Editorial

Vitruvius, a Roman pragmatist of vast talent and engineering mind, accepted the conventions of his common sense and knew, as he recounts in his entertaining book The Ten Books on Architecture, the functioning of machines and devices of war, Pythagorean cabals or astrological suppositions, a very varied and therefore shallow compendium. Yet, it brought him fame as the only known treatise in antiquity that amply demonstrates a practical knowledge of these subjects. on the other hand Vitruvius is, for almost all of us, his famous and widely disseminated triad of architectural practice: *utilitas, firmitas* and *venustas*. If **utilitas** is attributed to the space and **firmitas** to the ceiling and the walls that enclose it - **venustas** is not specified in any of the above, so it is supposed to be something added and of appearance, perhaps ornament, but always something outside the containing space - our architect shows that the whole is a supposition of elements interrelated among them with a final (and beautiful) result. In short, he proposes tectonics skillfully defined. It is clear that, in our past and current times *and those of the past, utilitas* was a determining factor in architectural practice. Thus, Vitruvius is not wrong if we think of his proposal regarding the robustness of the system, but at the same time he makes us reflect on the fact that this is an ambiguous idea, of an elasticity that is incompatible with the creative and design rigour of today's architecture.

Nowadays, the implementation of utility implies a knowledge of use, implicit in the context of the designer, as Umberto Eco relates in certain social codes or customs. The issue, then, as far as use is concerned, must be considered through the prism of functionalist theories, those that propose the constant *form follows function*, a moderate and foreseeing idea of essential nuances, But another, as Arnau states, more radical position not formulated in theory but de facto manipulated in practice, wants the function to be reified as form: that is, form is engendered by function. This nonsense beats, however, and in an euphoric way, from the majority of design methodologies. Today architecture presents a challenge in the gravity-rigidity binomial emphasised by Vitruvius. We find ourselves in a spatial way of proceeding to design, where the challenge of design must, by force, consider functionalism linked to technological innovation. The historiography presents valuable and enriching examples that relate structural synthesis with constructive synthesis and the interaction between the two as we referred to earlier, but now, innovative technological artefacts have modified the form, exterior and interior, giving rise to other formal solutions and, therefore, to different visual ranges. Systems that can transform the architectural space by employing openings, sliding, and movable roofs give rise to changing forms and create an important relationship with the exterior and interior space. In all these cases, there is a reciprocal dialogue and interaction between technology (innovation) and the form of architecture (spatiality), a contemporary vision in which we must necessarily arrive at the concept of design through virtual methodologies (3D, BIM), which can anticipate the final result through simulations of form provided by technology.

Jay David Bolter, in his book *Turing's Man: Western Culture in the Computer Age* (1984) argues that it makes sense to examine Plato and ceramics to understand the Greek world, Descartes and his mechanical clocks to understand seventeenth- and eighteenth-century Europe, as well as computers as a technological paradigm for the science, philosophy and even art of future generations. Bolter analyses the cultural impact of computers in our era, comparing the computer to earlier technologies that redefined fundamental notions of time, space, language, memory and human creativity. Surprisingly, he finds that in many ways the outlook of the computer age is more like that of the ancient world than that of the Enlightenment. The classical philosopher and the computer programmer share a suspicion of infinity, an acceptance of the necessary limitations of human achievement, and a belief that results are more important than motives. While Bolter fears that the increasing use of computers may diminish our culture's sense of the historical and intellectual context of human endeavour, he argues that the computer also offers new ways of looking at intellectual freedom, creativity and the conservation of precious resources. It is our paradigm of TECHNOLOGY that changes the spatial and material sense of the project and allows an "architectural freedom" out of established contexts and patterns and that is possibly its greatest appeal.

And not only that. Now we are heading towards a new paradigm called Meta-verse, where the new frontiers of the digital are in the metaverse (beyond the universe), which brings an evolution of the internet, virtual and augmented reality, with the possibility of unfolding living alternative experiences and emotions. Does this have something to do with Vitruvian architecture? There must be, since we create Digital Twins of buildings, not just individual structures, but even entire urban environments. It allows simulating different scenarios, modifying them and even making them exist or vanish. The new digital frontiers represent a participatory and shared advance in design and open even new procedures for the conservation of heritage and contemporary architecture.

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