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BOOK OF ABSTRACTS

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Performance based architecture. Learning from Nature's anticipatory models

The last decades have been marked by a growing concern over scarcity of resources, overpopulation and global destabilization of the climate. A fundamental necessity to preserve both the abiotic and biotic environment of the planet, their inherent interrelation within various ecosystems as well as the natural processes associated with them, has arisen and is nowadays influencing almost every aspect of human life. The design disciplines of the built environment, in particular architecture and urban planning, are called to operate within new paradigms of sustainability and to integrate anticipatory behavioral models within the design process. To respond to this challenging context, avant-garde design approaches are shifting their attention to a performance-based design approach which employs computational strategies to simulate, preview and control the performative materialization of architecture, inspired by the mechanisms of emergent systems in nature. All living organisms are indeed based on a homeostatic anticipatory system, which contains a predictive model of itself and of its environment, which allows it to change state in accord with the model's predictions pertaining to a latter instant (Rosen, 1985). Any materialization process is then the result of continuous interactions between an organism and its environment, in a constant flow of energy, material and information. Advanced researches in architecture are currently focusing on the integration of these principles within the fields of building design and fabrication. Topology optimization algorithms, for instance, are used for structural form-finding, following a principle which resembles the homeostatic model of the bone, allowing engineers and designers to work in an anticipatory computational environment. The paper discusses a selection of architectural case studies which emulate natural anticipatory systems and highlight a novel design approach to form-making and construction based on programming efficient material systems towards a biological paradigm of environmental responsiveness and anticipation in architecture.

NAGAN, WINSTON P. (Chair, Board of Trustees, World Academy of Art & Science, Sam T. Dell Research Scholar Professor of Law, University of Florida, Levin College of Law nagan@law.ufl.edu)

Anticipation, Prediction, Future of the Public Order of the World Community and International Law

In this paper, Nagan introduces the idea of anticipation having an affinity with the idea of prediction in human relations and social process. He draws attention to the centrality of human subjectivity in understanding the concept of anticipation. Nagan explains that human subjectivity is reflected in human perspectives about the self-system. These perspectives include identity, demands for values, and expectations of stability and change. Nagan draws attention to the salience of anticipation to major factors at play in the management of the sovereign state. He then shifts his focus to the importance of anticipation in legal theory, legal practice, and to the revolutionary insights of Supreme Court Justice Oliver Wendell Holmes, who gave rise to the realist revolution in legal theory.
Fellows of the World Academy began to see the implications of realism for the development of an effective and realistic international law that could play an important role in the development of a public order for the world community, challenged by fundamental values of peace, security and human dignity. Theory lagged behind practice as statesmen sought to forge a form of international law without an adequate theoretical foundation. Fellows of the academy began to explore the challenges of creating a viable international law for a defensible system of world public order.
Richard Falk introduced the idea of a dominant paradigm and the recognition of a paradigm shift to improve world order. Falk's ideas were influenced by Grotius tradition of international law and by revolutionary theory generated by Academy Fellows. The paper explores the importance of an anticipated constitutional and public order for the world community and seeks to clarify the content and process of the fundamental values at stake.

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Further details are available from Project Anticipation, the webpage of the UNESCO chair in anticipatory systems:

www.projectanticipation.org

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