

The Techno-aesthetical Architectural Dilemma: Paradigmatic Histories of Reinforced Concrete

**Khaoula Hannachi, Mustapha Cheikh Zouaoui,
Amina Abdessemed Foufa**

PhD candidate | PhD, Assistant Professor | PhD, Professor
University Blida 01, Institute of Architecture and Urban Planning (IAU),
Laboratory of Environnement and Technology for Architecture and Cultural Heritage (Lab ETAP), Algeria
hannachi.khaoula@etu.univ-blida.dz | cheikhzouaoui.mustapha@univ-blida.dz | aafoufa@univ-blida.dz

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Introduction

The debate on the double dialectic Architecture-Aesthetics / Architecture-Ethics¹ is old but it takes on urgency in the context of the existential stakes of the Anthropocene.² This age is marked by the increasingly radical transformation of the contemporary world, which conforms to the evolution of a techno-natural environment whose new challenges lead us to question the complexity of our very connection to the world. These tensions have led to the creation of a chiasmus between the operative and the sensitive in architecture. While the operative dimension faces the urgent challenge of handling architecture's impact on nature and the environment, the sensitive one seems to turn into a matter of secondary importance at best and is almost ethically incriminated. This often leads to an abstraction of the importance of aesthetics in the architectural creation process, which is then reduced to its capacity of providing an answer to ethical problems.

On the one side science, order, progress, internationalism, aeroplanes, steel, concrete, hygiene: on the other side, war, nationalism, religion, monarchy, peasants, Greek professors, poets, horses.

George Orwell, *Wells, Hitler and the World State* (1941)

It is hardly surprising that concrete is at the core of these debates. Not only is it the most consumed substance on the planet after water, with a production rate of five billion cubic meters per year,³ which raises concerns about its material footprint, but it is also, *as a human technique*, the epitome of the domineering attitude that we've had towards nature over the last two centuries. The socio-political upheavals experienced by the Western world during the 18th and 19th centuries have led to the rise of a progressive tendency that fostered the rapid development of technology and the search for a new identity that was marked by the advent of modernity. This context allowed the gradual and collective invention of reinforced concrete,⁴

1 For different views on the question of ethics and aesthetics in architecture, see: Maurice Lagueux, "Ethics versus Aesthetics in Architecture," *The Philosophical Forum* 35, 2 (2004): 117-133, and Raluca Becheru, "The Morality of Bricks," *sITA – studies in History and Theory of Architecture* 7 (2019): 27-38.

2 The current geological age places humans as the primary geological force. This concept goes beyond the geo-historical reality to take on philosophical, religious, anthropological, and even political dimensions. This complexity and the various kinds of tensions that it creates, require a re-evaluation of the concepts that govern our perception of the world. See: Bruno Latour, "L'Anthropocène et la destruction de l'image du Globe" ["The Anthropocene and Destruction of the Image of the Globe"], in *De l'univers clos au monde infini [From the Closed Universe to the Infinite World]*, ed. Emilie Hache (Paris: Éditions Dehors, 2014), 27-54.

3 Statistic estimation of <https://www.worldcement.com/>

4 This invention was the result of multiple systems and processes and is therefore difficult to pinpoint. Still, some names are worth mentioning, including those of Joseph Lambot (patented in 1849), William Boutland

