

Proposal for the:

INTERNATIONAL CONFERENCE

ARQUITECTONICS NETWORK: MIND, LAND AND SOCIETY

Innovative and Interdisciplinary Research by Design: Education, Architecture and Social Planning Participation

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Main Topic of Presentation:

#3- Laboratories for Human Centered Innovative Design Interaction (Torres, Muntanola, Bannon)

Title of Proposed Presentation:

Junction / Disjunction: Analogical Thinking and Semiotic Categories for Thinking by Doing in the Design Studio

Abstract:

The OUPROPO (*Ouvroir de Projets Potentiels*, which can be translated as *Opening of Potential Projects*) has been the main teaching studio for the *Explorations in Architectural Design* specialization in the master of architecture program at the Université de Montréal since 2001

(www.oupropo.umontreal.ca). The *Ouvroir de Projets Potentiels* obviously echoes the famous literary experimentation movement of the OULIPO: *ouvroir de littérature potentielle* (see <http://ouliipo.net>) founded by writers such as Raymond Queneau and others, as an unorthodox approach which builds on self imposed rules in order to stimulate the formulation of new creative and writing (in our case design) procedures. In the architectural OUPROPO, pedagogical questions and concerns on which it was built over a decade and a half ago have always been present: How can students develop a "force of proposition", both a capacity to respond and anticipate, that characterize so many of the best professional architects? How can academic work contribute to research and theory in the professional practice of architecture?

Rejecting the simplistic idea that architectural pedagogy should be viewed as a simulation of professional problem-solving, the OUPROPO is rather built on the idea of a profound analogical link between *the object as project* in a professional context and *the subject as project* in a pedagogical context. Analogical thinking is the linking of elements from distinct fields that show similarities, but also differences. The analogical link between the pedagogical and the professional projects makes explicit the similarity between the modes of activity (physical actions as well as intellectual thinking), but underlines the difference between their goals: whereas professional activity is focused on the *result* (the production of a well-built object), pedagogical activity addresses the *process* (the production of a critical understanding). Therefore, instead of trying to mimic the problems and activities of the real-world, the pedagogy of the OUPROPO directly addresses the abilities that the future architects should possess as they were brilliantly coined by D.A. Schön as "thinking by doing". On one hand, the architect should be able to navigate in murky waters without drowning in anguish while possessing the ability to work in a *virtual* space constructed by technical equipment that reflects a situation out of his control: like the water diver, he must learn to *internalize*. On the other hand, he should be able to climb an *analogical* mountain of which he can't completely comprehend the base but of which he must imagine and somehow even see the summit: like the mountain climber, he must learn to *project*.

This pedagogical approach brings the students closer to integrating a new understanding of the potential knowledge inscribed within the best projects, inspired by long term analysis of competitions as developed by researchers at the *Laboratoire d'étude de l'architecture potentielle* (www.leap.umontreal.ca) since 2002 and since 2011 in the new *Research chair on competitions and contemporary practices in architecture at the Université de Montréal*. But one aspect has become central to this pedagogy across the last 15 years. Drawing on the original research in the field of the semiotic of space by philosopher and cognitions Pierre Boudon, we have transferred one of his conceptual networks onto some fundamental operations of thinking by doing. This network revolves around the notions of "junction and disjunction" in order to define a series of semantic oppositions operating at the main scales of design thinking.

Most of these are typical reflective operations that take their true meaning, as they get closer to representing the complexity of an external 'public way' of assessing the project. If reflexivity is commonly implied in all pedagogical programs, it is a notion that is clearly made explicit in the pedagogy of the OUPROPO. This is a process that places the student back at the centre of the pedagogical structure. The design process is not focused anymore on the building of an object exterior to the student but rather on the building of a subject (the designer). As the student builds his own research program, experiments on his own research question and analyses his own design processes, not only does he strengthen a power of proposition in equilibrium between thinking like a diver and making like a climber, but he also builds a personal understanding of architecture. By doing so, he produces new architectural knowledge from within instead of integrating architecture knowledge from outside, and thus plants the seeds of what could become, in the future, a personal theory of architecture. In other words, instead of being taught architecture, he is being trained as an architect.

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