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Review article

CONSTRUCTION FORM AND INTERMEDIARIES OF FORM

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Abstract

In architecture,it is impossible to imagine the materialisation of an architectural surface without construction.Architectural ideas and creations without a constructive system can only exsit as unformed concepts.
When it comes to the intermediaries between form and construction, many scientists have tried to explain them in various ways. In a contemporary context, the paved work can be compared to the body of a mannequin, where its skeleton represents the load- bearing construction and its clothing symbolizes construction material. Within the concept of form there are numerous methods and ideas of mediation, and inspiration can be simple, complex, and sometimes spontaneous, for example it can come from momentary event like lightning , which is a rapid movement occurring in a fraction of a second.

Keywords: construction, shape, intermediaries, mannequin, case.

1. Introduction

What is construction?

Construction is one of the fundamental elements of architecture and structural engineering. It can be defined in various ways, but its core function remains the same: Construction represents any object that transfers loads through space from one point to another. Through construction, the forces and loads acting on a building are distributed and transferred in a controlled manner to the foundations or supporting points.

Figure. 1.1 Exhibition Hall, La Défense, Paris, France. Skeleton-type residential-commercial building, Chair

In contemporary architecture, construction is not only a matter of technical functionality but also often serves as formative and aesthetic element. In many cases,structural elements become an inseparable part of the building's visual identity.
In the collage below, various buildings are presented through photographs, illustrating different structural systems, construction elements, and building materials—where all architectural elements of form simultaneously serve as load-bearing components of the structure.

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Concrete examples:

- Post of Macedonia, Telecommunications Center – Skopje (architect: Janko Konstantinov): The walls and façades are constructed with massive reinforced concrete, creating a strong interconnection between form and structure.
- Spatial structures are often realized with steel constructions such as space frames.
- Modern bridges utilize prestressed concrete to achieve both stability and elegance.
- Glued laminated timber is used as a structural material that combines visual warmth with static functionality.

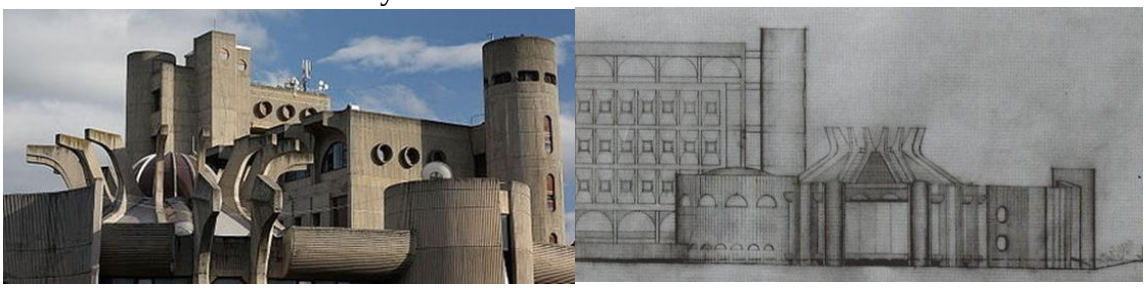

Figure 1.2 Post of Macedonia, Telecommunications center-Skopje, Massive reinforced concrete construction

Figure. 1.3

2. Space and Construction

In space, every construction manifests as a specific form. To understand this, we begin with the most elementary spatial element —the point. Space consists of countless points. The translation of points generates lines or fields,and the translation of lines or fields generates volume—space, or more precisely, form. From this conceptual development, we derive a fundamental triangle:

Load – Structure – Form.

This triangle illustrates the inseparable relationship between mechanical/static function and visual expression in architecture.

3. Intermediaries of Form

When discussing the intermediaries of form and the role of structure, many scholars have attempt to interpret these relationships in various ways. In contemporary discourse, the metaphor of a mannequin can be used to illustrate this idea: the skeleton of the mannequin represents the load-bearing structure, while the clothing symbolizes the building material.
In the first order (1), identical movements and mannequins wearing the same jeans in different colors result in varied visual forms. In the second order (2) different models of jeans are used, but the mannequin end its movements remain unchanged. In the third (3) and fourth (4) orders, both the mannequin's form and its movements differ. From these scenarios, we can conclude that structure by itself holds no inherent meaning in shaping the final form.Rather, form gains meaning through the structure. Without the construction—the mannequins body-we would have no image at all. Thus, we return to a foundational principle:Ideas without construction have no realization.

Figure. 1.4

4.Construction and Its Components

A construction is composed of multiple structural elements. Just as in biology, where the cell is the fundamental structural, building, and functional unit of every living organism, and where cells combine to form tissues, tissues form organs, and organs make up living beings- a similar hierarchical sistem exists in architectural constructions. Structural elements combine to form structural units, structural units form planar constructions, and planar constructions come together to create spatial constructions—all of which collectively constitute the structural system of a building.

In the organic world, we also find unicellular organisms. This raises an important question: Can a construction consist of only one structural element?

Yes—it can. A single structural element, such as a pole supporting electric wires, telephone lines, or telecommunications systems, is a clear and simple example of a standalone structural function.

An analogy with the human body illustrates this concept well: the skeleton represents the load-bearing structure, while the **clothing** (skin, garments) represents the **external materials and form**.

