Technology's Integration in Architecture: Implications on Education, Technology and Place

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This paper identifies two visions of the challenge of technology integration in architecture for education. Then, the appropriateness of conceiving architecture from a holistic perspective of the human dwelling is suggested, proposing an awareness of its technological aspects. Finally, some considerations of technology in architecture, in particular in teaching and learning are challenged, first analytically and then with an integrative intention.

SCIENCE VS. INTUITION

The architect as a professional has been changing since the seventeenth century, when the formation at the École des Beaux-Arts placed greater emphasis on aesthetic and stylistic qualities (Kostof and Cuff, 2000: 209). From the Enlightenment onwards and as consequence of Cartesianism, architectural education has seen a subdivision to its associated disciplines. The conception of a body-mind split contributed to feel the need to study architecture in the same decoupled way. Therefore, on the one hand, one could place the issues related to subjectivity. On the other hand, we have those issues related with the human body or the architectural materiality.

Sometimes we ignore the links that bond technology and humanities, overlooking their importance in architecture as rooted in the human dwelling. It has been philosophically suggested that technology in its origin was the proper knowledge of making, the making of architecture in our case. When Heidegger questions the essence of technology, he seems to do so by understanding contemporary technological manifestations as the last degree of alienation of the European human being (Beistegui, 2005: 99–102). While for Marx human alienation was economic in nature, for Heidegger the problem of alienation lies in the fact that human beings are not able to approach technology with freedom. The risk, then, is taking technology as an end in itself rather than a means for human dwelling. In architecture there was an essential understanding of how and why it had to be built. Instead, in our day's architecture seems to be mainly concerned about how to respond to the great economic and energy challenges of a capitalist world than to the human dwelling. Thus, the disciplines of how to build exist separated from the humanities. The professional role of the architect tends to be banalised, making her rather a specialist of the architectural object than a co-generator of the architectural place (Moore, 2001).

TECHNOLOGY AS END AND NOT AS MEANS: ARCHITECTURE AS AN OBJECT AND NOT AS A PLACE

Technology has become complex and sophisticated, moving away from the human architectural place. It is no longer transparent and instead it has become opaque and mediated. Users have stopped perceiving that technology is their product as beings of the world and, therefore, they tend to see it distanced, to deify it. With frequency in architecture, this trend has made technology an end in itself and not a medium. What is questioned here is how these technological tools become an end in themselves. For example, in graphic representation (Otero-Pailos, 2000) or simulation and environmental analysis programs which are used as evidence and validation (Trebilcock, 2007).

We suggest at least two possible ways of conceiving architecture in teaching. On the one hand, the consideration of architecture as one of the fine arts has generated its appreciation as an artistic object. The aesthetic manifestation of architecture has gradually taken precedence over the conception of architecture due to socio-cultural and economic conditions permeated by the logic of global capitalism. This logic sees architecture as a product in the market. Technology has become added value and not an essential element of the architectural manifold.

On the other hand, we identify the trends that consider architecture as the place of human dwelling in which we can place the approaches to the production of the so-called ecological or sustainable architecture. For the first trend the emphasis is on guaranteeing the autonomy of future generations, in accordance with the guidelines set forth by the United Nations Organization (World Commission on Environment and Development. Published as Annex to General Assembly document A / 42/427 1987). Although up to six ways of defining sustainable architecture have been suggested — depending on the way of approaching the term (see Guy & Farmer, 2001: 141) — some of them more or less debatable, the optimisation of natural resources seems to be one of the main objectives.

DIDACTIC ANALYSIS AND GETTING BACK TO THE ARCHITECTURAL PLACE

The ability to conceive technology with a human sense and as an integrated part of architecture would still be precisely what continues to make the architect a relevant professional nowadays. The composition of architecture is multiple and varied, so, it is not determined only by a single sphere of categories, such as meaning, form or function (Smith Capon, 1999: 14). Therefore, after a didactically analytical phase, these catego-

ries must integrate holistically the conception of architecture, which then becomes unified around the human dwelling.

Architectural education should bear in mind that if the discipline is divided by approaches that are not understood as part of a whole, the role for architects can be replaced by others. Those other professionals may get an incomplete understanding of architecture running the risk of undermining the built environment in which collective life develops. Our awareness of the educational process as a path, first analytical and then integrative, is fundamental. By avoiding the integration of technology within the architectural manifold we risk maintaining the alienation of the human being and not his free relationship with the world.

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