

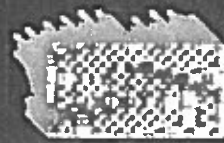
NEXUS 2010

Kim Williams, João Pedro Xavier and João Nuno Tavares, co-organizers of the VIIIth International Conference Nexus 2010 that took place at the Faculty of Architecture of the University of Porto, from 13 to 15th June 2010, certify that Gongalo Furtado was moderator of the session Architecture Systems Research and Computational Sciences.

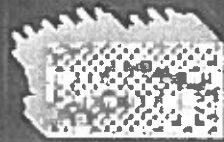
Kim Williams
NAAM - INNJ

João Pedro Xavier
CEAU-FAUP

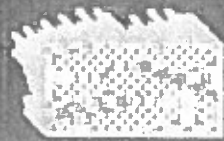
João Nuno Tavares
CMUP-FCUP



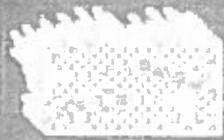
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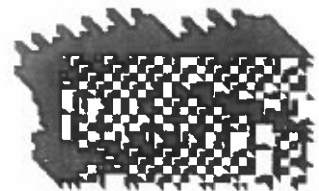


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- CONFERENCE DOSSIER -



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Coloquiu 2010



- SESSION **THREE*** -
*** Architecture, Systems Research and Computacional Sciences**

- MODERATOR -
Gonçalo Furtado

- SPEAKERS -
Pau Solà-Morales
Lora Dikova
Suzanne Strum
Maykon Sedrez, Alice Pereira

- TOPIC -

This session is dedicated to explore the exchanges between architecture and the fields of systems research and computational sciences, highlighting the relationships between architecture and mathematics.

Systems research goes back to the war period, and it is concerned with 'organization' from an approach of complexity. The history of the field recalls an expansion of attention up to the level of the planet with the Club of Rome's systemic approach to the global problem, but this dealing with issues of complexity was also paralleled by the acknowledgement of 'uncertainty'.

Systems research embraced a wide field of application; and, as Cybernetics, it became influential throughout the post-war period. There was, undoubtedly, a later 'backlash' against the latter; however, as Scott has mentioned, its concepts permeated such areas as AI, Systems and Emergence Sciences. Moreover, a 'second-order cybernetics' arose around the 1970s, acknowledging the presence of the observer in Systems, and leading to theoretical developments such as 'Autopoiesis', "CT" etc. At the time, computation became ubiquitous, and its later connection with telecommunications led to cyberspace and to the Information Society in which we now live.

I recall that, at an early date, systems research, cybernetics and computational sciences, went on to interfere in the fields of Art and Architecture. Early occurrences included Schoffer, Pask, Jones, Alexander, Negroponte's work, and they were fuelled by a desire to overcome the rigid architecture and planning of modernism, by representing the dynamics of time. Progressively, digital space and life also constituted an architectural challenge, at the levels of the city's building and design practice. The earliest approaches date back to the early 1990s, and advanced explorations were made by architects such as Marcos Novak (on "Transvergence") and John Frazer (on "Evolutionary Architecture").

To a certain extent, the current digital architectural culture is rooted in cybernetics, and the systems approach enables a systemic focus of contemporary cities, and the ecological global problem. Today, Architecture's desire for a more evolving environment is leading to interest in the new sciences of Emergence and Complexity, which Jencks even associates to a "New Paradigm in Architecture".*

*Gonçalo Furtado.

- MODERATOR -
Gonçalo Furtado

- BRIEF CV -

Gonçalo M Furtado CL is graduated in Architecture (Oporto University, Portugal), Master in Architecture (UPC, Spain), PhD in Theory and History of Architecture (UCL, London). He won prizes such as the "Florêncio de Carvalho Award" (1999), a "Highly Commended-paper" at the last World Organisation of Systems and Cybernetics, and fellowships from the FCT and the Luso-British Foundation. Gonçalo teaches at Oporto University (Master and PhD programs) and at the master in Industrial Design of FEUP. He was involved in the organization on many events, exhibitions and alike; and he acted as reviewer to the publication of Collegiate Schools of Architecture's Symposium in Helsinki (2003) and the International Advisory board of "The Radical Designist" (2006-...). Gonçalo gave lectures in Portugal, United Kingdom, United States of America, Spain, Brazil, Poland, Germany, Colombia, Austria and Mexico, Germany and Austria. He is the author or editor of books such as: "Arquitectura: O Corpo do Corpo" (2002; eds. Furtado et alts); "Architecture and Information Society", (2002; eds. Furtado and Braz); "On the Space of Digital Technique" (2002); "Marcos: Unpredictable Flesh" (2004); "Off Fourm: Postglobal and Marginal Design Discourses" (2004; ed. Furtado and Hernandez); "Interferências: Condição, Formação e Futuro da Cultura Digital" (2005); "The Construction of the Critical Project" (2005); "Architecture: Line and Body" (2006; eds. Furtado e Braz); "Generator Beyond: Encounters of Cedric Price and John Frazer" (2008) etc.

Recent publications

"Envisioning an Evolving Environment-Encounters of Gordon Pask, Cedric Price and John Frazer: A Brief Account", in: Roy Ascott, Wolfgang Fiel, Gerald Bast, Margarete Jahrmann (eds.), "New Realities. Being Syncretic, New York-Wien: SpringerWienNewYork, 2009, pp.118-122.
"Gordon Pask (1928-1996): Seminal Experiments on Cybernetic Art and Design (From a Childhood Curiosity and Mobiles to the I.E.'s Symbiosis)", in: Álvaro Barbosa (ed.), "Artech 2008: IVth International Conference on Digital Arts", Porto: Universidade Católica Portuguesa, 2008, pp. 191-200.
"Gordon Pask: Exchanges Between Cybernetics and Architecture and the Envisioning of the 'Informational Environment'", in: J.Józefczyk, W.Thomas, M.Turowska (eds.), *XIVth International Congress of Cybernetics and Systems of WOSC: Proceedings*, Poland: Oficyna Wydawnicza Politechniki Wrocławskiej / World Organization of Systems and Cybernetics, 2008, p.910-921,
"Towards an Evolutionary Architectural Aesthetics (Part A: Today's techno-scientific interests and the earlier enabling of the emergent", in: Furtado e Póvoas (eds.), "Contemporary Architectural Challenges", Oporto: FAUP, 2008, p.15-18.
"Cedric Price and Gordon Pask: The Japan Net Experiment (1986)", in: Robert Trapl (ed.), Vienna: Austrian Society for Cybernetic Studies, EMCSR 2008, pp.138-143.
"Cedric Price's Generator and the Frazers' System Research 1", in: Technoetic Arts (edited by Roy Ascott), Vol. 6, N.1, March-May 2008.
"Brief notes on two infinite scales", in: "Technoetic arts: A Journal of speculative research", v.5, N.2, Great Britain, 2007, pp.87-96.



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