This relationship can be illustrated across four conceptual levels:

1. Different forms applied to the same structure with identical movements
2. Different forms on the same structure with surface-level changes
3. Different forms and different structures – with mutual influence between them
4. Forms generated by movement or by natural phenomena

From these observations,we understand that structure is not always the determinant of form-often,it is the form that dictates the structure.Still,no realized form can exist without a structure.

Natural inspiration in form

Inspiration for architectural form is often drawn from nature and natural phenomena:

- Lightning – symbolizes sudden, intense, and dynamic movement.
- Natural landscapes, such as the painting of Theth by Danish Jukni, ofer inspiration for both visual composition and the construction of spatial relationships in architecture.

Lightning, as a dynamic and unpredictable form,becomes a model for unexpected formal gestures indesigne.

The view of Theth ,captured in Danish Jukni’s painting,exemplifies how natural spatial relationships can deeply influence and inspire architectural expression.

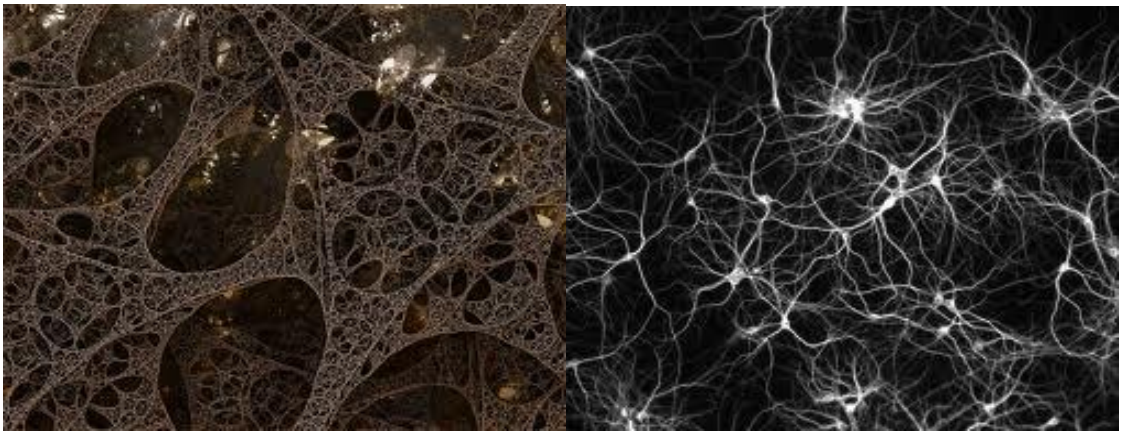

Figure 1.5 The Intermediary of Form – Lightning

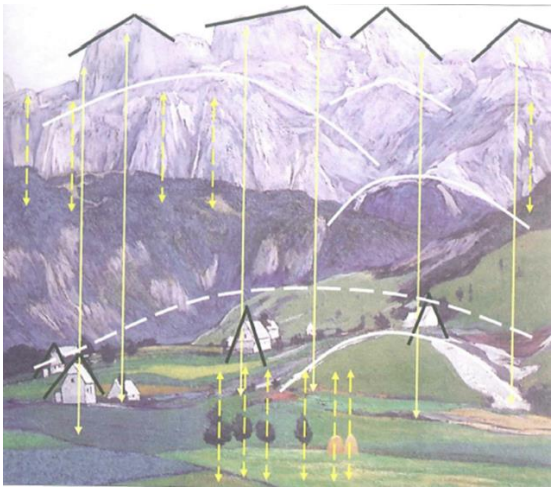

Figure 1.6 The Intermediary of Form – NATURE, Elemental Relationships in a Landscape Painting of Theth by the Painter Danish Jukni

Table 1. The structure of an architectural object can be compared to biological construction.

Biology	**Architecture**
Cell	Structural element
Tissues	Structural systems
Organs	Plan-level constructions
Living organisms	The complete object in space

In the conceptualization of form, numerous methods and sources of mediation exist. Inspiration can be simple, complex, or case-specific. As shown in the earlier example, inspiration was drawn from lightning-a natural phenomenon characterized by extremely rapid movement that takes place within a fraction of a second.

Table 2.

No.	**Type of Building**	**Mediator of Form**	**Resulting Form**
1	Administrative	Project-program by investors	Simple
2	Administrative	Investors	Futuristic
3	Administrative	Project-program	Contemporary
4	Single-family housing	Wife's request	Based on online references

5	Single-family housing	Wife's request	Based on online references
6	Single-family housing	Family's request	Imitation of existing form

Conclusion

Architecture and form are two interconnected elements that exist inseparably unity. Without form, there is no architecture.
The intermediaries of form are numerous and ever-evolving. In architecture, these intermediaries have always been—and will continue to be—a source of inspiration for the architect. They emerge organically from nature, context, society,the environment, natural phenomena, movement,every day life, and more.

- Structure is a fundamental component in the realization of architectural form—not only as a technical framework, but also as an essential aspect of visual and spatial expression.
- The intermediaries of form are diverse and dynamic—spanning technology,function,culture and nature.
- The relationship between load–structure–form is crucial for understanding architecture as a holistic and integrated process.
- The architect is not merely a form-giver, but a creator of meaning and spatial experience.

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