

From principles to locality: Bridging the gap from neuroscience to architecture

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I. ABSTRACT

A project - both conceptual as process - grounds, bounds, and frames the design process as such, representing our best present knowledge within a given framework, not an absolute knowledge as it is typically distributed in a system of agents in a community.

How to strengthen the bonds between architects and neuroscientists? I must first stress that architecture and the neurosciences have always shared the domain of animal/ human agency. This shared domain should be sufficient to suggest cross research, regardless of their different cultures, their diverse methodological principles and practices, and diverse technical and technological constraints.

Science moves from particulars to general principles, while architects operate on a local context - "place building" - and within a large spectrum of social, cultural political constraints. This gap is not always consciously internalized by the arts and the humanities. Architects and neuroscientists must find a common operative ground - animal/ human agency - which could encourage mutual contributions.

From "natural" inception, we are gradually constrained by culturally driven commonalities. Ingrained neural activity can be observed on both the agents' behaviour and on their built environment. From this standpoint, architecture and neurosciences have interweaving histories, even if this is not always evident. Architecture and neurosciences should continue strengthening these threads. Analytical research should reveal the hidden or yet unseen bonds between animal/ human animal and their environment. Architecture needs to focus on both the agents' behaviour and on their contingent environment. As a culture-bound practice, it must operate consistently by verifying its principles, and find the path from principles to locality. Architecture and design must gain a fuller insight of the local rules, principles and constraints - e.g. traditions, arts, rituals, whatsoever relevant. To this purpose, architecture and design must use also big data, modelling, information flow and communication. Thus both ethics and aesthetics engage on a rhetoric dialogue - persuasive from ethical, logical and emotionally empathic grounds - that emerges as "as-if-theories" or "folk-theoretic frameworks" which an agent feels correlating - internal/ external, agent/ environment - either as pleasure or pain. When designing for pleasure we try - that's what architects do - attain a foundational desire for survival.

From my personal experience resilient design and designing for resilience conjointly appeal for a methodological approach concerning agency. Thus embracing the architect's embeddedness on communities' projects within which he operates, and observing its agency level as a maieutic architectural practice and its practitioners as catalysts through the design process. The environment, including other agents, and as integral of this process, sets properly the fundamental local constraints. Context-dependent vs. context-free design, as my school of thought - some at Porto School of my generation, e.g. - rightly claims. This theoretical framework gave rise to my architectural studio practice as well as my research and teaching guidelines.

To illustrate it, the images included in this presentation relate work carried out by my architectural studio over a long period of activity and under the project's conceptual framework of the design process I want to share with all of you.

Grounded on my architectural works - although not exclusively - and within the theoretical work in progress - both as architect practitioner/teacher - my Research Program is a follow up of the Phd Research Project, and nowadays intended as particularly focused on strengthening ties with neuroscience's researchers in order to make explicit the linkages that suggest the indiscernible assumption I've taken, and particularly keen to present and discuss links - theoretical and practical - which fit the argument's goal to consolidate these relations.

2. REFERENCES

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3. AUTHOR BIO

[Born 1950, Porto]; Architect [ESBAP Escola Superior de Belas Artes do Porto /FAUP, 1975]; MD Philosophy, FLUP Faculdade de Letras/University of Porto Faculty of Arts [Ideas, Words, Things and Possible Worlds. Interior architecture according to Noam Chomsky] 2009; Metadisciplinary Phd Dissertation in Architecture and Philosophy [Architecture-Philosophy]: Contribution to the Research on the Complexity of the Project. Operational Models on the Domain of Architecture, Heritage, Museum] at UPorto 2015; Architect since 1975 and partner on architectural studios:[Pedro Ramalho, 1973-76] developing SAAL Process (recently displayed at Canadian Center for Architecture) and António Menéres [co-author of the Portuguese Regional Architecture Survey [1955-1961] and Popular Architecture in Portugal [1961] from 1976-85; Professor at FLUP [Archaeology, Art History, Museology; Department of Sciences and Techniques of Heritage]; Member of MLAG [Mind, Language & Action Group] Institute of Philosophy/U. Researcher at the Institute of Philosophy at the University of Porto. Founding member of MLAG and current coordinator of research Project Autofocus [af]p. Professional activity as both architect and teacher after 1975 shaped research interests: Architecture and Philosophy, animal and vernacular architecture; analysis of agency in design processes and systems, the ontoepistemological framework and metaphysics of agents in the real world.

