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## TÉCHNE AND POIESIS: THE LEGACY OF THE MASTERS OF THE 20TH CENTURY

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### TÉCHNE I POIESIS: DZIEDZICTWO MISTRZÓW XX WIEKU

#### Abstract

Precision is the foundation of both technique and architecture, but their natures are different: that of architecture is poetic in that it is linked to the becoming of nature, that of technique is instrumental. A very current theme that concerns more generally the relationship between man and science and concerns the future and the very survival of man. Today the most attentive scientists warn us about the misunderstandings that can derive from the widespread confusion between the “poetic” intelligence of man and the algorithmic intelligence of the machine.

*Keywords: architecture, technique, tectonic system, masonry system*

#### Streszczenie

Precyzja stanowi fundament zarówno techniki, jak i architektury, lecz ich natury są odmienne: architektura jest poetycka, gdyż wiąże się z procesem stawania się natury, natomiast technika ma charakter instrumentalny.

To niezwykle aktualny temat, który dotyczy ogólnej relacji między człowiekiem a nauką oraz przyszłości i samego przetrwania ludzkości. Dziś najwnikliwsi naukowcy ostrzegają nas przed nieporozumieniami wynikającymi z powszechnego zamieszania między „poetycką” inteligencją człowieka a algorytmiczną inteligencją maszyny.

*Słowa kluczowe: architektura, technika, system tektoniczny, system murarski*

The evolution of technique has always generated new forms. Over time, two fundamental construction archetypes have characterized the history of architecture: the tectonic system of Greek architecture and the masonry system of Roman architecture. Two antithetical ideas of structure that underlie two different ideas of space and still constitute a field of fertile experimentation.

Both the Roman masonry system (which finds new declinations from Romanesque and Gothic architecture to the Renaissance), and the tectonic system (thanks to the invention of iron and reinforced concrete frame structures) have represented a fundamental reference for the Masters of the 20th century. Some – like Loos and Kahn – have experimented with new

spaces with a masonry character, others – like Mies and Le Corbusier – with new expressive forms of the tectonic structural archetype.

In 1928, in a notebook for a conference, Mies listed the founding themes of his research: “Taking possession of the technical world through architecture. The irruption of the world of technology into our lives and the translation of the changed Technical situation into space”<sup>1</sup>.

For the German architect, technology is therefore a cultural tool for achieving an objective order and a condition of freedom. The new possibilities allow, in fact, an articulation of space according to the needs of contemporary life and a new, more dynamic, spatial and perceptive conception.

The projects for the concrete house, the brick house and the steel-structured pavilions of the 1920s constitute the manifesto of a new spatial conception through the intentional renunciation of form: “we do not recognize any form, but only construction problems. Form is not the aim of our work, but rather the result”<sup>2</sup>, states Mies.

In the project for a concrete country house of 1923, the planimetric articulation transmits a centrifugal rotary tension to the buildings. Mies seeks continuity between walls and floors, imagines a box-like structure, free inside, which he describes as follows: “This construction system is covered by a thin skin of reinforced concrete [...] I cut openings in the walls where I needed them for views and lighting”<sup>3</sup>. The research on space through the exploration of different techniques and materials continues in the 1924 project for a brick country house. The walls, lacking continuity, appear as fragments and the constant thickness seems to want to cancel any difference between interior and exterior, making the spatial partitions coincide with the structural span. The discontinuity of the wall perimeter and the decomposition into partitions of the brick house anticipate the experiments of the Barcelona Pavilion of 1929 in which the partitions, in their thin thickness and in the preciousness of the materials, reveal, differently from what happens in the brick house, their atectonic character. There is no longer the intentional construction of a limit, there is no solution of continuity between inside and outside, the space is now a fluid entity. The only elements of spatial definition are the roof and the wall enclosure with the pool of water.

In Mies’s work, in general, it is possible to identify two antithetical systems: a block wall system and a tectonic type with an open pavilion. The coexistence of these two systems takes on particular evidence in the Tugendhat house of 1929 in which the upper floor is still ambiguously traditional with the prevalence of full spaces over empty spaces, with continuous walls and windows. On the lower floor, slender chrome pillars define a spatial continuum, the envelope is entirely glass and the internal space is projected towards the surrounding countryside without solution of continuity.

In American domestic projects, the pavilion type finds a precise formalization in a series of elaborations, such as the Farnsworth house, the Caine and the Fifty foot by Fifty foot of 1950. The only one realized is the Farnsworth, a prototype with a tectonic structure that gives a modern form to the idea of the Semperian hut. It proposes its four characterizing elements: the base that, with the act of rising, denotes the protective function;

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<sup>1</sup> L. Mies van der Rohe, *Appunti per conferenze (foglio 34)* [in:] F. Neumeyer, *Mies van der Rohe, Le architetture gli scritti*, M. De Benedetti, M. Caja (eds), Skira Editore, Milano, 1996, p. 282.

<sup>2</sup> L. Mies van der Rohe, *Bauen*, in «G», settembre 1923, p. 1, Italian translation in: M. De Benedetti, A. Pracchi, *Antologia dell'architettura moderna. Testi, manifesti, utopie*, Zanichelli, Bologna 1988, p. 400.

<sup>3</sup> *Ibidem*.

the roof-frame made evident by the continuity between pillars and roof; the hearth in the essential form of the chimney and the transparent glass casing. This coexistence of two different structural and spatial systems also characterizes, in different forms, the *recherche patiente* of Le Corbusier.

