

**Elements,  
Structure & Architecture**  
Profession of Faith

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**Seminar**  
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**Methods of assessment**

• **S7, S8, S9 project**

Final panel

• **PFE S10 Project**

- Continuous assessment and final report
- Only students who have passed the teaching units of S7, S8, S9 and the PFE are authorised to attend the Viva Voce.
- Public PFE Viva Voce (article 34- decree of 02 July 2005)

• **S8 Seminar**

- 1st session: Continuous assessment
- 2nd session: Thesis complement

• **S9 Seminar**

- 1st session: Thesis and Viva Voce
- 2nd session: Thesis complement and Viva Voce

# Elements, Structure & Architecture Profession of Faith

More than ever, the immense upheavals linked to climate change require us to rethink our ways of living and thinking. The finitude of the world and the climate catastrophe underway are a call to be rational; and as Bruno Latour suggests, «to finally take the present seriously».<sup>1</sup>

This awareness obviously applies to the construction industry, which is one of the most carbon-intensive industrial sectors, consumes more energy than necessary, and generates endless amounts of waste. The present emergency has the virtue of putting back into the center of the game the constructive questions (systems, channels, resources, assemblies, elements, ...) which architects must seize to become drivers of change. Our privileged role as «generalists» in the sense of Buckminster Fuller - beyond any disciplinary compartmentalization - gives us the demanding capacity to do so.

Our field is based on the hypothesis that architecture is a process of construction. This fundamental position is materialized according to us by its indispensable anchoring in the realities of the world - phenomena and inherent complexity - and the pleasure of making - original condition and fabrication.

This complexity is materialized by a system of permanent elements to consider, whether they are physical, climatic, economic, technological or political. These elements determine a multitude of constraints to be considered and invite us to consider with objectivity the present environment in which we are led to intervene.

## Elements.

At the origin is the shelter. The need to protect oneself from the elements of nature, wind and rain, sun and cold. Despite cultural, economic, technological and energy changes, one of the main challenges of today's and tomorrow's architecture is

still to create a «comfortable» shelter, and to protect living beings from increasingly extreme external climatic conditions.

The question of the elements of architecture has been often explored in the history of our discipline, since Gottfried Semper «*Die vier Elemente der Baukunst*»<sup>2</sup> which identifies a quartet of elements to determine the origins of architecture (the hearth, the roof, the fence, the terrace or mound) to Rem Koolhaas during the Venice Biennale in 2014, «*Elements of architecture*»<sup>3</sup>, which proposes an inventory around 15 fragments of a rich and complex architectural collage, permanent but constantly changing elements.

We propose to explore the close links between the elements of nature and those of architecture, in a relationship of strange cohabitation, and whose history of construction attests to frictions, contradictions, but also possible complicities. Our ambition is the emergence of a shared constructive thought, economical and rational, conscious and

1 - Latour B., 2017, OÙ atterrir ? Comment s'orienter en politique, Paris, La Découverte

2 - Semper G., 1851, Die vier Elemente der Baukunst: ein Beitrag zur vergleichenden Baukunde. Brunswick, Vieweg

3 - Koolhaas R., 2014, Elements of Architecture, Venice, Marsilio Editori

committed.

### **Resilience: capacity, resistance, economy.**

The notion of resilience transcribes in its own way the concerns and expectations of our time. Generally speaking, it refers to the capacity of an element or a system to withstand an alteration of its environment. It is thus associated with fields as diverse and sometimes fundamentally contradictory as aerospace, ecology, geography, economics, computer science, urban planning or even the physics of materials.

Consequently, what transcription could be made for architecture?

The essential capacity of a building lies in its ability to adapt to change, whether it be programmatic, technical, climatic, or related to a combination of multiple parameters. This capacity to postpone obsolescence is probably determined by the structure, the essentially non-reducible element of architecture.

In our mind, it is capable, evolving, it is the generator of optimal living conditions. In this, we consider it to be the main factor of resistance to the passing of time.

The second objective to be pursued within the framework of a so-called resilient vision of an architecture is complementary to its capacity for evolution and transformation over time: the economy.

The economy, in the broadest sense of the term must include economy of material (own weight of the constructions, process of transformation or reuse), economy of energy, economy of carbon, economy in the means implemented in the act of building.

Therefore, we have to design architectures with a high resistance capacity, economical, generous in their habitability, with the words of Dieter Rams as a mantra, «*Weniger, aber besser*».

### **Composition: nature, déjà-là, experimentation.**

Our environments and habitats are the result of an interweaving of beings, elements and objects with often anachronistic, contradictory and antagonistic natures. Modernity has endeavored to analyze, classify, organize and prioritize these opposing forces in order to offer us a controlled and peaceful environment.

Today, the exploration of the cohabitations and frictions of our contemporary worlds constitutes for us the basic condition of an evolutionary capacity of architecture. It is no longer a question of developing the environment but of fully considering the complexities and contradictions of the existing and weaving links between them and with them.

In addition to the obvious «economic» virtues of the transformation of the existing, mainly material and energy, it appears necessary to consider first what is already there in priority to any other form of action, and to investigate the infinite potential of reuse.

We thus propose to consider the following beliefs as fundamental;

- . The legacy of the carbon and energy balance of existing buildings has an impact on our current resources and emissions: we have a liability,
- . The application of a constructive thought based on a rational and «essential» manufacture in its means, without artifice, delays the obsolescence of the structures and allows us to easily envisage several lives for the buildings: we must be economic,
- . The existing is a complex system, often composite and singular, its qualities must be finely inventoried to determine its potential: we must minimize our intervention to the essential,
- . The constraints of the existing system constitute a formidable field of play and experimentation, in particular typological: we can invent.

Beyond the work on new or existing buildings, it will also be a question of elaborating project strategies to revive urban districts through the existing material, sometimes dormant. How can we renew/rehabilitate/transform our built environments, where public spaces and vegetated infrastructures anchor our values and hope for a better collective urban life?

Adaptive reuse is at the root of all projects, and this approach offers «new life to urban monuments» by offering «cities the opportunity to streamline the use of space for residents and businesses while preserving the historic character of the building», explains professor and architect Daniel Pearl.

When pure preservation is not the focus of a project, adaptive reuse offers an attractive and cost-effective way to blend the old with the new. This argument must also be able to reignite the neighborhood in a sustainable and cohesive direction. There is no perfect recipe to follow, so it will be a matter of inventing and researching together.