

Harmonious Space as an Architectural Intend

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The aim of this paper is to understand the important role Le Corbusier's essay — *Modulor: A Harmonious Measure to the Human Scale Universally Applicable to Architecture and Mechanics* — can still play in the contemporary architectural scene. The main goal is to comprehend the architectural notions behind the 1950s research and how it can influence the architectural intend in the design process i.e. the way architects interpret the relation between space, form and its appropriation.

The *Modulor* essay is comprised by two parts, published 5 years apart from each other. The first one was written, at the end of the first half of the twentieth century, between 1943 and 1950, as an enthralling description of the trials and tribulations of Corbusier's theory research for *Modulor*. The second includes opinions and ideas from different users around the world in order to improve Corbusier's creation, taking into account the importance of dialogue between the inventor and his public.

The *Modulor* is a metric system firmly based on Geometry, Mathematics and the human proportions. The research for *Modulor* started as an exercise during wartime. Corbusier's concern with the condition of the universal man was the starting point for his research, which tries to solve social, technical and spatial problems. This grid was conceived as a two-dimensional instrument to be used at building sites for urban reconstruction in the post-war era. In the modern world, Le Corbusier supports that the "proportional grid"¹ would "...unify, congregate and harmonize mankind's work..."² As a matter of fact, the term *Modulor* combines the word module with the notion of the golden section, emphasizing, in only one word, the importance of geometry and standardization of construction elements. It intended to bring together two different measurement systems - the Anglo-Saxon and the metric system - providing workers, engineers and architects around the world with a working instrument helpful during

¹ LE CORBUSIER, *O Modulor: ensaio sobre uma medida harmónica à escala humana aplicável universalmente à arquitectura e à mecânica*. Lisboa: Orfeu Negro, 2010 (1ª ed. 1950). p. 10

² LE CORBUSIER, *O Modulor: ensaio sobre uma medida harmónica à escala humana aplicável universalmente à arquitectura e à mecânica*. Lisboa: Orfeu Negro, 2010 (1ª ed. 1950). p. 34

the design process. "The Modulor is a worktool, and such it is a companion to the compass and the pencil"³, affirmed Le Corbusier.

The reached solution, grounded in geometrical formulas such as the doubled square, Fibonacci sequence and the golden section, works as a gauge, assuring the designs are in the right harmonious path towards Beauty. Beauty, only achieved when all the different design elements are part of a single composition, harmonic and balanced. Thus, Modulor is presented more as a tuning instrument assisting the architect during the design process, than determining measures.

In the essay, Le Corbusier reports that often he would find on his collaborators worktable drawings out of proportion and unbalanced. He would be *furious* when they justified "*atrocities on the grounds they were "Modulor"*"⁴, as he never "*hesitated to ignore it when it got in the way of a proportion that his eye told him was just right*"⁵. Indeed, to him, the eyes are the judges according to which man thinks space. Le Corbusier used *Modulor*, before it's complete theorization, in works such as the Unité d'habitation, in Marseille, a multi-family residential housing, and Jacques-Duval Factory in Saint-Dié. Those still marvel contemporary architects with their complexity and harmony. The Modulor is presented as the key for a harmonious space, "*... a harmonic, uniting rule, Modulor can unify the textured architectural work...*"⁶ The harmonic proportion assures all design elements are in a balanced relation with each other, backing the creation of a coherent and codependent architectural space. Hence, the notions of form and space appear as a system, integral and unbroken. This way of thinking, underlining the importance of compositional themes in an architectural object, changed completely the understanding of the design process.

The interdependence of the different design components - space proportions, volumes' scale, materials, light and furniture - introduces the concept of "*Synthèse des arts*". Corbusier painted actively along side with his architecture career and believed that architecture, painting and sculpture were spatial arts. When developed together, as a harmonic system, a multi-layered synthesis of space and form, the different arts bring unity to the architectural composition.

According to Corbusier, harmony is a symbiotic relationship between human beings and the universe. "*...a moment of accord with the axis that lies within man, and thus with laws of the universe.*"⁷ A harmonious space exists when there is a concordance between the contemplated object and the axis,

³ LE CORBUSIER, *New World Space. Some day through Unanimous Effort Unity Will Reign once more in The Major Arts: City Planning and Architecture, Sculpture, Painting*. New York Reynal and Hitchcock. Boston: The Institute of Contemporary Art, 1948, p. 124

⁴ CURTIS, William J. R., *Le Corbusier: Ideas and Forms*. London: Phaidon Press, 2003 (1^a ed. 1986) p. 164

⁵ CURTIS, William J. R., *Le Corbusier: Ideas and Forms*. London: Phaidon Press, 2003 (1^a ed. 1986) p. 164

⁶ LUCAN, Jacques "Hypothèse pour une spatialité texturée" in *Matières 9*. Lausanne: PPRU Presses polytechniques et universitaires romandes, 2008 p. 8

⁷ *Le Corbusier: une encyclopédie* (dir. Jacques Lucan). Paris: Centre Pompidou, 1987. p. 173

inherent to the human being and in accordance with the universe. When an individual experiences a harmonious space, he feels the emotion and satisfaction of a well balanced, ordered and structured architectural composition.

The unity in architectural drawings and works comes from an individual pursuit for order as intend for a harmonious space in architecture. Therefore, unity is achieved through a unanimous composition of the different architectural elements. In order to reach the harmonic, ordered design, Corbusier enhances the importance of compositional themes, structured by regulating lines and geometry. Geometry works as a balance between mathematics and emotions. More than an abstract mathematical mechanism, geometry provides the scientific meaning to the solution, scaling sense and emotion. The regulating lines are “...a guarantee against arbitrariness: it is the verifying operation that ratifies all work...”⁸ preserving the composition against chaos and contributing to its formal coherence.

Hence, in *Modulor*, more important than the metric grid and the dimensions, are the underlying ideas, the spatial narrative and compositional themes, which contribute for unified and textured space.

In the interpretation and understanding of contemporary architecture Jacques Lucan introduces, through Corbusier's notions, the textured space concept. In order to illustrate this impression, Jacques Lucan gives various examples of contemporary swiss architects' work, namely Herzog and de Meuron, Guiliani & Hönger and Valerio Olgiati. Regarding these examples, Jacques Lucan advances the notions of unitary program compositions oriented by regulating lines that assure, the architectural object isn't fragmented independently of design's complexity, distribution and form. Unconventional, divergent elements are enmeshed in a unifying design.

In fact, he identifies, in these narratives, the same principle emphasized in *Modulor* of a harmonious layered composition i.e. all the elements are in logic dialogue with each other always interpreting society's search for progress.

Therefore, it is important to understand the contribution of Corbusier's architectural notions associated with his harmonic system in today's design process and how it still can guide and influence architectural narratives in the search for an integral and complete solution responding to social needs, programmatic and technical requirements through innovation without compromising architecture's true artistic value i.e. its capacity to transcend.

⁸ LE CORBUSIER, *Toward an Architecture*. London: Frances Lincoln, 2008 p. 137