In his work – as Colin Rowe claims<sup>4</sup>– there is a constant reference to two archetypes: the “megaron” space (the maison Citrohan), a continuous masonry structure and the “sandwich” space (villa Savoye), a tectonic system with a free plan, defined by the compression of the floors.

His expressive research uses ever-changing techniques and materials, from reinforced concrete to steel, from stone or brick walls to wood and rammed earth. From the masonry idea of *béton brut*, to the tensile structure with ruled surfaces of the Philips pavilion at the 1958 Brussels Expo or the steel and glass structure of the “Maison de l’Homme” in Zurich in 1963.

The variety of techniques used by Le Corbusier highlights how every discovery in the field of construction offers new opportunities, without excluding those already acquired.

Modernity is not linked to the pursuit of the latest technical discovery, but is the ability to interpret the expressive potential – always new – of a material, of a construction system, archaic or recently discovered. Le Corbusier, through an inventive process, therefore, gives materials and techniques a different semantic value: technique is essentially, for the Swiss master, a condition that is certainly necessary but absolutely not sufficient for architecture.

With this attitude of continuous spatial experimentation through ever-changing techniques, Le Corbusier returns, after many years, to the same themes, he fixes the fundamental questions through a tireless investigation, a cyclical idea seems to obsess him.

His latest projects reach a radical synthesis. In the church of Firminy of 1962, space is reduced to an archetypal form, a large “megaron” illuminated by zenithal light; in the Venice Hospital of 1963, the form, compressed in the “sandwich” structure, seems almost to dematerialize, the idea of the settlement remains of the architecture: the act of founding on piles.

There is therefore no direct and deterministic consequentiality between technological innovations and architecture, the technique does not have an autonomous value, but is a tool, a device functional to the invention of new forms of architectural space. The most authentic nature of architecture is in itself poetic, not technical as Auguste Perret clearly clarified already in 1924:

In a work – he wrote – it is necessary to consider the character and the style. The character is the way in which the work responds to its destination, it is the relationship, the relation between the object and its purpose. The style is the art of using the material, of which the work bears witness, and of obtaining the maximum harmony. A locomotive has only character. The Parthenon has character and style. In a few years, today’s most beautiful locomotive will be nothing but a pile of scrap metal. The Parthenon will sing forever<sup>5</sup>.

I would now like to conclude this reasoning by quoting a text by Francesco Venezia from 2010 that constitutes a radical criticism of the contemporary condition, of the uncritical and often uselessly flaunted technicality of many of today’s architectures.

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<sup>4</sup> Cf. C. Rowe, *La matematica della villa ideale e altri scritti*, Zanichelli Editore, Bologna 1990.

<sup>5</sup> After: C. Zervos, *Réflexions d’Auguste Perret sur l’architecture*, “Les Arts de la Maison” 1924, primavera, p. 14, Italian translation in: R. Gargiani, *Auguste Perret 1874–1954*, Electa, Milano 1993, p. 90.

In *The poetic nature of architecture* he compares a cell phone, an extraordinary and now irreplaceable tool for us, and a brick, a poor material that is 6,000 years old, with which architectures such as the Pantheon, Bramante's Santa Maria delle Grazie, Alberti's Sant'Andrea or Kahn's Capitol in Dhaka were built.

The brick is an object that vibrates under the light, whose beauty is the result of its imprecision. The cell phone is a perfect tool that has the life of a butterfly: transience is the characteristic of this wonderful and useful object, the durability of the terracotta brick.

With the paradoxical lucidity that characterizes his thought, Francesco Venezia captures analogies and distances between technique and architecture:

The machine is the representation of an admirable order. It is the emulation of nature by humankind. But the uniqueness and beauty of the machine lies in movement. As soon as a machine becomes stuck or stops, all interest in it ceases; its beauty no longer touches us – it ends. The beauty of architecture lies instead in its stability, in its being the measure of movement. Everything 'must' move around the architecture, starting with the sun; architecture continues to live beautifully in a precopernican conception. The relationship between immovability and change is manifested when perceiving the passage of time on a building – the shadow, the moisture, the phenomena that reveal the effects of weather.

[...] Recently there has been renewed interest in Leonardo. He as an architect and in design buildings, completely omitted the extraordinary experience he had accrued in the world of machinery. He was not tempted, like the avant-garde constructivist, by that repertoire of forms. He drew inspiration from massive Roman and Byzantine buildings.

[...] And it is symptomatic that, after devoting much of his life to machines, as architect Leonardo was convinced that there was a different route, because architecture takes a different route. There is one thing, however, that the two Leonardos have in common: the predilection for precision. And it is the predilection for precision that is common to the two fields of action, but there is no transfer of form from one to the other. [...] we passed from the infatuation with heavy machinery (which at least has some affinity with architecture in terms of construction principles) to infatuation with the world of software. Today, architects seek, desperately, to reproduce somethings that evokes the mutations of the images of the images that take form on the computer screen.<sup>6</sup>

If precision is therefore the foundation of both technique and architecture, their natures are different: that of architecture is poetic in that it is linked to the becoming of nature, that of technique is instrumental.

A very current theme that concerns more generally the relationship between man and science and concerns the future and the very survival of man. Today the most attentive scientists warn us about the misunderstandings that can derive from the widespread confusion between the "poetic" intelligence of man and the algorithmic intelligence of the machine.

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<sup>6</sup> F. Venezia, *La natura poetica dell'architettura. The poetic nature of architecture*, Giavedoni, Pordenone 2010, pp. 38–43.

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