



*Extended Abstract*

## **The Study of Nonlinear Architecture in the Era of Information**

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Through the study of the relationship between the evolution of architectural styles and that of the science, this dissertation discovered that, by the way of modifying architects' view of the world and then their "artistic volition" based on their view of the world, the science could have an effect on the styles of architecture resulted from their "artistic volition". This may be a historic rule of the evaluations of architecture: new science leads to new architecture. Today the science is on the way of changing itself from linear to nonlinear, which means that some complex phenomenon that was invisible to the science comes into its view now, and consequently, people's view of the world become to change. Accordingly, nonlinear architecture, a kind of new architecture, is seemingly suggested the new science, nonlinear science. Currently, works by the avant-courier architects are verifying the rule. The new architecture is booming.

Overview of the key problem or question:

- 1 What is the basic connotation of applied non-linear science and theory? What is the theoretical basis of non-linear ideology and architectural development integration?
- 2 What is the historical background of non-linear architectural initiation and the development status of self-organisation?
- 3 What are the characteristics of non-linear involvement in the architectural creation process?
- 4 What is the basis of non-linear architectural concept and content, Logistic form and aesthetic?
- 5 What is the practical meaning of the non-linear theory in the increasingly sophisticated?

This paper focuses on the topic of architectural design throughout, exploring its unique characteristic as the existence and development in an independent and unbalanced system. First, under the systematic theory guideline, this paper discusses about repositioning the nature of architectural existence, systems

exchanges and information and energy transmitting. Second, this paper analyses the genesis of architectural system structure and logic, searching for the typical mode and examples presents that they are not only the result of system optimization, but also they continue to promote the architectural system transforming into a more advanced and complex form. Last, the paper discusses about re-thinking the old aesthetics basics, overseeing the aesthetics in architectural system with technology, humanity and nature advancement via a broader view, to explore the new aesthetics value.

This paper follows the principle of combining theoretical discussion with case study, absorbing the care perspective and thoughts of non-linear theory, to replace and restore the architectural formal language, looking for the new opportunity and pattern in creating progress. This paper wishes to broad our mind and view, to inspire more creative and active architectural design in this fast changing world.

The topic of this paper is based on today's confusing situation in architectural space and its combined design, under the influence of various forms and value concepts, by attempting to combine scientific methodology and philosophy, to build a concept of non-linear architectural existence. From the complexity of the world point of view, actively reflect the cause and mechanism of the architectural initiation and development. By working on non-linear science openly and actively, re-examine the evolution of architectural system's self-organisation and creation diversely. And eventually place the architecture system in a universal world stage, discovering the development progression and aesthetic of its complexity, and make the creation of architectural design become broader. It gives us a new visage in the city and gets out of the predicament of monotony and vapidty of modern architectural creation .It is a kind of grope for thoughts and methods of architectural creation .Non-linear architecture is embodiment of the pursuing of diversification, the breaking up of routine, the challenging of fancy, the developing of methods, the embodiment of pluralism .They are very important to explore the practice of Non-linear architecture and to research the theories and methods of Non-linear architectural creation .

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