecture with that of painting and sculpture to form a single organization "Ecole des Beaux Arts de Paris" previously "Academie Royale d'Architecture". Although the theoretical background was assimilated through the arts of painting and sculpture, students were assigned a professor of theory.

1818 Creation of two disciplines: History and Theory of architecture
"Relation of theory and history of architecture as inseparably complementary, possibly distinguishable at times."

20th centuries
Theories of architecture departing from what was before could basically be characterized by either/ nor in relation to philosophy and history of architecture.

After 1945
The moderns also express fundamental differences of opinion.

A new battle starts between the 'organic', represented by architects as different as Wright and Aalto, and the 'technological', represented by Mies van der Rohe.
The organic accuses the technical tradition of *inhumanity* and sterility
The 'technological' side find only chaos and subjectivism in the 'organic' approach.

The issue was to unify the 'organic' and the 'technological' tendencies. The freedom of the 'organic' forms, their richness of expression and adaptability to different situations only become real through a combination with the clear construction of technological architecture.

After 1945, Norberg-Schultz and Robert Venturi 's interest in the idea of "whole" in architecture, was of major influence in the field.

1965 C. Norberg-Schulz 1965
in *Genius Loci*: the issue of Wholeness was proposed.
In this book, Norberg-Schulz outlines a comprehensive theory of modern architecture based on the practical problems of his times. (invoking the idea of the whole in the architect's task he proposes an integrated theory of architecture.)

1966 Venturi, 1966
Complexity and Contradiction in Architecture Venturi recognizes incompleteness as an acceptable notion.

Venturi notes "an architecture of complexity and accommodation does not forsake the whole".
He emphasizes the goal of unity rather than simplification in art. "It is the difficult unity through inclusion rather than the easy unity through exclusion". However, his obligation towards the whole as in architecture of complexity and contradiction does not preclude the building, which is unresolved.
He states that:

A building can also be more or less incomplete in the expression of its program and its form. A building could be unfinished in relation to its program yet it is complete in the effect of its form because of the motival consistency of its many parts. The complex program which is a process, continually changing and growing in time yet at each stage, at some level related to a whole, should be recognized as essential.

This overview gives an idea of the direction towards which theories of architecture have and continue to evolve. One could venture a formulation of the question as follows:
Are theories in architecture departing from being instruments of Design?
Should architectural theories be "partial"?
Should it be assumed that theoretical concepts concerning construction and planning be left for other "texts"?
Should the direction be sustained and reach a point where processes become the objectives, not the objects in design?

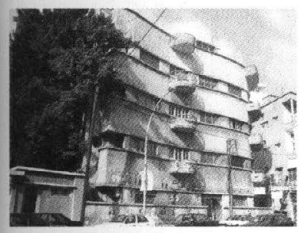
The musicians of the Sixties integrated the cello into rock music while architects were trading the electric guitar for a harpsichord.
As for the Seventies, we saw the neo-classicists winning and the modernists left to Charles Jencks's myopic reading.

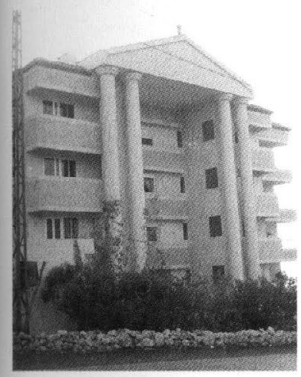
Enough reasons for Anguish

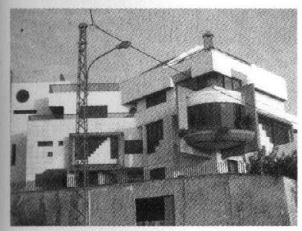
What are, at present, the chances of grasping the impact and the deep effect of new technologies in architectural education? What kind of speculation does this simulate? Or simply what would we be doing about it?

Frederic Migayrou in his introduction to the "architecture non-standard" exhibition at the Pompidou center few months ago, describes in a somewhat simple, accessible way the idea of NON-standard:

"Non-standard mathematics as defined by Abraham Robinson (Non Standard Analysis, 1966) was a dramatic extension of the theories of infinitesimals of Poincarre and Leibnitz."
It was a revolution on the idea of continuum in Mathematics.
It gave birth to applications in Logics (Algorithmic, Artificial Intelligence), as well as in morphogenetics (formal hermeneutics, fractals and catastrophe theories).
Numerical tools that combine the continuum of logics with the continuum of morphogenetics carry us from the world of interpretation (natural forms), to that of creation.
Non-standard Architecture does not use numerics as a tool for representation, nor does it confine architecture to a spatial domain or even to abstract typological domains. The series of metaphors (virtual world, hyper-space, cyberspace...), that attempts to define numerics as a technological tool that allows us to create a spatial alternative is abandoned.
The effective use of non-standard production finds its foundations in the applications of the principles of theoretical continuum (as in math), but also effective continuum (as in language and tools)."







Postmodernism, Neo-modernism, Regional Criticism Deconstructivism, Minimalism, etc...
Since the Werkbund, the modernist position towards the redefinition of the industrial production of architecture has not been addressed; the critique was limited to issues of form and typology. No alternative to the logic of industrialization of architecture has been proposed by any of these movements.

The Trojan horse is already inside the *city*. One possibility would be to follow the very historical precedent of the theoretical response to industrial revolution the result of which was simply the birth of "the engineer" thus stripping the notorious art of building from one of its characteristics, i.e. "firmness"
Generating the form/structure clash, still *vivid in education...*

Another possibility would be to learn from the other historical precedent, i.e. the reaction to the issue of function targeting "utility" thus creating another partner "the planner": The Form/Function question arises.

My own experience during the last decade this question has rarely been addressed. New tools are automatically classified in the file of "technology", therefore disdained as of no theoretical interest. In some cases we are still at the level "computer drawings versus vibrating pens". In the best cases some pioneers are attempting to define the numeric domain as a technical mean to create a spatial alternative using abandoned metaphors as "hyper-space and virtual reality... Thus addressing Norberg-Schulz's notion of "whole", rather than accepting Venturi's condition of its impossibility.

The implementation and the operation of the principle of continuity, theoretical on one hand (mathematical continuum) and effective on the other (the language/tool unity) will modify the way we think and *debate*. The impact of random thinking on ideas acquisition, processing and dissemination of ideas in comparison to the limitation of traditional linear thinking has not yet been seriously addressed.

What is seen in the real world is completely different. Contextual pressure and ever evolving demands challenge the available means and accepted processes. New realities

are apprehended and interacted with without a-priories, thus allowing the re-definition, creation and integration of ways and means in the re-organization of *knowledge transmission.*

Practice, being the iceberg that points out of the quiet ocean of knowledge, is characterized by *what you see is what you get.* Practice will take advantage of any means or skills available, regardless of any consideration. Educational resistance to new paradigms will probably continue the reductive process of what should be taught, avoiding to address the issues, thus producing by default a new marketable skill (CAD operators). The hope is that this time, we feel the urgency "to accept our new status of explorers faced with the unknown; we are about to venture into a century where the previously delineated paths can no longer be extended" (Frederic Migayrou) rather than be satisfied with what would be left to be talked about.

In conclusion one hopes that academics and professionals will work closer to define a flexible and appropriate "interface" that would secure a constructive dialogue between the present understanding of 'theory as *intellectual* endeavor" inside the discourse of architectural education "and "theory as *thinking* instrument" in the "practice of architecture".